



International Parkinson and
Movement Disorder Society



20th International Congress of Parkinson's Disease and Movement Disorders

JUNE 19-23, 2016
BERLIN, GERMANY

Final Program





International Parkinson and
Movement Disorder Society

21st International Congress of Parkinson's Disease and Movement Disorders



SAVE THE DATE

June 4–8, 2017

VANCOUVER

British Columbia, Canada

www.mdscongress2017.org



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Invitation Letter

Dear Colleagues,

On behalf of the International Parkinson and Movement Disorder Society, we are pleased to formally welcome you to the 20th International Congress of Parkinson's Disease and Movement Disorders in Berlin, Germany from June 19-23, 2016.

Berlin is the largest city in Germany and is rich in culture and history. There is a lively entertainment scene with many cafés, restaurants, clubs and street art, as well as many museums, palaces and other historic places to visit. In addition, Berlin is a city with a long history of discoveries in medicine and innovations in medical technology.

We look forward to coming together to discuss and learn about the latest research and advancements, collaborate with colleagues and actively participate in advancing the field of Movement Disorders.

We are excited to welcome you to Berlin for the 20th International Congress and hope you will take part in this exceptional Scientific Program. We promise an unforgettable learning experience.

With kind regards,



Oscar Gershanik
President
International Parkinson and
Movement Disorder Society
2015-2017



Christine Klein
Chair
Congress Scientific
Program Committee
2015-2017



Claudia Trenkwalder
Co-Chair
Congress Scientific
Program Committee
2016



About MDS

The International Parkinson and Movement Disorder Society (MDS) is a professional society of clinicians, scientists, and other healthcare professionals interested in Parkinson's disease, related neurodegenerative and neurodevelopmental disorders, hyperkinetic movement disorders, and abnormalities in muscle tone and motor control. The spectrum of clinical disorders represented by the Society includes, but is not limited to:

Ataxia
Chorea
Dystonia
Gait disorders
Huntington's disease
Myoclonus and startle
Parkinson's disease and parkinsonism
Restless legs syndrome
Spasticity
Stiff person syndrome
Tardive dyskinesia
Tics and Tourette syndrome
Tremor and essential tremor

In recent years, there has been tremendous growth in new diagnostic information, pharmacological and neurosurgical treatments for movement disorders, as well as a greater understanding of impaired motor control function. MDS offers you and your patients an essential link to this knowledge.

In 1985, The *Movement* Disorder Society was founded on the initiative of Professors Stanley Fahn and C. David Marsden, whose leadership and vision guided the expansion of clinical expertise and research in this field. This not-for-profit organization merged in 1992 with the International Medical Society for Motor Disturbances. Publication of the journal *Movement* Disorders began in 1986, and the first International Congress was held in 1990.

In 2013, The *Movement* Disorder Society officially changed its name to the International Parkinson and Movement Disorder Society, in order to recognize the growing importance of Parkinson's disease care and research within the field of Movement Disorders.

Purpose, Mission And Goals

Purpose:

The objective and mission of the Society shall be to advance the neurological sciences pertaining to Movement Disorders; to improve the diagnosis and treatment of patients; to operate exclusively for scientific, scholarly and educational purposes; to encourage research; to provide forums, such as medical journals, scientific symposia and International Congresses, for sharing ideas and for advancing the related clinical and scientific disciplines; to encourage interest and participation in the activities of the Society among healthcare and allied professionals and scientists; and to collaborate with other related professional and lay organizations.

Mission and Goals:

To disseminate knowledge about Movement Disorders by:

- Providing educational programs for clinicians, scientists and the general public designed to advance scientific and clinical knowledge about Movement Disorders
- Sponsoring International Congresses and Symposia on Movement Disorders
- Collaborating with other international organizations and lay groups
- Publishing journals, videotapes and other collateral materials committed to high scientific standards and peer review

To promote research into causes, prevention and treatment of Movement Disorders by:

- Using the Society's influence and resources to enhance support for research
- Facilitating the dissemination of information about research
- Encouraging the training of basic and clinical scientists in Movement Disorders and related disorders

For the purposes of favorably affecting the care of patients with Movement Disorders, the Society will provide expertise, advice and guidance to:

- Regulatory agencies to assist them in the approval process of safe and effective therapeutic interventions
- The public (media) and patient support groups by informing them of new research and therapeutic advances
- Governments to assist them in the development of policies that affect support of research and patient care
- Educational efforts to assist in developing standards of training in the specialty



About MDS

MDS Officers (2015-2017)



President
Oscar Gershanik,
Argentina



President-Elect
Christopher Goetz,
USA



Secretary
Claudia Trenkwalder,
Germany



Secretary-Elect
Susan Fox,
Canada



Treasurer
David John Burn,
United Kingdom



Treasurer-Elect
Victor Fung,
Australia



Past-President
Matthew Stern,
USA

MDS International Executive Committee

Paolo Barone, *Italy*
Daniela Berg, *Germany*
Bastiaan Bloem, *Netherlands*
Carlos Cosentino, *Peru*
Beomseok Jeon, *Korea*
Jeffrey Kordower, *USA*
Michael Okun, *USA*
Ryosuke Takahashi, *Japan*
Louis Tan, *Singapore*
Mark Stacy, *USA*

International Congress Oversight Committee

Chair: Philip Thompson, *Australia*
Günther Deuschl, *Germany*
Victor Fung, *Australia*
Oscar Gershanik, *Argentina*
Christopher Goetz, *USA*
Christine Klein, *Germany*
Matthew Stern, *USA*
Claudia Trenkwalder, *Germany*

Congress Scientific Program Committee

Chair: Christine Klein, *Germany*
Co-Chair: Claudia Trenkwalder, *Germany*
Charles Adler, *USA*
Tim Anderson, *New Zealand*
Vincenzo Bonifati, *Netherlands*
K. Ray Chaudhuri, *United Kingdom*
Marie-Francoise Chesselet, *USA*
Carlo Colosimo, *Italy*

Mariana AJ de Koning-Tijssen, *Netherlands*
Kelly Foote, *USA*
Steven Frucht, *USA*
Oscar Gershanik, *Argentina*
Christopher Goetz, *USA*
Günther Höglinger, *Germany*
Ole Isacson, *USA*
Hyder Jinnah, *USA*
Micaela Morelli, *Italy*
Elena Moro, *France*
Alice Nieuwboer, *Belgium*
Stephane Palfi, *France*
Irena Rektorova, *Czech Republic*
Raymond Rosales, *Philippines*
A. Jon Stoessl, *Canada*
Eng-King Tan, *Singapore*
Philip Thompson, *Australia*
Lars Timmermann, *Germany*
Yoshikazu Ugawa, *Japan*
Miguel Vila, *Spain*

Congress Local Organizing Committee

Chair: Claudia Trenkwalder
Daniela Berg
Günther Deuschl
Richard Dodel
Georg Ebersbach
Thomas Gasser
Günther Höglinger
Christine Klein
Joachim Krauss
Wolfgang Oertel
Heinz Reichmann
Jens Volkmann

Past-Presidents

2013-2015 Matthew Stern, *USA*
2011-2013 Günther Deuschl, *Germany*
2009-2011 Philip Thompson, *Australia*
2007-2009 Anthony Lang, *Canada*
2005-2006 Andrew Lees, *United Kingdom*
2003-2004 C. Warren Olanow, *USA*
2001-2002 Werner Poewe, *Austria*
1999-2000 Mark Hallett, *USA*
1997-1998 Eduardo Tolosa, *Spain*
1995-1996 Joseph Jankovic, *USA*
1991-1994 C. David Marsden, *United Kingdom*
1988-1991 Stanley Fahn, *USA*

International Medical Society for Motor Disturbances Past-Presidents

1993-1994 C. Warren Olanow, *USA*
1991-1992 Bastian Conrad, *Germany*
1989-1990 Mark Hallett, *USA*
1987-1988 Mario Manfredi, *Italy*
1985-1986 C. David Marsden, *United Kingdom*

MDS International Secretariat

International Parkinson and
Movement Disorder Society
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Milwaukee, WI 53202-3823 USA
Tel: +1 414-276-2145
Fax: +1 414-276-3349
E-mail: info@movementdisorders.org
Website: www.movementdisorders.org



CME Information

Purpose

The purpose of the 20th International Congress of Parkinson's Disease and Movement Disorders is to offer a forum for clinical and basic discussion on a variety of movement disorder topics, including presentations of current research and available treatments.

Learning Objectives

Through state-of-the-art lectures, hot topic reviews, controversy debates, teaching courses, skills workshops and video sessions, participants will be better able to:

1. Describe the pathophysiology and neurobiology of Parkinson's disease and other movement disorders;
2. Discuss the diagnostic approaches and tools available for Parkinson's disease and other movement disorders;
3. Discuss the pharmacological and non-pharmacological treatment options available for Parkinson's disease and other movement disorders.

Accreditation Statement

The International Parkinson and Movement Disorder Society is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

An application has been made to the European Accreditation Council for Continuing Medical Education (EACCME[®]) for continuing medical education accreditation for this event.

Credit Designation

The International Parkinson and Movement Disorder Society designates this live activity for a maximum of 35 *AMA PRA Category 1 Credits*[™]. Physicians should claim only credit commensurate with the extent of their participation in the activity.

The credit designation for EACCME credits will be updated on the CME Claim Site on the Congress website after June 22, 2016.

Target Audience

The target audience of the 20th International Congress of Parkinson's Disease and Movement Disorders includes clinicians, researchers, post-doctoral fellows, medical residents, medical students and other healthcare professionals with an interest in the current research and approaches for the diagnosis and treatment of movement disorders.

Financial Disclosure Information

It is the policy of The International Parkinson and Movement Disorder Society (MDS) to ensure balance, independence, objectivity and scientific rigor in all sponsored educational activities. All persons in control of content, including: planners, faculty and reviewers, participating in any MDS sponsored activities are required to disclose to the activity audience any real or apparent conflict(s) of interest that may have a direct bearing on the subject matter of the Continuing Medical Education (CME) activity. This pertains to relationships with pharmaceutical companies, biomedical device manufacturers, or other

corporations who have products or services regardless of presentation topic. The intent of this policy is not to prevent a speaker with a potential conflict of interest from making a presentation. It is merely intended that any potential conflict should be identified openly so that the listeners may form their own judgments about the presentation with the full disclosure of the facts. It remains for the audience to determine whether the speaker's outside interest may reflect a possible bias in either the exposition or the conclusions presented.

All financial disclosure information will be provided to participants in Berlin at the MDS membership booth and on the Congress website:
www.mdscongress2016.org/Congress-2016.htm

Claiming CME Credit

To claim CME credit for participation in the 20th International Congress of Parkinson's Disease and Movement Disorders, participants must complete and submit an online CME Request Form.

Instructions for claiming credit:

After June 22, 2016, please visit www.mdscongress2016.org/registration/cme.

1. Log in after reading the instructions on the page. You will need your International Congress Registration ID which is located on your name badge or registration confirmation. If you do not have your Registration ID, e-mail education@movementdisorders.org.
2. Follow the on-screen instructions to claim CME credit for the sessions you attended.
3. You may print your certificate from your home or office, or save it as a PDF for your records.

If you have any questions or need help claiming credit, please contact the MDS International Secretariat at education@movementdisorders.org.

Evaluations

New: Teaching Courses - Online

The Teaching Course evaluations will be in an electronic format. Please follow the directions below. All online evaluations can be filled out at any time until **June 28, 2016**.

1. Go to the link: directsurv.net/mds
2. Enter Username: Your username will be MDS and then your badge number (found on your congress badge). Ex. MDS9999
3. Enter Passcode: Your passcode will be just your badge number (found on your congress badge). Ex. 9999
4. Select the course you would like to evaluate and follow the on-screen instructions.

CME Sessions:

All other sessions for CME credit will have hard copies of the evaluation distributed at the session. These must be completed and handed in as you leave the session.

Advance.
Improve.
Educate.
Collaborate.



International Parkinson and
Movement Disorder Society

Become a Member of MDS

Meet & Collaborate with over 6,000 colleagues across the globe and become a part of a Medical and Educational community dedicated to disseminating knowledge and promoting research to advance the field of Movement Disorders



MDS Members receive the following benefits:

Peer Reviewed Journals: *Movement Disorders* and *Movement Disorders – Clinical Practice*

Quarterly Newsletter: *Moving Along*

Reduced Course Registration Rates

Online Resources: CME Activities; Streaming Content; Training Videos; And a Video Library with over 1,800 searchable videos

NON-MEMBER OPPORTUNITIES

Free One-Year Trial Membership
Open to Eligible International Congress Delegates

ASSOCIATE MEMBERSHIP

Non-members attending the International Congress have the opportunity to receive membership with MDS absolutely free for a year. Eligible participants will be invited by e-mail in September to apply for free Associate Membership. Interested individuals are encouraged to apply online within 30 days of contact.

Learn more at www.movementdisorders.org/associate-membership.htm or contact the International Secretariat:

MDS International Secretariat
555 East Wells Street, Suite 1100
Milwaukee, WI 53202 USA
Tel: +1 414-276-2145
Fax: +1 414-276-3349
E-mail: info@movementdisorders.org





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International Congress Information A-Z

Abstracts

Please refer to pages 13 - 16 for complete Abstract and Late-Breaking Abstract information and schedules.

Basic Scientist – Areas of Interest

Plenary Sessions

- Session 1103: Experimental Strategies in Movement Disorders (Including Parkinson's Disease) in Honor of Prof. Eldad Melamed
- Session 3102: Translating Basic Science Into Parkinson's Disease Clinical Practice
- Session 4101: Novel Technologies for Medical Decision Support: The Dawn of Stratified and Digitalized Medicine in Parkinson's Disease

Parallel Sessions

- Session 2203: Environment and Neurodegeneration in Parkinson's Disease
- Session 2205: Plasticity in Parkinson's Disease: From Animal Models to the Clinic
- Session 2206: Role of Mitophagy in Movement Disorders
- Session 3205: Role of Developmental Factors in the Etiology and Future Therapy of Parkinson's Disease
- Session 3208: Late-Breaking Advances in Clinical, Basic and Translational Science
- Session 4207: Striatal Interneurons and Pathophysiology of Movement Disorders
- Session 5205: Lysosomal Alterations as a Unifying Theme Underlying Parkinson's Disease and Related Synucleinopathies
- Session 5207: The Cerebellum in Health and Disease
- Session 5208: IPS Modeling and Cell Therapy

Other Sessions of Note

- Session 2101: MDS Presidential Lectures
- Session 5103: Blue Ribbon Highlights

NEW: Basic Science Designated Posters

Posters that are of interest to the basic scientist are flagged within the poster viewing area and indexed so that they can be easily identified.

Camera Policy

Cameras are not permitted in any 20th International Congress educational sessions or in the poster areas.

Certificate of Attendance

A certificate of attendance is available in the back of the 2016 Final Program.

Coffee Breaks

Coffee and tea will be available at the following times and locations:

Sunday, June 19:	10:00 – 11:00	Hall A Foyer, Level 1
Monday, June 20:	10:00 – 10:30	Hall B, Level 2 (Exhibition Hall)
Tuesday, June 21:	10:00 – 11:00	Hall B, Level 2 (Exhibition Hall)
Wednesday, June 22:	9:30 – 10:00	Hall B, Level 2 (Exhibition Hall)
Thursday, June 23:	9:30 – 10:00	Hall B, Level 2 (Exhibition Hall)

Continuing Medical Education (CME)

Please refer to page 5 for Continuing Medical Education information.

Evaluations

Please take time to complete the evaluation provided at each session you attend. Your input and comments are essential in planning future education programs for MDS and continuing to provide opportunities for CME.

NEW: Teaching Course Evaluations Available on the MDS Mobile App

Evaluations for the 2016 Teaching Courses are available on the 20th International Congress mobile app. More information can be found in the session room prior to the beginning of each Teaching Course.

Events During the 20th International Congress

Welcome Ceremony - Sunday, June 19

19:30 – 21:30
Hall A3, Level 1

All International Congress attendees are warmly invited to attend the Welcome Ceremony at the CityCube Berlin. This event is open to all registered delegates for no additional fee.

Join us in congratulating the recent graduates of the MDS LEAP Program at the Welcome Ceremony! Visit www.movementdisorders.org/MDS/Education.htm for information on the MDS LEAP Program.

LEAP Class of 2015:

Roy N. Alcalay, *USA*
 Jawad Bajwa, *Saudi Arabia*
 Brandon R. Barton, *USA*
 Jean-Christophe Corvol, *France*
 Han-Joon Kim, *Korea*
 Chin-Hsien Lin, *Taiwan*
 Santiago Perez Lloret, *Argentina*
 Tiago A. Mestre, *Canada*
 Genko Oyama, *Japan*
 Susanne A. Schneider, *Germany*
 Matej Skorvanek, *Slovakia*
 Maria Stamelou, *Greece*



International Congress Information A-Z

MDS Video Challenge Pre-Event Gathering

Wednesday, June 22
19:00 – 20:00
Foyer, Level 1
Foyer, Entrance Level
Foyer, Level 2

MDS Video Challenge – Wednesday, June 22

20:00 – 22:00
Hall A3, Level 1

Please join Masters of Ceremony Anthony Lang and Kapil Sethi as they host a world-renowned panel of Movement Disorders experts in guiding participants through unique Movement Disorder cases. Awards will be presented for the most interesting and challenging cases. The goal of this session is for attendees to learn from a series of unusual and interesting patients, and see how senior experts approach a challenging case.

2016 Panel of Experts

Tim Anderson, *Christchurch, New Zealand*
Alfonso Fasano, *Toronto, ON, Canada*
Jennifer Friedman, *Del Mar, CA, USA*
Huw Morris, *London, United Kingdom*
Emmanuel Roze, *Paris, France*

This event is open to all registered delegates for no additional fee.

Exhibit Hall

Located in Hall B, Level 2.

Open Hours:

Monday, June 20: 9:00 – 17:00
Tuesday, June 21: 9:00 – 17:00
Wednesday, June 22: 9:00 – 17:00
Thursday, June 23: 9:00 – 16:00

Please refer to pages 136 - 143 for exhibitor information and exhibition hall floor plans.

Floor Plans

Please refer to page 12.

Guided Poster Tours

Please refer to pages 13 - 16 for Guided Poster Tour information and daily schedules.

History Exhibit

Stop by our History Exhibit, located in the Exhibit Hall, Hall B, Level 2. This exhibit features information on several remarkable contributions to the study of Parkinson's disease from Berlin scientists, including Moritz Heinrich Romberg, Oskar Vogt, and F.H. Lewy. The exhibit also places a special focus on one of the most famous parkinsonian patients, the Prussian philosopher Wilhelm von Humboldt and on a more recent development, the discovery of Lisuride for Parkinson's disease.

Internet Access

Complementary Wi-Fi internet access will be provided for all International Congress attendees.

Net name: mdscongress
Password: berlin2016

MDS Booth

Located in Hall B, Level 2 (Exhibit Hall)

Open hours:

Monday, June 20: 9:00 – 17:00
Tuesday, June 21: 9:00 – 17:00
Wednesday, June 22: 9:00 – 17:00
Thursday, June 23: 9:00 – 16:00

NEW: E-Learning Demonstration

Visit the MDS Booth for a demonstration of the new custom E-Learning system which hosts over 60 self-guided modules. Non-Members will also receive a FREE module coupon (\$50.00 USD value).

Demonstration times are as follows:

Monday, June 20: 10:00 – 10:30
Tuesday, June 21: 12:00 – 14:00
Wednesday, June 22: 11:30 – 13:30
Thursday, June 23: 9:30 – 10:00

MDS Congress Information Desk

Located in the Entrance Lobby Messedamm.

Press Information

Members of the working media receive waived registration for the 20th International Congress. Journalists and writers should report to the MDS Congress Information Desk (located in the Entrance Lobby Messedamm) with their credentials to register for the International Congress. All press must wear their name badge for admittance into all MDS sessions.

Visit www.mdscongress2016.org for further information and requirements.

Registration Badges

All International Congress attendees will receive a name badge with their registration materials. *Badges must be worn at all times* as they are used to gain access into all International Congress sessions and activities. Badge colors will be identified as follows:

Blue = Delegate
Yellow = Exhibitor
Purple = Press
Black = Staff



International Congress Information A-Z

Registration Desk

Located in the Entrance Lobby Messedamm.

Name badges, scientific session tickets, abstract USBs, Final Programs and International Congress bags are collected at the Registration Desk. Please refer to the Registration Desk for session tickets (or ticket changes), lost badges, etc.

Registration Desk hours are as follows:

Saturday, June 18:	16:00 – 20:00
Sunday, June 19:	7:00 – 20:00
Monday, June 20:	7:00 – 18:00
Tuesday, June 21:	7:00 – 18:00
Wednesday, June 22:	7:00 – 18:00
Thursday, June 23:	7:00 – 16:00

Session Descriptions

Scientific session types include Therapeutic Plenary sessions, Plenary and Parallel Sessions, Teaching Courses, Video Sessions, Skills Workshops, Guided Poster Tours and Blue Ribbon Highlights.

Please see page 22 for session definitions.

Scientific sessions (providing CME) will focus on the latest developments in:

- The Many Faces of Movement Disorders: Evolving Disease Concepts (2016 Congress Theme)
- Movement Disorder topics, including but not limited to, ataxia, chorea, dystonia, myoclonus, Parkinson's disease, restless legs syndrome, spasticity, stereotypes, tics and tremors
- Basic Science issues, including but not limited to, genetics, neuroimaging, neuropharmacology, surgical therapy and transplantation
- Other less common clinical conditions

Other session types include:

- **MDS Business Meeting**

Tuesday, June 21
10:00 – 11:00
Hall 7.1c Paris, Level 1

Open to all International Congress delegates, the Society encourages Members to attend the MDS Business Meeting to receive updates from the MDS President and other MDS Officers on the Society, the various Regional Sections, to participate in the Officers' election processes as they arise, and to discuss other Society concerns.

- **Regional Assemblies**

Sunday, June 19
10:00 – 11:00

MDS-PAS Regional Assembly: Hall 7.1c Paris, Level 1
MDS-ES Regional Assembly: Hall 7.2a Helsinki 1, Level 1
MDS-AOS Regional Assembly: Hall 7.2a Helsinki 2, Level 1

Delegates from each of the various MDS Regional Sections (MDS-AOS, MDS-ES, MDS-PAS) are invited to participate in the Regional Assemblies to receive updates on activities and general concerns from within the sections.

Company Sponsored Sessions:

Please refer to pages 133 - 135 for information and schedules for the CTS sessions and Product Theater.

- **Corporate Therapeutic Symposia**
Company-based information sessions that provide delegates with non-CME educational opportunities to learn the latest in therapeutics.
- **Technology Product Theater** (Tuesday, June 21 only)
Presentations that offer the opportunity for companies to present 15-minute presentations in the Exhibit Hall on Technology Tuesday. The opportunity is limited to companies with products which use electronic technology to diagnose or monitor patients.

Speaker Ready Room

Located in R3, Level 3

All speakers must check in at the Speaker Ready Room with their presentation materials the day prior to their scheduled session. Only International Congress faculty and/or CTS speakers are allowed access to the Speaker Ready Room.

Equipment is available to allow presenters to review their presentations in full and ensure successful uploading. Audio/visual personnel will be available for assistance.

Special Accessibility Needs

Delegates requiring special arrangements in order to fully participate in the International Congress should provide a written description of such needs to the MDS Information Desk (located in the Entrance Lobby Messedamm) upon arrival.

Technology Tuesday

On June 21, "Technology Tuesday" will emphasize the growing role of technology in the drug discovery, diagnosis and treatment of movement disorders by highlighting products and devices in development or recent to market.

Technology Tuesday features product theater demonstrations by MDS supporters, two parallel sessions, and technology-related poster presentations.

Please refer to page 29 for more information and scheduled Technology Tuesday events.



International Congress Information A-Z

Ticketed Sessions

All breakout sessions require a ticket to enter. Tickets may be selected during the online registration process, or by visiting the Registration Desk (located in the Entrance Lobby Messedamm).

There is no additional fee to attend ticketed sessions.

Ticketed session types include:

- Parallel Sessions
- Teaching Courses
- Skills Workshops
- Video Sessions
- Guided Poster Tours

Tickets for concurrent sessions may be exchanged at the Registration Desk. If a session is "sold out", you will not be permitted to enter; standing room is not allowed in any International Congress scientific sessions or Guided Poster Tours.

Therapeutic Plenary Sessions, Plenary Sessions and poster sessions/poster halls do not require a ticket to attend.

Download the Free MDS International Congress App!

International Parkinson and Movement Disorder Society

www.mdscongress2016.org/app

Search for MDS Congress 2016

- Search the Scientific Program
- View schedule of events
- Read abstracts
- Check poster schedules and much more!

Sponsored by

ACADIA
Pharmaceuticals

Congress Information

2016 MDS Education Calendar



International Parkinson and Movement Disorder Society



Sleep in Movement Disorders
 July 7-8, 2016
 Innsbruck, Austria



Deep Brain Stimulation for Movement Disorders
 July 15-16, 2016
 Seoul, Korea



MDS-ES Summer School for Young Neurologists
 July 15-17, 2016
 Lisbon, Portugal



A Comprehensive Review of Movement Disorders for the Clinical Practitioner
 July 31-August 4, 2016
 Aspen, CO, USA



Basic Scientists Summer School
 August 4-6, 2016
 Suzhou, China



Physiotherapy Summer School
 September 8-10, 2016
 Leuven, Belgium



Deep Brain Stimulation for Movement Disorders — Advanced Course
 October 13-14, 2016
 Würzburg, Germany

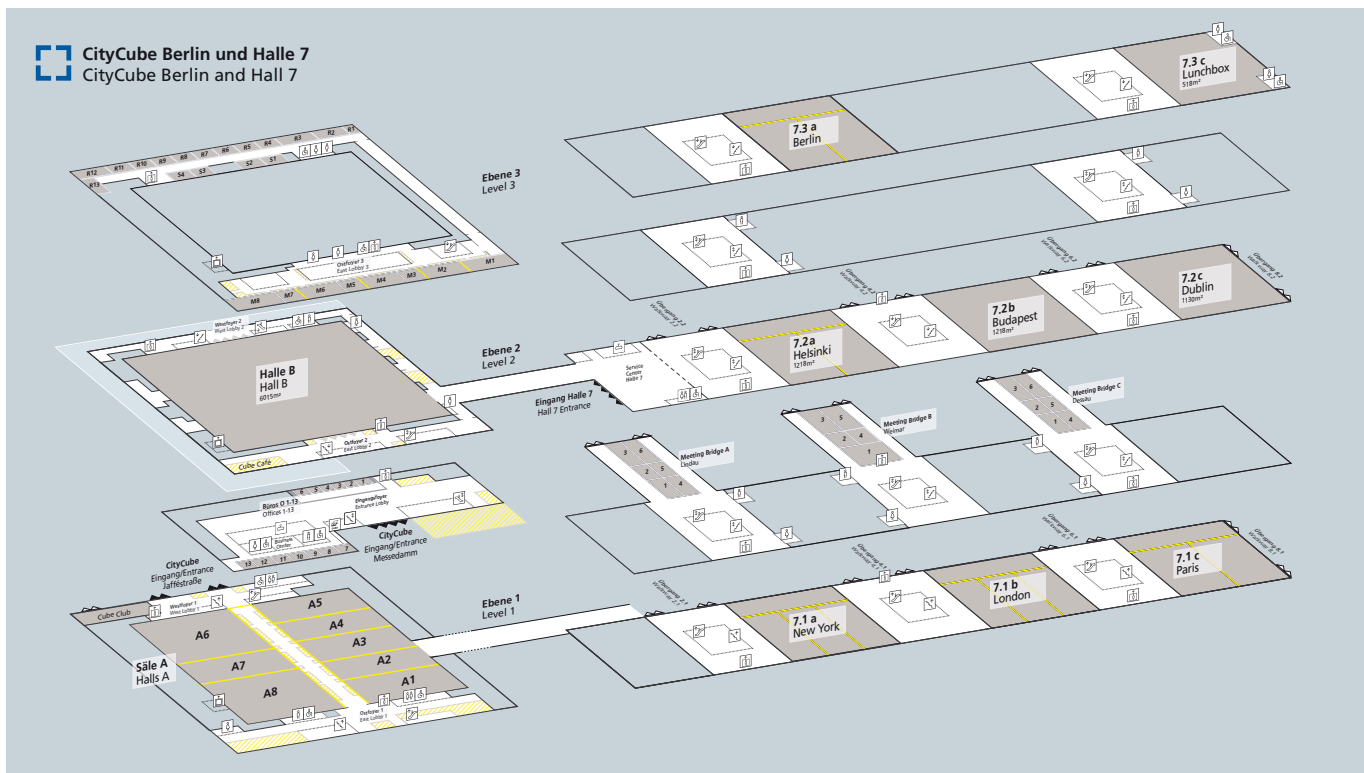


Myoclonus and Other Jerky Movements
 October 13-14, 2016
 Groningen, Netherlands

Dates and locations are subject to change. For a complete up-to-date list of courses, visit
www.movementdisorders.org/MDS/education.htm



International Congress Floor Plan



Level 1

- Plenary Sessions
- Breakout Sessions
- MDS Business Meeting
- Regional Assemblies
- Welcome Ceremony
- MDS Video Challenge
- Corporate Therapeutic Symposia

Entrance Lobby

- Registration

Level 2

- Breakout sessions
- Regional Assemblies
- Exhibits
- Product Theaters
- Posters
- Guided Poster Tours
- Late-Breaking and Study Group Posters
- Corporate Therapeutic Symposia

Level 3

- Faculty/Leadership Lounge
- Speaker Ready Room



Abstract Information

Abstract Publication

All regular accepted abstracts are published as a supplement to the MDS Journal and are available utilizing a searchable feature on the International Congress website, www.mdscongress2016.org/Congress-2016/Abstracts.htm, as of June 19, 2016. Please also visit www.movementdisorders.org to access the *Movement Disorders Journal*, where you can download a PDF of accepted abstracts.

All registered International Congress delegates will also receive the published abstracts on a USB, available for pickup in the registration area during regular Congress hours.

Late-Breaking Abstracts and MDS Study Group Abstracts are published as an online supplement on the 2016 International Congress website, www.mdscongress2016.org/Congress-2016/Abstracts.htm. These abstracts are available for download as of June 19, 2016.

Guided Poster Tours

Guided Poster Tours give groups of delegates an opportunity to hear discussion on a select group of abstracts in several sub-categories. Attendance is limited and advanced registration is required. 2016 Guided Poster Tours do require a ticket to attend.

A list of Guided Poster Tour abstracts and authors can be found on pages 45 - 52 of the 2016 Final Program. Abstracts selected for a Guided Poster Tour presentation are published in a supplement to the MDS Journal, and can be found on the searchable abstract website.

Late-Breaking Abstracts

All accepted Late-Breaking Abstract posters are displayed in the Exhibit Hall located in Hall B, Level 2, Monday – Thursday throughout the duration of the International Congress. Late-Breaking Abstract poster presentations will take place Wednesday, June 22 from 12:00 – 13:30 in the Exhibit Hall located in Hall B, Level 2.

MDS Study Group Abstracts

All accepted MDS Study Group Abstract posters are displayed in the Exhibit Hall located in Hall B, Level 2, Monday – Thursday throughout the duration of the International Congress. MDS Study Group Abstract poster presentations will take place Wednesday, June 22 from 12:00 – 13:30 in the Exhibit Hall located in Hall B, Level 2.

Poster Sessions

Poster sessions give each delegate an opportunity to view their colleagues' posters on the most current research in the field of Movement Disorders. Authors are present for 1.5 hours each day to explain their work and answer questions. All accepted abstracts are presented as a poster at the 2016 International Congress.

Poster sessions are held Monday – Thursday during the International Congress. Posters are available for viewing in the Exhibit Hall located in Hall B, Level 2, from 9:00 – 18:00 Monday through Wednesday, and 9:00 – 16:00 on Thursday. Poster session topics and schedules vary by date; please see the complete listing of scheduled poster presentation dates, times and locations.

MDS Young Members Group



International Parkinson and
Movement Disorder Society

All MDS Members under the age of 40 are encouraged to join the MDS Young Members Group



The primary aim of the MDS Young Members Group is to support and expand the network of outstanding young neurologists, basic scientists and other allied healthcare providers who have an interest in the field of Movement Disorders. The focus will be on advancing collaborations amongst young members and focus on educational activities and training.

Visit the Young Members Group webpage for additional information on activities and projects.

How to Join

Log into your MDS Members Only account (www.movementdisorders.org/MDS/Members-Only.htm) and select My Profile. The Young Members option is located on the Professional tab under Special Interest Groups.

www.movementdisorders.org/MDS/About/Young-Members-Committee.htm



Please contact the International Secretariat at education@movementdisorders.org for more information.



Abstract Information

Poster Session Schedule (listed by abstract number)

All poster sessions will take place at the International Congress venue, the CityCube Berlin, in the Exhibit Hall located in Hall B, Level 2.

Abstract Numbers:	Category Name:	Presentation Date:	Presentation Time:
1 - 114	Surgical Therapy: Parkinson's Disease	Monday, June 20	12:30 - 14:00
115 – 145	Surgical Therapy: Other Movement Disorders	Monday, June 20	12:30 - 14:00
146 – 260	Parkinsonism, MSA, PSP (Secondary and Parkinsonism-plus)	Monday, June 20	12:30 - 14:00
261 – 417	Parkinson's Disease: Non-Motor Symptoms	Monday, June 20	12:30 - 14:00
418 - 433	Education in Movement Disorders	Monday, June 20	12:30 - 14:00
434 - 485	Epidemiology	Monday, June 20	12:30 - 14:00
486 – 488	History	Monday, June 20	12:30 - 14:00
489 – 542	Quality of Life/Caregiver Burden in Movement Disorders	Monday, June 20	12:30 - 14:00
543 – 579	Technology	Tuesday, June 21	12:30 - 14:00
580 - 611	Genetics (Non-PD)	Tuesday, June 21	12:30 - 14:00
612 – 684	Parkinson's Disease: Genetics	Tuesday, June 21	12:30 - 14:00
685 – 702	Rare Genetic and Metabolic Diseases	Tuesday, June 21	12:30 - 14:00
703 – 715	Therapy in Movement Disorders: Gene and Cell-based Therapies	Tuesday, June 21	12:30 - 14:00
716 – 889	Parkinson's Disease: Pathophysiology	Tuesday, June 21	12:30 - 14:00
890 - 898	Pathophysiology (Other Movement Disorders)	Tuesday, June 21	12:30 - 14:00
899 - 919	Drug-Induced Movement Disorders	Tuesday, June 21	12:30 - 14:00
920 – 940	Myoclonus	Tuesday, June 21	12:30 - 14:00
941 – 954	Restless Legs Syndrome and Other Sleep Disorders	Tuesday, June 21	12:30 - 14:00
955 – 960	Spasticity	Tuesday, June 21	12:30 - 14:00
961 – 975	Tics/Stereotypies	Tuesday, June 21	12:30 - 14:00
976 - 1030	Tremor	Tuesday, June 21	12:30 - 14:00
1031 - 1091	Ataxia	Wednesday, June 22	12:00 - 13:30
1092 - 1097	Choreas (Non-Huntington's Disease)	Wednesday, June 22	12:00 - 13:30
1098 – 1151	Huntington's Disease	Wednesday, June 22	12:00 - 13:30
1152 – 1183	Neuroimaging (Non-PD)	Wednesday, June 22	12:00 - 13:30
1184 – 1200	Neurophysiology (Non-PD)	Wednesday, June 22	12:00 - 13:30
1201 – 1330	Parkinson's Disease: Neuroimaging	Wednesday, June 22	12:00 - 13:30
1331 - 1363	Cognitive Disorders	Wednesday, June 22	12:00 - 13:30
1364 - 1460	Parkinson's Disease: Cognition	Wednesday, June 22	12:00 - 13:30
1461 - 1501	Parkinson's Disease: Psychiatric Manifestations	Wednesday, June 22	12:00 - 13:30
1502 – 1554	Phenomenology and Clinical Assessment of Movement Disorders	Wednesday, June 22	12:00 - 13:30
1555 – 1576	Rating Scales	Wednesday, June 22	12:00 - 13:30
1577 - 1714	Dystonia	Thursday, June 23	12:00 - 13:30
1715 – 1729	Pediatric Movement Disorders	Thursday, June 23	12:00 - 13:30
1730 - 1824	Other	Thursday, June 23	12:00 - 13:30
1825 – 1853	Neuropharmacology	Thursday, June 23	12:00 - 13:30
1854 - 2063	Parkinson's Disease: Clinical Trials, Pharmacology and Treatment	Thursday, June 23	12:00 - 13:30
2064 - 2111	Clinical Trials and Therapy in Movement Disorders	Thursday, June 23	12:00 - 13:30



Abstract Information

Poster Session Schedule (listed alphabetically by abstract category)

All poster sessions will take place at the International Congress venue, the CityCube Berlin, in the Exhibit Hall located in Hall B, Level 2.

Category Name	Abstract Numbers:	Presentation Date:	Presentation Time:
Ataxia	1031 - 1091	Wednesday, June 22	12:00 - 13:30
Choreas (Non-Huntington's Disease)	1092 - 1097	Wednesday, June 22	12:00 - 13:30
Clinical Trials and Therapy in Movement Disorders	2064 - 2111	Thursday, June 23	12:00 - 13:30
Cognitive Disorders	1331 - 1363	Wednesday, June 22	12:00 - 13:30
Drug-Induced Movement Disorders	899 - 919	Tuesday, June 21	12:30 - 14:00
Dystonia	1577 - 1714	Thursday, June 23	12:00 - 13:30
Education in Movement Disorders	418 - 433	Monday, June 20	12:30 - 14:00
Epidemiology	434 - 485	Monday, June 20	12:30 - 14:00
Genetics (Non-PD)	580 - 611	Tuesday, June 21	12:30 - 14:00
History	486 - 488	Monday, June 20	12:30 - 14:00
Huntington's Disease	1098 - 1151	Wednesday, June 22	12:00 - 13:30
Myoclonus	920 - 940	Tuesday, June 21	12:30 - 14:00
Neuroimaging (Non-PD)	1152 - 1183	Wednesday, June 22	12:00 - 13:30
Neuropharmacology	1825 - 1853	Thursday, June 23	12:00 - 13:30
Neurophysiology (Non-PD)	1184 - 1200	Wednesday, June 22	12:00 - 13:30
Other	1730 - 1824	Thursday, June 23	12:00 - 13:30
Parkinsonism, MSA, PSP (Secondary and Parkinsonism-plus)	146 - 260	Monday, June 20	12:30 - 14:00
Parkinson's Disease: Clinical Trials, Pharmacology and Treatment	1854 - 2063	Thursday, June 23	12:00 - 13:30
Parkinson's Disease: Cognition	1364 - 1460	Wednesday, June 22	12:00 - 13:30
Parkinson's Disease: Genetics	612 - 684	Tuesday, June 21	12:30 - 14:00
Parkinson's Disease: Neuroimaging and Neurophysiology	1201 - 1330	Wednesday, June 22	12:00 - 13:30
Parkinson's Disease: Non-motor Symptoms	261 - 417	Monday, June 20	12:30 - 14:00
Parkinson's Disease: Pathophysiology	716 - 889	Tuesday, June 21	12:30 - 14:00
Parkinson's Disease: Psychiatric manifestations	1461 - 1501	Wednesday, June 22	12:00 - 13:30
Pathophysiology (Other Movement Disorders)	890 - 898	Tuesday, June 21	12:30 - 14:00
Pediatric Movement Disorders	1715 - 1729	Thursday, June 23	12:00 - 13:30
Phenomenology and Clinical Assessment of Movement Disorders	1502 - 1554	Wednesday, June 22	12:00 - 13:30
Quality of Life/Caregiver Burden in Movement Disorders	489 - 542	Monday, June 20	12:30 - 14:00
Rare Genetic and Metabolic Diseases	685 - 702	Tuesday, June 21	12:30 - 14:00
Rating Scales	1555 - 1576	Wednesday, June 22	12:00 - 13:30
Restless Legs Syndrome and Other Sleep Disorders	941 - 954	Tuesday, June 21	12:30 - 14:00
Spasticity	955 - 960	Tuesday, June 21	12:30 - 14:00
Surgical Therapy: Other Movement Disorders	115 - 145	Monday, June 20	12:30 - 14:00
Surgical Therapy: Parkinson's Disease	1 - 114	Monday, June 20	12:30 - 14:00
Technology	543 - 579	Tuesday, June 21	12:30 - 14:00
Therapy in Movement Disorders: Gene and Cell-Based Therapies	703 - 715	Tuesday, June 21	12:30 - 14:00
Tics/Stereotypies	961 - 975	Tuesday, June 21	12:30 - 14:00
Tremor	976 - 1030	Tuesday, June 21	12:30 - 14:00



Abstract Information

Guided Poster Tour Schedule

All Guided Poster Tours will take place at the International Congress venue, the CityCube Berlin, in the Exhibit Hall located in Hall B, Level 2.

* No Guided Poster Tours on Sunday

MONDAY, JUNE 20	
12:30 - 14:00	
GPT 1	Surgical Therapy
GPT 2	Parkinsonism, MSA, PSP
GPT 3	Parkinson's Disease: Non-motor Symptoms
GPT 4	Epidemiology and Quality of Life
TUESDAY, JUNE 21	
12:30 - 14:00	
GPT 5	Technology
GPT 6	Genetics (PD and Non-PD)
GPT 7	Pathophysiology
GPT 8	Hyperkinetic Movement Disorders, RLS, Sleep
WEDNESDAY, JUNE 22	
12:00 - 13:30	
GPT 9	Ataxia, Chorea
GPT 10	Imaging and Neurophysiology
GPT 11	Cognition and Psychiatry
GPT 12	Clinical Phenomenology and Rating Scales
THURSDAY, JUNE 23	
12:00 - 13:30	
GPT 13	Dystonia and Pediatric Movement Disorders
GPT 14	Pharmacology
GPT 15	Parkinson's Disease: Clinical Trials I
GPT 16	Parkinson's Disease: Clinical Trials II and Non-PD Clinical Trials



Awards Information

Honorary Membership Awards



Günther Deuschl, MD



Pierre Pollak, MD

The Honorary Membership Awards recognize individuals who have made extraordinary contributions to the field of Movement Disorders or otherwise to the Society. The Awards are presented during the International Congress Welcome Ceremony.

Sunday, June 19
Welcome Ceremony
19:30 - 21:30
Hall A3, Level 1

President's Distinguished Service Award

The President's Distinguished Service Award is given in recognition of long and distinguished service to the International Parkinson and Movement Disorder Society. The award is presented during the International Congress Welcome Ceremony.

Sunday, June 19
Welcome Ceremony
19:30 - 21:30
Hall A3, Level 1

Presidential Lectures

Monday, June 20
8:00 – 10:00
Hall A3, Level 1

The **Stanley Fahn Award Lecture** was created to recognize an outstanding scholar and role-model clinician in the field of Movement Disorders. The selected lecturer must show evidence of exceptional contributions which have resulted in better understanding of the cause, diagnosis, or treatment of Movement Disorders, and have translated into meaningful improvements in the standard of clinical practice. The selected lecturer must demonstrate evidence of consistent dedication to Movement Disorders education and research.

The **C. David Marsden Lecture** was created to recognize an outstanding scholar and inspiring neuroscientist in the field of Movement Disorders. The selected lecturer must show evidence of exceptional contributions which have resulted in better understanding of the neurobiology of Movement Disorders, and have translated into tangible improvements in clinical therapy and/or providing insight into normal brain function in the control of movement. The selected lecturer must demonstrate evidence of consistent dedication to Movement Disorder education and research.

Stanley Fahn Award Lecture

Eduardo Tolosa, MD

The Prediagnostic Phase of Parkinson's Disease: Facts and Mysteries



Eduardo Tolosa obtained his MD degree at the University of Barcelona. He received his neurological training at the University of Minnesota Hospital in Minneapolis and was certified as a neurologist by the American Board of Neurology and Psychiatry in 1976. He was a fellow at the Neurology Department when he participated in early trials of carbidopa vs placebo in levodopa treated Parkinson's patients.

He became Visiting Assistant Scientist to Brookhaven National Laboratory in 1975 for one year where he worked in George Cotzias's Physiology Department. He later became staff neurologist at the University of Minnesota until 1980 when he returned to Barcelona as Professor and Chairman of the Neurology Department and Director of the Parkinson's disease and Movement Disorder Unit at the University of Barcelona Hospital. In 1993 he founded the Barcelona Brain Bank at the Faculty of Medicine which he directed for over two decades.

He is currently leading the team Neurodegenerative diseases: Clinical and Experimental Research at the Institut d'Investigacions Biomèdiques August Pi i Sunyer in Barcelona, Vice Director of Centro de Investigación en Red sobre Enfermedades Neurodegenerativas -

Instituto de Salud Carlos III, Madrid and Emeritus Professor at the University of Barcelona.

Eduardo Tolosa is a founding member and Past-President of The *Movement* Disorder Society and past Chair of its European Section. He was President of the MDS Barcelona Congress in 2000 and a member of the editorial board of *Movement* Disorders. He is the recipient of the 2006 Distinguished Service Award as well as an



Awards Information

Honorary Member of MDS and of several neurological societies including the European Neurological Society. He was the recipient of the 2014 American Academy of Neurology Movement Disorders Research Award.

His research interests have covered several areas of movement disorders. He pioneered studies on motor complications of levodopa in Parkinson's disease and with Stanley Fahn, he elaborated the now widely used Fahn-Tolosa-Marin Tremor scale. Together with his team in Barcelona his studies later focused on experimental therapeutics, the pathophysiology of various Parkinson syndromes and in imaging studies that led to the approval and use of DAT SPECT for the early diagnosis of Parkinson syndromes. Recent research has focused on the neuropathological involvement of the peripheral nervous system and the premotor phase of Parkinson's disease centered in subjects with REM behavior disorder and in LRRK2 mutations carriers.

C. David Marsden Award Lecture

D. James Surmeier, MD, PhD

From Causes of Selective Neuronal Vulnerability in Parkinson's Disease to a Phase III Clinical Trial



Dr. D. James Surmeier is the Nathan Smith Davis Professor and Chair of the Department of Physiology at the Feinberg School of Medicine at Northwestern University and Director of the Morris K. Udall Parkinson's Disease Research Center of Excellence at Northwestern University. Dr. Surmeier received his Ph.D. in Physiology and Biophysics from the University of Washington in 1983. He trained with leaders in the field of neurophysiology, including Dr. Arnold Towe, Dr. William Willis and Dr. Stephen Kitai. In 1998, he moved to the Department of Physiology at Northwestern University and assumed his current position in 2001.

Using an array of cutting-edge approaches, Dr. Surmeier's research program focuses physiological determinants of Parkinson's and Huntington's diseases. His work has uncovered basic mechanisms underlying neural activity in the basal ganglia and how it is perturbed in these disease states. His work has identified the molecular determinants of network dysfunction in both diseases, paving the way for novel pharmacological and genetic therapies. His pursuit of the mechanisms underlying selective neuronal vulnerability in Parkinson's

disease has led to the identification of activity-dependent calcium entry through Cav1 Ca²⁺ channels as a primary trigger for mitochondrial oxidant stress in at-risk neurons, providing a potential explanation for the selective vulnerability of substantia nigra dopaminergic neurons –neurons whose loss underlies the cardinal motor symptoms of Parkinson's disease. Corroborated by epidemiological studies, this discovery study has led to a major Phase III clinical trial in North America to determine the ability of the dihydropyridine isradipine to slow the progression of early stage Parkinson's disease.

He has authored well over 200 peer-reviewed publications in journals such as *Science*, *Nature*, *Neuron*, *Nature Neuroscience* and the *Journal of Neuroscience*. His rigorous pursuit of fundamental questions has led to broad citation of his publications, as reflected in his h-index (78) and m-index (136) statistics. He has served in several advisory capacities to the National Institutes of Health, including chairing study sections for NINDS and acting as a Councilor for NIAAA. He also has served on the scientific advisory boards of many private foundations, including the Hereditary Disease Foundation, the Dystonia Medical Research Foundation, the Hartman Foundation, and the Bachmann-Strauss Dystonia and Parkinson's Disease Foundation. He has served on many editorial boards and currently serves on the editorial boards of *Neuron*, *Current Opinion in Neurobiology*, *Molecular and Cellular Neuroscience and Movement Disorders*. He has received many scientific awards including being named a Fellow of the American Association for the Advancement of Science, NARSAD Established Investigator, Jacob Javits Neuroscience Investigator and the BAM Patient Impact Research Award recipient. He was the keynote speaker at the inaugural Parkinson's Disease Gordon Research Conference.

Junior Awards

Three Junior Awards recipients have been selected based on their significant contribution to research in the field of Movement Disorders. They will present their work during the Junior Awards Lectures portion of the Presidential Lectures:

Monday, June 20

8:30 - 9:30

Hall A3, Level 1

Poonam Thakur, PhD

Lund, Sweden

Speed and severity of toxicity induced by pre-formed α -synuclein fibrils in rat brain is enhanced by α -synuclein overexpression

Poonam Thakur, PhD¹, Ludivine Breger, PhD¹, Bengt Mattsson¹, Kelvin Luk, PhD², Virginia M Lee, PhD², John Trojanowski, PhD² and Anders Björklund, PhD¹. ¹Department of Experimental Medical Science, Lund University, Lund, Sweden, 22362 and ²Department of Pathology and Laboratory Medicine, University of Pennsylvania, Philadelphia, PA, United States.

Objective: To develop a physiologically relevant model of PD.



Awards Information

Background: Intracerebral injection of pre-formed α -synuclein fibrils has emerged as an interesting tool to induce PD-like pathology and behavioral deficits in rodents. However, these changes are slow to develop taking six months or longer to appear.

Methods: Female SD rats were divided into 2 groups: one receiving AAV6- α -synuclein in substantia nigra (SN), 4 weeks prior to an injection of fibrils in the same site; the other receiving fibrils alone.

Results: With combined injection, a profound loss (55%) of TH positive cells in SN was observed already within 3 weeks of fibril injection, increasing to 65% at 24-weeks post fibril injection, while the striatal TH fiber density decreased from 70% by 3 weeks to 40% by 24 weeks. Injection of fibrils alone caused only a 30% cell loss in SN by 3 weeks, which increased to 55% by 24 weeks. Striatal TH fiber density decreased from 80% by 3 weeks to 60% by 24 weeks. In addition, a clear increase in the appearance of phosphorylated α -synuclein (p-syn) aggregates was observed in the combined group. While the p-syn puncta were visible in the nigral cells injected with fibrils alone, combination of fibrils and AAV- α -syn injection led to a much more extensive development of p-syn pathology. Further, there was an increase in the number and size of axonal swellings in striatum with combined injection regimen as compared to fibrils alone. While no behavioral deficits were observed in the fibril alone group, the combination group started to show a significant decline in contralateral paw use, as indicated by cylinder and stepping test, around 9 weeks that remained constant until 24 weeks.

Conclusions: The results indicate that the speed and severity of pathological changes induced by fibrils is greatly enhanced in the presence of elevated levels α -synuclein. They also suggest that the ability of exogenous fibrils to cause seeding and aggregation of α -synuclein is accelerated in α -synuclein overexpressing dopamine neurons. Further evaluation will reveal the mode of seeding, transfer (transynaptic versus retrograde) and possible recruitment of endogenous rat α -synuclein.

M. Carmona-Abellán, MD, PhD

Pamplona, Spain

Alpha-synuclein aggregates of cardiac sympathetic nerves in synucleinopathies and in neurologically unimpaired subjects. Correlation with sympathetic denervation

María del mar Carmona-Abellán, MD¹, Irene Marcilla², Ivan Martínez-Valbuena¹, Teresa Tuñón, MD, PhD³ and Rosario Luquin-Piudo, MD, PhD¹. ¹Neurology, Clínica Universidad de Navarra, Pamplona, Navarra, Spain, 31008; ²Neurosciences, CIMA, Pamplona, Spain, 31008 and ³Neuropathology, Complejo Hospitalario de Navarra, Pamplona, Spain, 31008.

Objective: To study the cardiac sympathetic innervation and its relationship with the incidence of alpha-synuclein deposits in heart tissue of synucleinopathies and asymptomatic control patients.

Background: Early involvement of the peripheral autonomic system in neurologically unimpaired subjects could provide new biomarkers in neurodegenerative disease, particularly in PD. Cardiac uptake of MIBG (analog of norepinephrine) is decreased in the early stages of Parkinson's disease (PD) probably as a consequence of an initial inclusion body formation in the sympathetic cardiac fibers.

Methods: We examined cardiac tissue from 125 autopsies, 37 subjects with synucleinopathy (PD, Lewy body dementia and incidental Lewy body disease) and 88 controls. Sections from the anterior left ventricle were immunohistochemically examined using antibodies against neurofilament (NF), tyrosine hydroxylase (TH) and phospho-alpha-synuclein (syn). Double immunofluorescence with NF-TH, TH-syn and TH-Ubiquitin, were also performed. Intensity of immunoreactivity (ir) in the nerve fibers was quantitatively analyzed using ImageJ software. Statistical analysis was carried out by means of Stata software.

Results: Phospho-synuclein deposits were observed in 90% of patients with synucleinopathy. NF-ir and TH-ir fibers were significantly decreased in the epicardium of synucleinopathies compared with control subjects ($p < 0.05$). Among controls we found 10 incidental cases with syn aggregates in the sympathetic cardiac nerves. The density (TH-ir/ μm^2) of dopaminergic fibers was 25.65 in synucleinopathies, 35.21 in asymptomatic subjects with incidental cardiac aggregates and 42.19 in controls. The density of syn deposits in the peripheral nervous system was similar in all groups.

Conclusions: Cardiac Lewy body pathology was present in the majority of the patients with synucleinopathies. Synuclein deposits are also present in heart tissue of asymptomatic patients and it is associated with a loss of sympathetic nerve fibers. The loss of dopaminergic fibers in the peripheral nervous system increases as Lewy body aggregates follow a rostro – caudal gradient.



Awards Information

Brianada Koentjoro, PhD

Sydney, NSW, Australia

Counteracting PINK1/parkin deficiency by activating alternative mitophagic pathway: A potential therapeutic intervention for Parkinson's disease

Brianada Koentjoro, PhD^{1,2}, Jin-Sung Park, DVM, PhD^{1,2} and Carolyn M Sue, MBBS, PhD^{1,2}. ¹Department of Neurogenetics, Kolling Institute of Medical Research, Northern Sydney Local Health District, Sydney, NSW, Australia, 2065 and ²Sydney Medical School Northern, University of Sydney, Sydney, NSW, Australia, 2006.

Objective: To identify a new therapeutic target for developing neuroprotective treatment in Parkinson's disease (PD) by improving mitochondrial function through restoration of mitochondrial quality control system.

Background: PD is the second most common neurodegenerative disorder worldwide. Loss of Parkin or PINK1 abrogates mitochondrial quality control (i.e. impaired PINK1/Parkin mitophagic pathway), leading to accumulation of dysfunctional mitochondria and autosomal recessive early-onset PD. Previously, we have identified a homozygous Parkin mutation carrier who has not developed PD by her eighth decade despite Parkin deficiency¹. The underlying protective mechanism remained unclear.

Methods: We analyzed mitochondrial function and mitophagy in cell models derived from the asymptomatic carrier. We then confirmed the presence of an alternative mitophagic pathway in the asymptomatic carrier. Genetic and pharmacological induction of the alternative mitophagic pathway was carried out in four other PINK1/Parkin-deficient patient cell lines and changes in their mitochondrial phenotypes were examined.

Results: The asymptomatic carrier cells had normal mitochondrial function and quality control. In these cells, we identified an alternative mitophagic pathway which facilitates the maintenance of mitochondrial quality control and function in a Parkin-independent manner. Genetic inactivation of this pathway resulted in a loss of mitophagy in the asymptomatic carrier cells, while induction of the pathway restored mitophagy and improved mitochondrial function in the PINK1/Parkin-deficient patient cells.

Conclusions: These findings support the potential use of activating an alternative mitophagic pathway to compensate for the loss of PINK1/Parkin-mediated mitophagy, thereby maintaining normal mitochondrial quality and function. Our study highlights a new therapeutic target that can provide a neuroprotective intervention in mitophagy-compromised PD patients by restoring the mitochondrial quality control system. 1. Koentjoro B, Park JS, Ha AD, Sue CM. Phenotypic variability of parkin mutations in single kindred. *Mov Disord* 2012;27(10):1299-1303.

Paper Of The Year Awards

The *Movement Disorders Research and Review Papers of the Year* awards were chosen by the Journal's Editors and Editorial Board to recognize quality work being submitted by authors and the important articles published in the Journal. The winning articles were selected from five finalists for each category, all which shared a high scientific level and interest. The Editor-in-Chief and Editorial Team are grateful to all authors for their continuing support of *Movement Disorders* and looking forward to further developments.

Review Article

MDS research criteria for prodromal Parkinson's disease

Daniela Berg, Ronald B. Postuma, Charles H. Adler, Bastiaan R. Bloem, Piu Chan, Bruno Dubois, Thomas Gasser, Christopher G. Goetz, Glenda Halliday, Lawrence Joseph, Anthony E. Lang, Inga Liepelt-Scarfone, Irene Litvan, Kenneth Marek, José Obeso, Wolfgang Oertel, C. Warren Olanow, Werner Poewe, Matthew Stern and Günther Deuschl

Original Research

Exercise improves cognition in Parkinson's disease: The PRET-PD randomized, clinical trial

Fabian J. David, Julie A. Robichaud, Sue E. Leurgans, Cynthia Poon, Wendy M. Kohrt, Jennifer G. Goldman, Cynthia L. Comella, David E. Vaillancourt and Daniel M. Corcos



2016 Travel Grant Awards

Acuna, Patrick <i>Philippines</i>	Darweesh, Sirwan <i>Netherlands</i>	Gupta, Harsh <i>USA</i>	Mason, Sarah <i>United Kingdom</i>
Aliakbari, Farhang <i>Iran</i>	De Pablo-Fernandez, Eduardo <i>United Kingdom</i>	Gustavsson, Emil <i>Canada</i>	Maurer, Carine <i>USA</i>
Alladi, Phalguni <i>India</i>	Delgado Alvarado, Manuel <i>Spain</i>	Harding, Ian <i>Australia</i>	Mok, Kin <i>United Kingdom</i>
Ameghino, Lucia <i>Argentina</i>	Diestro, Jose Danilo <i>Philippines</i>	Hayer, Stefanie <i>Germany</i>	Mondal, Banashree <i>India</i>
Arora, Siddharth <i>United Kingdom</i>	Diwan, Anand <i>India</i>	Heim, Beatrice <i>Austria</i>	Mukherjee, Somnath <i>India</i>
Atterbury, Elizabeth <i>South Africa</i>	Dos Santos Ghilardi, Maria Gabriela <i>Brazil</i>	Hilliard, Justin <i>USA</i>	Nasri, Amina <i>Tunisia</i>
Azevedo, Paula <i>Brazil</i>	Doumbe, Jacques <i>Cameroon</i>	Jitkriksadukul, Onanong <i>Thailand</i>	Orlacchio, Antonio <i>Italy</i>
Barcelos, Lorena <i>Brazil</i>	Dutt, Alakananda <i>India</i>	Kagita, Venkata Padma <i>India</i>	Panyakaew, Pattamon <i>Thailand</i>
Barzaghi, Chiara <i>Italy</i>	Emelyanov, Anton <i>Russia</i>	Karpinska, Kateryna <i>Ukraine</i>	Paramanandam, Vijayashankar <i>India</i>
Bayram, Ece <i>Turkey</i>	Falla, Marika <i>Italy</i>	Kefalopoulou, Zinovia <i>United Kingdom</i>	Pavlyshyna, Nataliia <i>Ukraine</i>
Bernardi, Maria Alejandra <i>Argentina</i>	Farombi, Temitope <i>Nigeria</i>	Khanova, Mukhlisa <i>Uzbekistan</i>	Perez, Javier <i>Spain</i>
Bhadran, Seethalekshmi <i>India</i>	Farrell, Lindsay <i>Canada</i>	Kianirad, Yasaman <i>USA</i>	Pietracupa, Sara <i>Italy</i>
Bordone, Melina <i>Argentina</i>	Fiorenzato, Eleonora <i>Italy</i>	Klimiec, Elzbieta <i>Poland</i>	Qadri, Rizwana <i>India</i>
Casagrande, Sara <i>Brazil</i>	Fong, Po-Yu <i>Taiwan</i>	Korn, Ryan <i>USA</i>	Qian, Yiwei <i>Peoples Republic of China</i>
Cen, Zhidong <i>Peoples Republic of China</i>	França, Carina <i>Brazil</i>	Koros, Christos <i>Greece</i>	Ramírez-García, Miguel <i>Mexico</i>
Chahidi, Abderrahmane <i>Morocco</i>	Fujita, Koji <i>USA</i>	Kronenbuerger, Martin <i>USA</i>	Sakdisornchai, Karn <i>Thailand</i>
Chatterjee, Payel <i>India</i>	Fullard, Michelle <i>USA</i>	Kulsum, Mariam <i>India</i>	Sedov, Alexey <i>Russia</i>
Chatterjee, Sayan <i>India</i>	Gaddipati, Chandana <i>India</i>	Kumar, Pardeep <i>India</i>	Seliverstov, Yury <i>Russia</i>
Chelban, Viorica <i>Moldova</i>	Gangarossa, Giuseppe <i>France</i>	Lenka, Abhishek <i>India</i>	Senkevich, Konstantin <i>Russia</i>
Chimagomedova, Achcha <i>Russia</i>	Garcia, Xiomara <i>USA</i>	Lopez Blanco, Roberto <i>Spain</i>	Shakya, Sunil <i>India</i>
Choolam, Arthita <i>Thailand</i>	Garcia-Gomar, Maria Guadalupe <i>Mexico</i>	Luo, Lan <i>USA</i>	Shetty, Aakash <i>India</i>
Cooper, Christine <i>USA</i>	Georgiev, Dejan <i>Slovenia</i>	Luthra, Nijee <i>USA</i>	Shiner, Tamara <i>Israel</i>
Da Prat de Magalhaes, Gustavo Andres <i>Argentina</i>	Giyazitdinova, Elvina <i>Uzbekistan</i>	Ma, Lingyan <i>Peoples Republic of China</i>	Sringean, Jirada <i>Thailand</i>
Dalle, Ernest <i>South Africa</i>	Goz, Evrim <i>Turkey</i>	Mahapatra, Chitaranjan <i>India</i>	Stankovic, Iva <i>Serbia</i>
Damianich, Ana <i>Argentina</i>	Gumerova, Feruza <i>Uzbekistan</i>	Martinez-Horta, Saul <i>Spain</i>	Tayaranian Marvian, Amir <i>Iran</i>



Congress Session Definitions

Blue Ribbon Session:

This session provides a critical review of the best poster presentations by a panel of experts, highlighting the relevance, novelty and quality of both clinical and basic research presented by the delegates.

Controversies:

This Plenary Session is designed to involve all International Congress attendees. Content is prepared to stimulate interest and debate among a panel of experts. Views from several angles are addressed as discussion of pre-selected “hot” topics are open for debate among the panelists.

Corporate Therapeutic Sessions:

These company-based informational sessions provide attendees with non-CME educational opportunities to learn the latest in therapeutics.

Guided Poster Tours:

Guided Poster Tours give small groups of delegates an opportunity to hear discussion on a select group of abstracts in several sub-categories.

Parallel Sessions:

These concurrent sessions provide an in-depth report of the latest research findings, state-of-the-art treatment options, as well as a discussion of future strategies. Parallel sessions have evidence-based components and incorporate the “hot” issues in Parkinson’s disease and other movement disorders.

Plenary Sessions:

These sessions provide a broad overview of the latest clinical and basic science research findings and state-of-the-art information.

Poster Sessions:

Poster sessions give each delegate an opportunity to view their colleagues’ posters on the most current research in the field of Movement Disorders. Authors are present for 1.5 hours each day to explain their work and answer questions.

Skills Workshops:

These clinic-based training sessions provide an educational illustration of clinical techniques and treatment procedures through demonstrations utilizing patient videotapes and proper equipment to further develop practitioners’ skills and knowledge within the field of treatment of movement disorders.

Teaching Courses:

These educational programs provide up-to-date information focused on a single topic. The sessions highlight both the clinical and basic science of topics of relevance to Movement Disorder specialists. The sessions are unique in providing a syllabus that includes a review of the topic and the presentation slides. In addition, these programs provide ample time for questions and a discussion period at the conclusion of the presentations.


Therapeutic Plenary Sessions:

These sessions provide the latest information regarding the scientific and clinical evidence supporting treatment options for Parkinson’s disease and other movement disorders.

Video Sessions:

Designed to provide a broad overview of related movement disorders, the video sessions will focus on the phenomenology covering the many different kinds of movement disorders affecting the population today.

Special Meeting Theme:

At each annual International Congress, the Congress Scientific Program Committee selects a theme that is highlighted throughout the meeting. This year’s theme, *The Many Faces of Movement Disorders: Evolving Disease Concepts*, will be showcased in two Plenary Sessions, eight Parallel Sessions, one Skills Workshop, two Video Sessions and one Teaching Course. International experts will serve as faculty, and the meeting participants can elect to attend any or all of these sessions. Themed sessions are designated in the program with .



Schedule-At-A-Glance

	Sunday, June 19	Monday, June 20	Tuesday, June 21	Wednesday, June 22	Thursday, June 23
8:00	Therapeutic Plenary Session 8:00 - 10:00	Plenary Session (Presidential Lectures) 8:00 - 10:00	Plenary Session 8:00 - 10:00	Plenary Session 8:00 - 9:30	Plenary Session 8:00 - 9:30
8:30					
9:00					
9:30	Regional Assemblies 10:00 - 11:00	Break 10:00 - 10:30	Break 10:00 - 11:00	Break 9:30 - 10:00	Break 9:30 - 10:00
10:00					
10:30					
11:00	Therapeutic Plenary Session 11:00 - 13:00	Plenary Session 10:30 - 12:30	Plenary Session 11:00 - 12:30	Plenary Session 10:00 - 12:00 (Grand Rounds)	Controversies 10:00 - 11:00
11:30					
12:00					
12:30	Corporate Therapeutic Symposia 13:30 - 14:30	Break/Guided Poster Tours/ Poster Sessions 12:30 - 14:00	Break/Guided Poster Tours/ Poster Sessions 12:30 - 14:00	Break/Guided Poster Tours/ Poster Sessions 12:00 - 13:30	Break/Guided Poster Tours/ Poster Sessions 12:00 - 13:30
13:00					
13:30					
14:00	Break 13:00 - 14:30	Corporate Therapeutic Symposia 14:00 - 15:00	Corporate Therapeutic Symposia 14:00 - 15:00	Corporate Therapeutic Symposia 13:30 - 14:30	Corporate Therapeutic Symposia 13:30 - 14:30
14:30					
15:00					
15:30	Therapeutic Plenary Session 14:30 - 16:30	Break 15:00 - 15:30	Break 15:00 - 15:30	Parallel Sessions/ Teaching Courses 15:00 - 17:00	Parallel Sessions/ Teaching Courses 15:00 - 17:00
16:00					
16:30					
17:00	Break 16:30 - 17:00	Parallel Sessions/ Teaching Courses 15:30 - 17:30	Parallel Sessions/ Teaching Courses 15:30 - 17:30	Break 17:00 - 17:30	Break 17:00 - 17:30
17:30					
18:00					
18:30	Therapeutic Plenary Session 17:00 - 19:00	Break 17:30 - 18:00	Break 17:30 - 18:00	Skills Workshops/ Video Sessions 17:30 - 19:00	Skills Workshops/ Video Sessions 17:30 - 19:00
19:00					
19:30					
20:00	Break 19:00 - 19:30	Skills Workshops/ Video Sessions 18:00 - 19:30	Skills Workshops/ Video Sessions 18:00 - 19:30	MDS Video Challenge 19:00 - 22:00	MDS Video Challenge 19:00 - 22:00
20:30					
21:00					
21:30	Welcome Ceremony 19:30 - 21:30	Welcome Ceremony 19:30 - 21:30	Welcome Ceremony 19:30 - 21:30	Welcome Ceremony 19:30 - 21:30	Welcome Ceremony 19:30 - 21:30
22:00					

Technology Tuesday

Congress Information



Scan to learn more
on our website



Sunday, June 19, 2016

1101 Therapeutic Plenary Session

Update on the Treatment of Parkinson's Disease 8:00 – 10:00

Location: Hall A3, Level 1
Chairs: Daniela Berg
Tübingen, Germany
David John Burn
Newcastle upon Tyne, United Kingdom

8:00 Early Parkinson's Disease: Modifying the Definition of PD and Early-Stage Treatment
Daniela Berg
Tübingen, Germany

8:40 Treatment of Dementia and Depression in Parkinson's Disease
Jaime Kulisevsky
Barcelona, Spain

9:20 Treatment Strategies for Advanced Parkinson's Disease
Angelo Antonini
Venice, Italy

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize new strategies for defining Parkinson's disease and describe treatment principles for early stage Parkinson's disease
- 2) Recognize the issues involved in selecting the best options for treating mood disorders and cognition in Parkinson's disease
- 3) Describe treatment principles for advancing Parkinson's disease including non-oral therapies

MDS-AOS Regional Assembly

10:00 – 11:00

Location: Hall 7.2a Helsinki 2, Level 2
All delegates from Asia and Oceania are encouraged to attend.

MDS-ES Regional Assembly

10:00 – 11:00

Location: Hall 7.2a Helsinki 1, Level 2
All delegates from Europe and North Africa are encouraged to attend.

MDS-PAS Regional Assembly

10:00 – 11:00

Location: Hall 7.1c Paris, Level 1
All delegates from Pan America are encouraged to attend.

1102 Therapeutic Plenary Session

Treatment of Dystonia, Ataxia and Chorea 11:00 – 13:00

Location: Hall A3, Level 1
Chairs: Francisco Cardoso
Belo Horizonte, Brazil
Cynthia Comella
Chicago, IL, USA

11:00 Treatment of the Dystonias
Cynthia Comella
Chicago, IL, USA

11:40 Treatment of the Ataxias
Bart Van De Warrenburg
Nijmegen, Netherlands

12:20 Treatment of the Choreas
Ruth Walker
Bronx, NY, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Summarize state-of-the-art treatment of the dystonias
- 2) Summarize state-of-the-art treatment of the ataxias
- 3) Summarize state-of-the-art treatment of the choreas

1103 Therapeutic Plenary Session

Experimental Strategies in Movement Disorders (Including Parkinson's Disease) in Honor of Professor Eldad Melamed 14:30 – 16:30

Location: Hall A3, Level 1
Chairs: Jeffrey Kordower
Chicago, IL, USA
Oscar Gershanik
Buenos Aires, Argentina

14:30 Gene Silencing Strategies
Pedro Gonzalez-Alegre
Philadelphia, PA, USA

15:10 Dopamine Replacement Strategies
Stéphane Palfi
Creteil, France

15:50 Alpha-Synuclein Modification Strategies
Jeffrey Kordower
Chicago, IL, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

1103 Therapeutic Plenary Session, cont.

At the conclusion of this session, participants should be better able to:

- 1) Recognize the principles of therapeutic gene silencing for movement disorders
- 2) Identify the principles of repairing the dopaminergic system and therapeutic-related options
- 3) Integrate molecular mechanisms of alpha-synuclein related neurodegeneration and potential options for therapeutic interventions

1104 Therapeutic Plenary Session

Comprehensive Management of Parkinson's Disease: A Non-Pharmacological Perspective 17:00 – 19:00

Location: Hall A3, Level 1
Chairs: Georg Ebersbach
Beelitz-Heilstatten, Germany
Janis Miyasaki
Edmonton, AB, Canada

17:00 Exercise Adherence From Early to Late Disease: How Do We Manage and Monitor It?
Terry Ellis
Boston, MA, USA

17:40 Cognitive and Behavioral Interventions for Alleviating Non-Motor Symptoms
Elke Kalbe
Cologne, Germany

18:20 Palliative Care: Adopting a Holistic Approach
Janis Miyasaki
Edmonton, AB, Canada

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Identify methods to assess and facilitate exercise adherence from early to late disease
- 2) Examine the rationale, potential and current evidence for cognitive and behavioral intervention to alleviate non-motor symptoms
- 3) Gain a comprehensive view of the benefits of a care network to meet palliative care needs

Welcome Ceremony

19:30 – 21:30

Location: Hall A3, Level 1



Monday, June 20, 2016

2101 Plenary Session

**Presidential Lectures
8:00 – 10:00**

Location: Hall A3, Level 1
 Chairs: Oscar Gershanik
Buenos Aires, Argentina
 Christopher Goetz
Chicago, IL, USA

8:00 Stanley Fahn Lecture: The Prediagnostic Phase of Parkinson's Disease: Facts and Mysteries
 Eduardo Tolosa
Barcelona, Spain

8:30 Junior Award Lectures:
 Poonan Thakur
Lund, Sweden
 Maria del mar Carmona-Abellan
Pamplona, Spain
 Brianda Koentjoro
Sydney, NSW, Australia

9:30 C. David Marsden Lecture: From Causes of Selective Neuronal Vulnerability in Parkinson's Disease to a Phase III Clinical Trial
 D. James Surmeier
Chicago, IL, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

2102 Plenary Session

**Stratifying Parkinson's Disease(s): Implications for Diagnosis and Treatment
10:30 – 12:30**

Location: Hall A3, Level 1
 Chairs: K. Ray Chaudhuri
London, United Kingdom
 Claudia Trenkwalder
Kassel, Germany

10:30 Is There Evidence for a Predominant Non-Motor Type of Parkinson's Disease?
 Brit Mollenhauer
Kassel, Germany

11:10 Are Young and Late Onset Presentations of Parkinson's Disease Different Diseases?
 Timothy Lynch
Dublin, Ireland

11:50 Are There Personalized Treatment Strategies for Different Parkinson's Disease Phenotypes?
 Susan Fox
Toronto, ON, Canada

2102 Plenary Session, cont.

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe non-motor features of Parkinson's disease and differentiate a predominant non-motor type of Parkinson's disease from a primarily motor type
- 2) Recognize the role of age of onset in Parkinson's disease in classifying subtypes
- 3) Identify tailored treatment based on categorization

Guided Poster Tours

**Guided Poster Tour 1:
Surgical Therapy
12:30 – 14:00**

Location: Exhibit Hall, Hall B, Level 2

**Guided Poster Tour 2:
Parkinsonism,
MSA, PSP
12:30 – 14:00**

Location: Exhibit Hall, Hall B, Level 2

**Guided Poster Tour 3:
Parkinson's Disease: Non-Motor Symptoms
12:30 – 14:00**

Location: Exhibit Hall, Hall B, Level 2

**Guided Poster Tour 4:
Epidemiology and Quality of Life
12:30 – 14:00**

Location: Exhibit Hall, Hall B, Level 2

**Poster Session
12:30 – 14:00**

Abstract Numbers: 1 – 542
 Location: Exhibit Hall, Hall B, Level 2

2203 Parallel Session

**Environment and Neurodegeneration in Parkinson's Disease
15:30 – 17:30**

Location: Hall 7.2b Budapest, Level 2
 Chairs: Micaela Morelli
Cagliari, Italy
 Caroline Tanner
San Francisco, CA, USA

15:30 Acquired Parkinsonism: Exo-Toxins and Pharmacological Agents
 Micaela Morelli
Cagliari, Italy

2203 Parallel Session

16:10 Stress and Neurodegeneration: From Animal Models to Life Events
 Gerlinde Metz
Lethbridge, AB, Canada

16:50 Systemic and Local Inflammation
 Malu Tansey
Atlanta, GA, USA

Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Estimate how utilization of toxin or specific drugs of abuse may influence the manifestation of neurodegenerative diseases
- 2) Assess if and how exposure to stress may cause neurodegeneration
- 3) Identify how neuroinflammatory changes may influence disease processes

2204 Parallel Session

**Customizing Treatment of Movement Disorder Patients by Phenotype
15:30 – 17:30**

Location: Hall A1, Level 1
 Chairs: Georg Ebersbach
Beelitz-Heilstatten, Germany
 Jill Ostrem
Greenbrae, CA, USA

15:30 Optimizing Treatment of Movement Disorders Responsive to Dopaminergic Therapy
 Paolo Barone
Napoli, Italy

16:10 Differential Response to Neurostimulation in Parkinsonism(s)
 Jill Ostrem
Greenbrae, CA, USA

16:50 Differential Response to Neurostimulation in Dystonia, Chorea and Tremor
 Elena Moro
Grenoble, France

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize the movement disorders that would benefit from targeted treatment
- 2) Identify the main characteristics/phenotypes of patients who will benefit most from focused treatments
- 3) Manage patient care by shaping the optimal medical and surgical treatment profile



Monday, June 20, 2016

Daily Schedule
Monday

2205 Parallel Session **TICKET**

Plasticity in Parkinson's Disease: From Animal Models to the Clinic 15:30 – 17:30

Location: Hall 7.1c Paris, Level 1
Chairs: Jeffrey Kordower
Chicago, IL, USA

D. James Surmeier
Chicago, IL, USA

15:30 Electrophysiological Plasticity of Basal Ganglia Circuitry

D. James Surmeier
Chicago, IL, USA

16:10 Synaptic Plasticity of Denervated Striatal Neurons

Rosario Moratalla
Madrid, Spain

16:50 Modulation of Plasticity in Parkinson's Disease Patients

Yoshikazu Ugawa
Fukushima, Japan

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe abnormal plasticity in the basal ganglia in the animal models of Parkinson's disease
- 2) Describe the different forms of synaptic plasticity in Parkinson's disease
- 3) Explain the effects of anti-parkinsonian drugs on the plasticity and integrate them with the basic science findings for the future rTMS treatment of Parkinson's disease

2206 Parallel Session **TICKET**

Role of Mitophagy in Movement Disorders 15:30 – 17:30

Location: Hall 7.2a Helsinki 1, Level 2
Chairs: Marta Martinez Vicente
Barcelona, Spain

Miquel Vila
Barcelona, Spain

15:30 Mitochondrial Quality Control by Mitophagy in Parkinson's Disease

Edward Fon
Montreal, QC, Canada

16:10 Mitochondrial Turnover in Parkinson's Disease: Is it All About Autophagy?

Aleksandar Rakovic
Lübeck, Germany

2206 Parallel Session **TICKET**, cont.

16:50 Role of Mitophagy in Huntington's Disease
Marta Martinez Vicente
Barcelona, Spain

Recommended Audience: Basic scientists, Clinical academicians, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Explain the role of mitophagy in Parkinson's disease pathogenesis and its potential therapeutic implications
- 2) Recognize the means by which mitochondrial turnover is regulated in Parkinson's disease
- 3) Discuss the emerging role of mitophagy in Huntington's disease

2207 Parallel Session **TICKET**

So You Think You Know About Dementia and Lewy Bodies? 15:30 – 17:30

Location: Hall A8, Level 1
Chairs: Clive Ballard
London, United Kingdom

Murat Emre
Istanbul, Turkey

15:30 Clinic and Diagnosis of Minimal Cognitive Impairment (MCI) and Dementia in Synucleinopathies

Murat Emre
Istanbul, Turkey

16:10 Risk Factors and Etiopathogenesis of Dementia in Lewy Body Disease

Dag Aarsland
Stavanger, Norway

16:50 Therapy of MCI and Dementia in Synucleinopathies

Clive Ballard
London, United Kingdom

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Identify mild cognitive impairment and dementia associated with Lewy body disease
- 2) Identify risk factors and etiopathogenesis of associated with Lewy body disease
- 3) Recognize current treatment options for dementia associated with Lewy body disease

2208 Parallel Session **TICKET**

Cross Generational and Pleiotropic Phenotypes 15:30 – 17:30

Location: Hall 7.2a Helsinki 2, Level 2
Chairs: Christopher Goetz
Chicago, IL, USA

Laurie Ozelius
Charlestown, MA, USA

15:30 Fragile X-Associated Disorders
Deborah Hall
Chicago, IL, USA

16:10 ATP1A3 and ADCY5
Niccolò Mencacci
London, United Kingdom

16:50 PRRT2-Associated Diseases: Across the Clinical and Molecular Spectrum
Aurelie Meneret
Paris, France

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe the clinical and molecular alterations associated with movement disorders that occur in children, parents, and grandparents with FMR1 gene expansions
- 2) List the clinical manifestations and molecular disruptions characteristic of ATP1A3 and ADCY5 mutations in different age groups
- 3) Recognize both the clinical spectrum and neurobiology of PRRT2-associated diseases and age-dependent relationships

2309 Teaching Course **TICKET**

Myoclonus: Clinical Spectrum, Electrophysiology and Treatment 15:30 – 17:30

Location: Hall 7.1a New York, Level 1
Chairs: Marina De Koning-Tijssen
Groningen, Netherlands

Philip Thompson
Adelaide, SA, Australia

15:30 Cortical, Subcortical, Brainstem and Spinal Myoclonus: Clinical Recognition and Differential Diagnosis

John Caviness
Scottsdale, AZ, USA



Monday, June 20, 2016

2309 Teaching Course **TICKET**, cont.

- 16:10 Role of Electrophysiology in Recognition and Classification of Myoclonus
 Hiroshi Shibasaki
Kyoto, Japan
- 16:50 New Diagnostic Strategies and an Update on Therapy
 Marina De Koning-Tijssen
Groningen, Netherlands

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize the clinical features associated with each subtype of myoclonus and generate a classification-oriented differential diagnosis
- 2) Identify the electrodiagnostic tools in the assessment of and categorization of myoclonus-associated disorders
- 3) Review the evidence for first-, second-, and third-line treatment options for cortical vs. subcortical myoclonus

2310 Teaching Course **TICKET**

Surgical Management of Movement Disorders 15:30 – 17:30

- Location: Hall 7.1b London, Level 1
 Chairs: Kelly Foote
Gainesville, FL, USA
 Lars Timmermann
Cologne, Germany
- 15:30 Superficial or Deep Brain Stimulation: Mechanism of Action, Target Choice, Procedures
 Kelly Foote
Gainesville, FL, USA
- 16:10 Surgery for Parkinson's Disease: When, How and For How Long
 Lars Timmermann
Cologne, Germany
- 16:50 Surgery for Dystonia and Other Hyperkinetic Disorders: Indications and Outcomes
 Takaomi Taira
Tokyo, Japan

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

2310 Teaching Course **TICKET**, cont.

- At the conclusion of this session, participants should be better able to:
- 1) Describe the mechanism of action for superficial, transcranial and deep brain stimulation, their action at target and circuit levels, the surgical procedures
 - 2) Recognize which patients with Parkinson's disease can be addressed to surgery, how to assess the individual risk/benefit ratio and what is the expected outcome
 - 3) Recognize which patients with dystonia or other hyperkinetic disorders can be addressed to surgery, how to assess the individual risk/benefit ratio and what is the expected outcome

2411 Skills Workshop **TICKET**

Examination and Interpretation of Eye Movements 18:00 – 19:30

- Location: Hall A1, Level 1
In this interactive session, attendees will learn how to examine eye movements, to recognize disorders of saccadic, pursuit and vestibular eye movements, and interpret these findings in relation to clinical phenotype.
- Tim Anderson
Christchurch, New Zealand
 Janet Rucker
New York, NY, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

- At the conclusion of this session, participants should be better able to:
- 1) Perform core eye movement examination, including assessment of saccades, pursuit, gaze holding, convergence, and vestibulo-ocular reflex function
 - 2) Recognize disorders of saccades, pursuits, and vestibulo-ocular reflex function in patients with movement disorders
 - 3) Identify nystagmus types (such as various forms of jerk nystagmus, pendular nystagmus) and other eye intrusions (for example square wave jerks and saccadic oscillations) pertinent to the movement disorders

2412 Skills Workshop **TICKET**

How to Publish in Movement Disorders Journal 18:00 – 19:30

- Location: Hall 7.2a Helsinki 2, Level 2
In this skills workshop, attendees will become more familiar with the review and decision making process of the Society's sister journals. This will include a discussion of whether articles are best targeted to MDJ or MDCP, how a decision is made to transfer between journals, and the review process: assignment to Associate Editor, decision on whether to send out for review, assignment of reviewers, Associate Editor decision, final editorial decision, revision and resubmission.
- Marcelo Merello
Buenos Aires, Argentina
 José Obeso
Madrid, Spain

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

- At the conclusion of this session, participants should be better able to:
- 1) Identify whether articles are better targeted to MDJ or to MDCP
 - 2) Describe the process that takes place during review, including initial submission, assignment of editors and reviewers or decision to reject without review, editorial discussion, revision and re-assessment
 - 3) Recognize the factors contributing to a final decision to accept, reject or transfer



Monday, June 20, 2016

2413 Skills Workshop **TICKET**

Differential Diagnosis and Treatment of Speech and Voice Disorders

18:00 – 19:30

Location: Hall 7.1c Paris, Level 1

At the end of this session, participants should gain knowledge about how to examine speech and voice related symptoms in clinic, elicit relevant signs and signpost related tests and identify hyperkinetic, hypokinetic and ataxic dysarthria from experts in the field.

Julia Johnson
London, United Kingdom
Serge Pinto
Aix-en-Provence, France

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize what speech and voice problems occur in Parkinson's disease, parkinsonism and dystonia
- 2) Examine speech and voice related symptoms in clinic, elicit relevant signs and signpost related tests. Identify hyperkinetic, hypokinetic and ataxic dysarthria
- 3) Describe how to manage dysarthria and related syndromes in Parkinson's disease

2414 Skills Workshop **TICKET**

Advanced Use of Botulinum Toxin

18:00 – 19:30

Location: Hall 7.1b London, Level 1

In this session, participants will learn a practical way to analyze complex cases of dystonia and spasticity, as they select muscles for targeting, using recommended botulinum toxin injection techniques.

Katharine Alter
University Park, MD, USA
Joerg Wissel
Berlin, Germany

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Develop a practical way to observe, analyze movements and select muscles for botulinum toxin injection in complex cases of dystonia, spasticity and other movement disorders
- 2) Recommend injection techniques and targeting for complex cases of dystonia, spasticity and other movement disorders
- 3) Integrate the role of physiologic and similar testing in analyzing movement disorders and selecting muscles for chemodenervation

2515 Video Session **TICKET**

Challenges in Clinico-genetic Correlations: One Gene - Many Phenotypes; One Phenotype - Many Genes

18:00 – 19:30

Location: Hall A8, Level 1

In this video session, participants will learn how to recognize complex phenotypes of the same monogenic mutations and how to deal with identical clinical presentations of different genetic mutations. At the end of the session, participants will better understand the current role of genetics in movement disorders.

Kailash Bhatia
London, United Kingdom
Vladimir Kostic
Belgrade, Serbia

Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize complex phenotypes of monogenic mutations
- 2) Recognize identical clinical presentations of different genetic mutations
- 3) Discuss the complexity of the evolving role of genetics in movement disorders

2516 Video Session **TICKET**

Ataxia: Familial and Sporadic

18:00 – 19:30

Location: Hall 7.2a Helsinki 1, Level 2

This video session will provide the participants with the expertise to perform a systematic clinical work-up of acquired, sporadic and hereditary ataxias.

Henry Houlden
London, United Kingdom
Maria-Jesus Sobrido
Santiago de Compostela, Spain

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Identify clinical clues to the differential diagnosis of acquired, sporadic and hereditary ataxias
- 2) Recognize the systematic clinical work-up of ataxias
- 3) Describe clinical symptoms typically associated with ataxias of different etiologies

2517 Video Session **TICKET**

Rare Genetic and Metabolic Disorders

18:00 – 19:30

Location: Hall 7.1a New York, Level 1

In this session, participants will learn how to diagnose rare genetic and metabolic movement disorders, both in children and adults and watch examples of their clinical phenotypes.

Annu Aggarwal
Mumbai, India
Roongroj Bhidayasiri
Bangkok, Thailand

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Diagnose neurometabolic disorders presenting in adulthood and childhood
- 2) Recognize the range of conditions of metal disorders (Wilson's, NBIA, manganese and calcium deposition)
- 3) Identify phenomena related to disorders of neurotransmitter synthesis (e.g., DRD), energy metabolism (e.g., POLG), and disorders involving lipid metabolism (e.g., NPC, CTX)

2518 Video Session **TICKET**

How to Examine: A Clinician Perspective - Bedside Examination

18:00 – 19:30

Location: Hall 7.2b Budapest, Level 2

In this session, participants will learn how to examine patients with movement disorders, how to assess facial and limb movements and distinguish them from normal behaviors, analyze gait and postural impairments, and will be provided with various techniques of assessments.

Daniel Healy
Dublin, Ireland
Marie Vidailhet
Paris, France

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize examination strategies and techniques that best elicit and facilitate identification of movement disorders
- 2) Distinguish different movement disorders of the face and limbs revealed by examination strategies and techniques
- 3) Outline an approach to the examination of posture and gait, and have knowledge of clinical clues that identify the causative movement disorder



Technology Tuesday

June 21, 2016

Building on the highly successful Technology Symposium held at the 2015 International Congress in San Diego, Technology Tuesday is placing an emphasis on the growing role of technology in the drug discovery, diagnosis and treatment.

Come learn about the products and devices in development or recently to come to market during the first Technology Tuesday. Technology Tuesday features product theater demonstrations by MDS supporters, two parallel sessions, and technology-related poster presentations.

Highlights of the Day:

Product Theater:

Located inside the Exhibition Hall B. Please visit Hall B to view theater schedule details.

Poster Presentations:

Technology related posters (numbered 543 – 579) are on display between 9:00 and 18:00. Authors will present at their posters from 12:30-14:00.

Parallel Sessions:

3203: Applications of Cutting Edge Technology in Movement Disorders
15:30-17:30

Location: Hall A1, Level 1

3211: Wearable Sensors, Mobile Applications and Big Data Analytics in Movement Disorders

18:00-19:30

Location: Hall A3, Level 1

MDS would like to acknowledge Medtronic, St. Jude Medical and UCB as sponsors of Technology Tuesday.

MDS Outreach Education Programs



International Parkinson and
Movement Disorder Society

Developing World Education Program



MDS is committed to supporting quality movement disorders education in underserved areas worldwide. Through the Developing World Education Program (DWEPE), funds are administered in a flexible support program tailored to the needs

of each region. The funds can be used to sponsor faculty travel and accommodation, logistics costs or other course expenses which are approved at the time of application.

Ambassador Program



The Ambassador Program supports the travel of one or two international experts, who are MDS members, to an underserved area for the purposes of education and scientific exchange. Sponsored speakers should deliver a keynote lecture during

the meeting.

Visiting Professor Program



The Visiting Professor Program supports the travel of one or two international experts, who are MDS members, to an underserved area for the purposes of education and scientific exchange. During the visit, invited experts should conduct teaching seminars in local hospitals or institutions, participate in grand rounds and/or provide input to further the understanding of movement disorders in the host country.

New! Virtual Professor Program



The MDS Virtual Professor Program is offered to improve the availability of educational initiatives and training on movement disorders in underserved countries. In order to better serve remote areas of the world, the MDS Virtual Professor Program allows movement disorder specialists to speak at your institution or local event through webinar software.

Learn more about these programs at: www.movementdisorders.org/MDS/Education/Outreach-Education.htm

MDS-0116-022



Tuesday, June 21, 2016

3101 Plenary Session

Genotype Meets Phenotype 8:00 – 10:00

Location: Hall A3, Level 1
Chairs: Christine Klein
Lübeck, Germany

Carolyn Sue
Sydney, NSW, Australia

8:00 Hereditary Movement Disorders: Reconciling Genotypes and Phenotypes

Hyder Jinnah
Atlanta, GA, USA

8:40 Phenotyping vs. Genotyping in Ataxias: New Diagnostic Approaches

Henry Paulson
Ann Arbor, MI, USA

9:20 When One Phenotype Has Many Genotypes: Implications for Diagnosis in Dystonia

Carolyn Sue
Sydney, NSW, Australia

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe the often complex relationships between genotypes and phenotypes
- 2) Recognize new developments in molecular diagnosis for inherited movement disorders using ataxia as an example
- 3) Identify how advances in modern genetics have modified our view of Mendelian genetics using dystonia as an example

MDS Business Meeting

10:00 – 11:00

Location: Hall 7.1c Paris, Level 1
Open to all delegates

3102 Plenary Session

Translating Basic Science Into Parkinson's Disease Clinical Practice 11:00 – 12:30

Location: Hall A3, Level 1
Chairs: Katie Lunnon
Exeter, United Kingdom

Eng-King Tan
Singapore

11:00 Moving From GWAS to EWAS: Epigenetics is Going 'Omics'

Katie Lunnon
Exeter, United Kingdom

3102 Plenary Session, cont.

11:30 Learning From Drosophila: Moving Basic Science Approaches Into the Clinic

Patrik Verstreken
Leuven, Belgium

12:00 Translational Aspects of iPSC Models: New Treatment Approaches for Parkinson's Disease

Ole Isacson
Belmont, MA, USA

Recommended Audience: Basic scientists, Clinical academicians, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe different model systems to develop new treatment approaches for Parkinson's disease
- 2) Identify new insights into the pathophysiology of Parkinson's disease
- 3) Recognize how to translate basic science findings into clinical practice

Guided Poster Tours

Guided Poster Tour 5: Technology 12:30 – 14:00

Location: Exhibit Hall, Hall B, Level 2

Guided Poster Tour 6: Genetics (PD and Non-PD) 12:30 – 14:00

Location: Exhibit Hall, Hall B, Level 2

Guided Poster Tour 7: Pathophysiology 12:30 – 14:00

Location: Exhibit Hall, Hall B, Level 2

Guided Poster Tour 8: Hyperkinetic Movement Disorders, RLS, Sleep 12:30 – 14:00

Location: Exhibit Hall, Hall B, Level 2

Poster Session

12:30 – 14:00

Abstract Numbers: 543 - 1030

Location: Exhibit Hall, Hall B, Level 2

3203 Parallel Session

Applications of Cutting Edge Technology in Movement Disorders 15:30 – 17:30

Location: Hall A1, Level 1
Chairs: Alexandra Nelson
San Francisco, CA, USA

Elena Moro
Grenoble, France

15:30 Optogenetics and Gene Editing
Alexandra Nelson
San Francisco, CA, USA

16:10 Non-Invasive Stimulation Strategies
Yuichiro Shirota
Göttingen, Germany

16:50 Adaptive Neuromodulation
Aysegül Gunduz
Gainesville, FL, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Explain how novel, powerful tools such as optogenetics and gene editing are being used to elucidate the cellular and circuit mechanisms of movement disorders
- 2) Describe potential therapeutic applications of rTMS and tDCS in the management of Parkinson's disease
- 3) Explore emerging applications of closed loop "smart DBS" both as a research tool and an enhanced therapeutic modality for neurocircuitry disorders

3204 Parallel Session

Penetrance of Mutations in Movement Disorder Genes: Clues to Endogenous Disease Protection? 15:30 – 17:30

Location: Hall 7.1c Paris, Level 1
Chairs: Matthew Farrer
Vancouver, BC, Canada

Christine Klein
Lübeck, Germany

15:30 Mechanisms of Reduced Penetrance in the Dystonias
Laurie Ozelius
Charlestown, MA, USA

16:10 Factors Influencing Penetrance of Parkinson's Disease Genetic Determinants (LRRK2 and GBA)
Matthew Farrer
Vancouver, BC, Canada



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3204 Parallel Session  , cont.

16:50 Genetic and Environment Risk Factors: Accomplices in Parkinson's Disease Manifestation
 Alexis Elbaz
Villejuif, France

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Summarize current knowledge about factors and mechanisms influencing penetrance in the dystonias
- 2) Discuss penetrance estimates for the most prevalent genetic determinants of Parkinson's disease (LRRK2 and GBA)
- 3) Debate the respective roles of genetic and environmental risk factors in Parkinson's disease etiology

3205 Parallel Session 

Role of Developmental Factors in the Etiology and Future Therapy of Parkinson's Disease
15:30 – 17:30

Location: Hall 7.2a Helsinki 1, Level 2
 Chairs: Thomas Perlmann
Stockholm, Sweden

Alain Prochiantz
Paris, France

15:30 Homeoprotein Signaling in Neuronal Development and Degeneration

Alain Prochiantz
Paris, France

16:10 NURR1 in Parkinson's Disease: From Pathogenesis to Therapeutic Potential

Thomas Perlmann
Stockholm, Sweden

16:50 Developmental Factor Lmx1b and Transcriptional Control of Autophagy in Parkinson's Disease

Ariadna Laguna Tuset
Barcelona, Spain

Recommended Audience: Basic scientists, Clinical academicians, Students/Residents/Trainees

3205 Parallel Session  , cont.

At the conclusion of this session, participants should be better able to:

- 1) Recognize the role of developmental factors in the etiology of Parkinson's disease
- 2) Address the question whether it is already time for translation of basic research results to clinic
- 3) Identify the active role of developmental factors in adulthood and their impact on autophagy and mitochondria with respect to their possible therapeutic value

3206 Parallel Session 

Update on Huntington's Disease and Secondary Chorea
15:30 – 17:30

Location: Hall A8, Level 1
 Chairs: Tim Anderson
Christchurch, New Zealand

Georg Landwehrmeyer
Ulm, Germany

15:30 Genetics and Animal Models of Huntington's Disease

Georg Landwehrmeyer
Ulm, Germany

16:10 Clinical Trials in Huntington's Disease

Cristina Sampaio
Princeton, NJ, USA

16:40 Autoimmune and Secondary Chorea

HuiFang Shang
ChengDu, Peoples Republic of China

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Identify the genetics and pathophysiology of Huntington's disease
- 2) Describe the overview of the latest clinical trials and their implications in Huntington's disease
- 3) Comprehend the etiology, phenomenology and management of secondary forms of choreas

3207 Parallel Session 

Evidence Based Medicine Update
15:30 – 17:30

Location: Hall 7.2a Helsinki 2, Level 2
 Chairs: Joaquim Ferreira
Lisbon, Portugal

Susan Fox
Toronto, ON, Canada

3207 Parallel Session  , cont.

15:30 MDS-EBM Update on Parkinson's Disease Treatments

Rob De Bie
Amsterdam, Netherlands

16:10 MDS-EBM Update on Tremor

Joaquim Ferreira
Lisbon, Portugal

16:40 MDS-EBM Update on RLS

Birgit Högl
Innsbruck, Austria

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe the Evidence Based Medicine process and methodology
- 2) List MDS-EBM recommendations for treatments in Parkinson's disease, RLS and tremor
- 3) Discuss the gaps in therapies for common movement disorders

3208 Parallel Session 

Late-Breaking Advances in Clinical, Basic and Translational Science
15:30 – 17:30

Location: Hall 7.2b Budapest, Level 2
 Chairs: K. Ray Chaudhuri
London, United Kingdom

Michael Okun
Gainesville, FL, USA

15:30 Neuroprotection, Motor and Non-Motor Clinical Trials and Relevant Advances in Parkinson's: What Have We Learned and Missed?

Wolfgang Oertel
Marburg, Germany

16:10 What is the Current State Regarding Advances in Basic Science and Parkinson's?

Ryosuke Takahashi
Kyoto, Japan

16:50 Translating Pearls of Basic Science to the Wisdom of the Clinic in Parkinson's Disease

David Standaert
Birmingham, AL, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees



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3208 Parallel Session **TICKET**, cont.

At the conclusion of this session, participants should be better able to:

- 1) Describe the latest advances in the therapy (motor and non-motor) as well as high quality clinical trials of Parkinson's disease
- 2) Recognize the latest advances in basic science related to Parkinson's disease (models, pathophysiology as well as the future and unmet needs)
- 3) Identify the translational efforts at converting basic science based benchside knowledge to bedside clinical medicine related to therapy and investigational techniques

3309 Teaching Course **TICKET**

Biomarkers for Parkinson's Disease **15:30 – 17:30**

Location: Hall 7.1a New York, Level 1

Chairs: Charles Adler
Scottsdale, AZ, USA

Daniela Berg
Tübingen, Germany

15:30 Prodrromal Parkinson's Disease: Biomarkers for Pre-Motor Parkinson's Disease

Ron Postuma
Montreal, QC, Canada

16:10 Tissue Biomarkers for Early Parkinson's Disease and PD Progression

Charles Adler
Scottsdale, AZ, USA

16:50 Neuroimaging for Assessing Parkinson's Disease Diagnosis and Progression

David Brooks
London, United Kingdom

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize the importance of pre-motor or prodromal phase of Parkinson's disease
- 2) Discuss possible genetic, CSF, blood, saliva, and tissue biopsy biomarkers of Parkinson's disease
- 3) Describe neuroimaging methods for Parkinson's disease diagnosis and disease progression

3310 Teaching Course **TICKET**

Botulinum Toxin Treatment of Movement Disorders **15:30 – 17:30**

Location: Hall 7.1b London, Level 1

Chairs: Cynthia Comella
Chicago, IL, USA

Raymond Rosales
Manila, Philippines

15:30 How to Inject Botulinum Toxin for Optimal Outcome in Dystonia, Emphasizing Common Focal Dystonias: Blepharospasm and Cervical Dystonia

Raymond Rosales
Manila, Philippines

16:10 Botulinum Toxin for the Treatment of Occupational Dystonias

David Simpson
New York, NY, USA

16:50 The Many Causes of Secondary Non-Response to Botulinum Toxin for the Treatment of Dystonia

Austen Moore
Liverpool, United Kingdom

Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe the techniques and methods of injection for common focal dystonias, blepharospasm and cervical dystonia that will maximize benefit and minimize side effects
- 2) Recognize the pattern of muscle activation in the occupational dystonias for optimal muscle selection
- 3) Explain the common and uncommon causes for secondary failure of botulinum toxin for dystonia

3211 Parallel Session **TICKET**

Wearable Sensors, Mobile Applications and Big Data Analytics in Movement Disorders **18:00 – 19:30**

Location: Hall A3, Level 1

Chairs: Alberto Espay
Cincinnati, OH, USA

Per Odin
Bremerhaven, Germany

18:00 Wearables

Jochen Klucken
Erlangen, Germany

18:30 Mobile Applications

Per Odin
Bremerhaven, Germany

19:00 Technology Assessment for Gaits and Falls

Jeffrey Hausdorff
Tel Aviv, Israel

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe emerging applications of wearable sensor technologies relevant to the diagnosis, prognosis and quality of life assessment of Parkinson's disease patients
- 2) Identify promising applications of mobile devices for prevention/prediction and continuous monitoring of movement disorders
- 3) Provide an overview of the opportunities and hurdles for application of technology-enabled solutions for real-time gait analysis and fall prevention



Tuesday, June 21, 2016

3412 Skills Workshop

Phenotyping of Parkinson's Disease: Neuroimaging Meets Neurophysiology 18:00 – 19:30

Location: Hall A8, Level 1
In this session, participants will learn about methodologies and principles of advanced MRI and non-invasive brain stimulation and how these techniques can be combined to modulate brain plasticity and enhance our understanding of various phenotypes of Parkinson's disease.
 Walter Paulus
 Göttingen, Germany
 Irena Rektorova
 Brno, Czech Republic

Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize the use of advanced MRI techniques and neurophysiology methods in study of various phenotypes of Parkinson's disease
- 2) Identify specific patterns of grey matter atrophy, cortical excitability changes and brain functional connectivity changes associated with different motor and non-motor symptoms of Parkinson's disease
- 3) Explain how neuroimaging and non-invasive brain stimulation can be combined to enhance our understanding of brain deficits and compensation related to various Parkinson's disease phenotypes

3413 Skills Workshop

A Contemporary View on Exercise in Movement Disorders 18:00 – 19:30

Location: Hall 7.2a Helsinki 2, Level 2
In this interactive session, participants will gain an understanding of the complexity of delivering exercise to patients with PD. They will learn how to link different exercise modes with concepts of motor learning and exercise physiology. Participants will also learn about how technology can facilitate the efficacy and dosing of exercise in the targeted components of physical and mental functioning.
 Gammon Earhart
 St. Louis, MO, USA
 Anat Mirelman
 Tel Aviv, Israel

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Gain insight in the rationale for various forms of exercise using concepts of motor learning and exercise physiology
- 2) Describe how technology can facilitate contemporary exercise delivery in Parkinson's disease
- 3) Gain evidence-based recommendations on efficacy and dosing of different types of exercise

3414 Skills Workshop

Optimizing the Management of the DBS Patient 18:00 – 19:30

Location: Hall 7.1a New York, Level 1
This interactive session is intended to provide participants with the knowledge necessary to improve the clinical outcome of patients with movement disorders undergoing DBS therapy.
 Maria Fiorella Contarino
 Den Haag, Netherlands
 Suneil Kalia
 Toronto, ON, Canada

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize and address motor and non-motor issues in DBS patients
- 2) Identify and manage surgical complications in DBS patients
- 3) Optimize the multidisciplinary management of DBS patients

3415 Skills Workshop

Practical Issues in Neuroimaging 18:00 – 19:30

Location: Hall 7.1b London, Level 1
In this session, participants will learn the latest advances regarding imaging of movement disorders, learn what neuroimaging tests to order for what movement disorder patients, and will discuss the neuroimaging results found in patients seen in clinical practice.

Danna Jennings
 New Haven, CT, USA
 Klaus Seppi
 Innsbruck, Austria

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe the neuroimaging techniques used in the field of Movement Disorders
- 2) Develop a strategy for when to order specific tests and which tests to order in clinical practice to aid in the diagnosis of movement disorders
- 3) Discuss the typical neuroimaging patterns that are typical of movement disorders that will be encountered regularly in clinical practice

3516 Video Session

Unusual Movement Disorders 18:00 – 19:30

Location: Hall A1, Level 1
This video session will present unusual inherited and acquired movements, including discussion of phenomenology, work-up and treatment.
 Victor Fung
 Sydney, NSW, Australia
 Stephen Reich
 Baltimore, MD, USA

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize less common inherited movement disorders
- 2) Recognize less common acquired or idiopathic movement disorders
- 3) Describe an approach to the differential diagnosis of unusual movement disorders



Tuesday, June 21, 2016

3517 Video Session **TICKET**

Pediatric Movement Disorders 18:00 – 19:30

Location: Hall 7.2a Helsinki 1, Level 2
In this interactive video session, participants will be able to see many videos of children with movement disorders. Not only common movement disorders, but also the spectrum of metabolic disorder related movement disorders in children will be illustrated. In addition, the clinical approach to the diagnosis of movement disorders in children will be discussed.
Jennifer Friedman
Del Mar, CA, USA
Manju Kurian
London, United Kingdom

Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize the spectrum of common movement disorders in children
- 2) Recognize the spectrum of metabolic disorder related movement disorders in children
- 3) Conduct a clinical approach to the diagnosis of movement disorders in children

3518 Video Session **TICKET**

Diagnosis and Treatment of Functional Movement Disorders 18:00 – 19:30

Location: Hall 7.2b Budapest, Level 2
In this interactive video session, participants will learn how to approach and recognize the clinical characteristics of patients with functional movement disorders. In addition, current treatment approaches for functional movement disorders are discussed and illustrated.
Mark Edwards
London, United Kingdom
Mark Hallett
Bethesda, MD, USA

Recommended Audience: Clinical academicians, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize the clinical characteristics of functional movement disorders
- 2) Describe the current treatment approaches in functional movement disorders
- 3) Apply neurophysiological tests to support the diagnosis of functional movement disorders

3519 Video Session **TICKET**

Movement Disorders in Musicians 18:00 – 19:30

Location: Hall 7.1c Paris, Level 1
This video session will demonstrate the extraordinary diversity and interesting phenomenology of musicians' dystonia, including a discussion of famous musicians affected by neurologic syndromes and a discussion of the latest understanding of musicians' dystonia.
Steven Frucht
New York, NY, USA
Hans Christian Jabusch
Dresden, Germany
Alexander Schmidt
Berlin, Germany

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe movement disorders that afflicted famous musicians
- 2) Discuss the epidemiology and phenomenology of musician's dystonia
- 3) Identify the pathophysiology and management of musician's dystonia

E-Learning



All MDS e-learning courses are presented using Learning Management System (LMS) software, to easily organize and customize delivery of content of all MDS courses. This new system creates a single portal that houses all MDS educational activities, and allows all users to review their progress, retrieve certificates and keep track of their e-learning CME credits. The LMS currently includes the following activities:

New! Fundamentals Course



A new online video and presentation series to provide a fundamental overview of basic movement disorders and clinical treatment and management. This program will be presented as a webcast along with the slides.
MDS Members and Non-Members: Free

Device Aided Medical Therapies for Parkinson's Disease



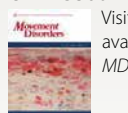
An online case series designed by a panel of worldwide specialists around the main practical issues involved in therapeutic treatments of Parkinson's disease.
MDS Members: Free Non-Members: \$50 USD per module

Coffee Break CME



No time for CME? No Problem! Coffee Break CME provides information in a modular format where each module is focused on a single topic that can be completed in a short period of time.
MDS Members: Free Non-Members: \$50 USD per module

Online Journal CME



Visit the LMS to view a list of *Movement Disorder Journal* articles available for CME credit.
MDS Members: Free Non-Members: \$50 USD per article

For a complete list of MDS E-Learning activities, visit: www.movementdisorders.org/MDS/Education/Latest-E-Learning.htm



Wednesday, June 22, 2016

4101 Plenary Session

Novel Technologies for Medical Decision Support: The Dawn of Stratified and Digitalized Medicine in Parkinson's Disease 8:00 – 9:30

Location: Hall A3, Level 1
 Chairs: Thomas Gasser
 Tübingen, Germany

Rejko Krueger
 Esch-sur-Alzette, Luxembourg

8:00 Genetic Stratification and Deep Phenotyping for Precision Medicine Approaches in Parkinson's Disease

Rejko Krueger
 Esch-sur-Alzette, Luxembourg

8:30 The Promise of Pharmacogenomics for Parkinson's Disease

David Simon
 Boston, MA, USA

9:00 Technology-Enabled Objective Measures in Parkinson's Disease: Unmet Needs, Challenges and Opportunities

Andrew Evans
 Hawthorn, VIC, Australia

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize novel concepts derived from ongoing international cohort programs for at risk, prodromal and de novo Parkinson's disease cohorts for defining subgroups of PD patients using genetic stratification and deep phenotyping strategies and apply to future diagnostic and treatment decisions
- 2) Describe the concept of rare forms of monogenic Parkinson's disease serving as a template to develop first mechanism-based treatments for subgroups of idiopathic PD patients and discuss predictors of therapeutic outcome for PD and the role of pharmacogenomics
- 3) Describe the rapid evolution of novel technologies for device-based assessments of Parkinson's disease symptoms and data-driven decision support and discuss applications in diagnostic and therapeutic settings to increase patient engagement

4102 Plenary Session

Movement Disorders Grand Rounds 10:00 – 12:00

Location: Hall A3, Level 1
In this interactive session, movement disorder experts will examine interesting common and complex patients. Attendees will learn how they formulate diagnoses and manage these interesting and challenging patients.

Chairs: Christine Klein
 Lübeck, Germany

Andrea Kühn
 Berlin, Germany

Claudia Trenkwalder
 Kassel, Germany

MDS Experts: Paul Greene
 New York, NY, USA

Werner Poewe
 Innsbruck, Austria

Peter Pramstaller
 Bolzano, Italy

Maria Stamelou
 Athens, Greece

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Identify how our experts use clinical history and signs to formulate their diagnosis in complex movement disorder cases
- 2) Identify how our experts use paraclinical methods to diagnose complex movement disorders
- 3) Identify how our experts formulate therapies for complex movement disorder patients

Guided Poster Tours

Guided Poster Tour 9: Ataxia, Chorea 12:00 – 13:30

Location: Exhibit Hall, Hall B, Level 2

Guided Poster Tour 10: Imaging and Neurophysiology 12:00 – 13:30

Location: Exhibit Hall, Hall B, Level 2

Guided Poster Tour 11: Cognition and Psychiatry 12:00 – 13:30

Location: Exhibit Hall, Hall B, Level 2

Guided Poster Tours, cont.

Guided Poster Tour 12: Clinical Phenomenology and Rating Scales 12:00 – 13:30

Location: Exhibit Hall, Hall B, Level 2

Poster Session

12:00 – 13:30

Abstract Numbers: 1031 - 1576
 Location: Exhibit Hall located in Hall B, Level 2

4203 Parallel Session

The Clinical Spectrum of Synucleinopathies and Tauopathies 15:00 – 17:00

Location: Hall A1, Level 1
 Chairs: Günter Höglinger
 Munich, Germany
 Irene Litvan
 La Jolla, CA, USA

15:00 The spectrum of Tauopathies: Progressive Supranuclear Palsy (PSP) and Corticobasal Degeneration (CBD)
 Günter Höglinger
 Munich, Germany

15:40 The Spectrum of Glial Synucleinopathies: Multiple System Atrophy (Type Parkinson / Cerebellar Type / Benign MSA)
 Wassilios Meissner
 Bordeaux, France

16:20 The Spectrum of Neuronal Synucleinopathies
 Irene Litvan
 La Jolla, CA, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Identify the broad spectrum of tauopathies presenting as PSP and CBS or overlapping symptomatology
- 2) Examine the mechanisms of different aggregates of alpha-synuclein in glial cells causing various types of multiple system atrophy
- 3) Differentiate the spectrum of neuronal synucleinopathies from idiopathic REM sleep behavior disorder, pure autonomic failure to the wide range of symptomatology in dementia with lewy bodies

Daily Schedule
 Wednesday



Wednesday, June 22, 2016

Daily Schedule
Wednesday

4204 Parallel Session **TICKET**

Non-Motor Issues in Parkinsonism 15:00 – 17:00

Location: Hall A8, Level 1
Chairs: Carlo Colosimo
Rome, Italy

Tanya Simuni
Chicago, IL, USA

15:00 Psychiatric Disorders in Parkinsonism
David John Burn
Newcastle upon Tyne, United Kingdom

15:40 Autonomic Dysfunction in Parkinsonism(s)
Pietro Cortelli
Bologna, Italy

16:20 Fatigue and Sleepiness
Tanya Simuni
Chicago, IL, USA

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize the clinical features of psychiatric disorders associated with parkinsonism
- 2) Recognize the symptoms of autonomic disorders and their treatments in parkinsonism
- 3) Examine the pathophysiology and epidemiology of sleepiness and fatigue in parkinsonism

4205 Parallel Session **TICKET**

Prodromal Parkinson's Disease - Cohorts, Underlying Science and Future Trials 15:00 – 17:00

Location: Hall 7.2b Budapest, Level 2
Chairs: Alejandro Iranzo
Barcelona, Spain

Matthew Stern
Philadelphia, PA, USA

15:00 Prodromal Parkinson's Disease Cohorts
Claudia Trenkwalder
Kassel, Germany

15:40 Impaired Gastric Motility, Intestinal Dysfunction and Hyposmia in REM Sleep Behavior Disorder Patients - the Search For a Primary Endpoint
Alejandro Iranzo
Barcelona, Spain

4205 Parallel Session **TICKET**, cont.

16:20 Gastrointestinal and Autonomic Dysfunction in Animal Models
Penny Hallett
Belmont, MA, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe different cohorts of prodromal Parkinson's disease and their pitfalls and bottlenecks encountered
- 2) Identify early markers of REM sleep behavioral abnormalities in relation to hyposmia and constipation
- 3) Evaluate the findings in animal models of prodromal Parkinson's disease for their impact on the diagnosis of Parkinson's disease

4206 Parallel Session **TICKET**

What's New in Tremor? 15:00 – 17:00

Location: Hall 7.2a Helsinki 1, Level 2
Chairs: Günther Deuschl
Kiel, Germany

Anthony Lang
Toronto, ON, Canada

15:00 Should We Redefine Essential Tremor?
Rodger Elble
Springfield, IL, USA

15:40 What is Dystonic Tremor?
Anthony Lang
Toronto, ON, Canada

16:20 Surgical Treatments for Tremor
Andres Lozano
Toronto, ON, Canada

Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Interpret mechanisms underlining essential tremor and discuss its redefinition
- 2) Define dystonic tremor and understand its pathomechanism
- 3) Recognize the potential of surgical approaches including DBS, gamma knife and ultrasound techniques

4207 Parallel Session **TICKET**

Striatal Interneurons and Pathophysiology of Movement Disorders 15:00 – 17:00

Location: Hall 7.1c Paris, Level 1
Chairs: D. James Surmeier
Chicago, IL, USA

Antonio Pisani
Rome, Italy

15:00 Striatal Interneuronal Networks Controlling Movement
Christoph Straub
Boston, MA, USA

15:40 Striatal Cholinergic Interneurons Play a Key Role in Dystonia
Antonio Pisani
Rome, Italy

16:20 Why Cholinergic Interneurons Still Matter in Parkinson's Disease
Stephanie Cragg
Oxford, United Kingdom

Recommended Audience: Basic scientists, Clinical academicians, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe the contribution of interneurons to striatal networks controlling movement
- 2) Describe the role of cholinergic interneurons in the pathophysiology of dystonia and potential therapeutic strategies targeting them
- 3) Describe the role of cholinergic interneurons in the pathophysiology of Parkinson's disease and potential therapeutic strategies targeting them

4208 Parallel Session **TICKET**

Complex Gait Disorders: Mechanisms, Evaluation and Treatment 15:00 – 17:00

Location: Hall 7.2a Helsinki 2, Level 2
Chairs: Andres Ceballos-Baumann
Munich, Germany

Alice Nieuwboer
Heverlee, Belgium

15:00 New Insights in the Neural Circuitry Involved in Gait and Balance Disorders
Veronique Vanderhorst
Boston, MA, USA

15:40 Mechanisms Underlying Freezing of Gait and Higher Order Gait Disorders
Alice Nieuwboer
Heverlee, Belgium



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4208 Parallel Session , cont.

16:20 Novel Concepts in the Evaluation and Management of Complex Gait Disorders
 Bastiaan Bloem
Nijmegen, Netherlands

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe the functional and neuroanatomical advances underlying gait disorders
- 2) Describe the different models underlying complex gait problems
- 3) Identify the most recent approaches in clinical management of gait disorders

4309 Teaching Course

Complex Phenotypes and Genotypes - Seeing the Wood for the Trees
15:00 – 17:00

Location: Hall 7.1a New York, Level 1
 Chairs: Sarah Tabrizi
London, United Kingdom

Eng-King Tan
Singapore

15:00 Huntington's Disease and HD-Like Disorders
 Sarah Tabrizi
London, United Kingdom

15:40 Ataxias
 Katrin Buerk
Kassel, Germany

16:20 Hereditary Spastic Paraparesis
 Kishore Kumar
St. Leonards, NSW, Australia

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize what other disorders can masquerade as HD and what are the clues to their diagnosis
- 2) Identify clinical characteristics that aid in narrowing the differential diagnosis in the ataxias and focus genetic testing
- 3) Recognize the expanding spectrum of HSP presentation and identify particular clinical features that can aid diagnosis of type and targeted genetic testing

4310 Teaching Course

Cerebellar Ataxias: The Essentials
15:00 – 17:00

Location: Hall 7.1b London, Level 1
 Chairs: Tetsuo Ashizawa
Gainesville, FL, USA

Alexandra Durr
Paris, France

15:00 Genetic Ataxias: Overview and Diagnostic Approach

Alexandra Durr
Paris, France

15:40 MSA-C and Other Degenerative Ataxias

Thomas Klockgether
Bonn, Germany

16:20 Immune-Mediated and Other Acquired Ataxias

Tetsuo Ashizawa
Gainesville, FL, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Identify the most important genetic causes of ataxia and know how to implement new testing strategies in the diagnostic work-up
- 2) Identify how to distinguish experimental treatments in the different degenerative ataxias and to be aware of the key managing issues in MSA-C
- 3) Identify that some ataxias are immune-mediated and amenable to treatment, and how to test for these and other acquired causes of ataxias

4411 Skills Workshop

Lessons From My Patients
17:30 – 19:00

Location: Hall 7.2a Helsinki 1, Level 2
In this interactive session, the faculty will present clinical cases from their own practice and discuss the lessons learned when critical reappraisal of clinical features has lead to a revision of diagnosis and change in management.

Orlando Barsottini
São Paulo, Brazil

Thomas Kimber
Adelaide, SA, Australia

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

4411 Skills Workshop , cont.

At the conclusion of this session, participants should be better able to:

- 1) Recognize the value of critical review of cases where diagnosis and management have been revised
- 2) Identify common pitfalls in the evaluation of movement disorders
- 3) Recognize the merits of reassessing clinical features and management

4412 Skills Workshop

Neurology Without Borders
17:30 – 19:00

Location: Hall 7.1c Paris, Level 1
This session will provide participants with an understanding of the new technologies available to widen the practice of neurology and how to use them.

Esther Cubo Delgado
Burgos, Spain

Mark Guttman
Toronto, ON, Canada

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe the available technologies to expand neurology practice
- 2) Discuss the application of teleneurology in education and in managing patients with movement disorders
- 3) Describe strategies for implementation of telemedicine beyond borders

4413 Skills Workshop

Pain in Parkinson's Disease: Insights and Management
17:30 – 19:00

Location: Hall A8, Level 1
This session will provide participants with an overview of how pain is currently understood in PD. Participants will also learn about validated and clinical measurement tools on how to rate pain and identify emerging pharmacological and non-pharmacological management strategies on how to alleviate it.

Santiago Perez Lloret
Buenos Aires, Argentina

Michele Tinazzi
Verona, Italy

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees



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4413 Skills Workshop **TICKET**, cont.

At the conclusion of this session, participants should be better able to:

- 1) Describe the pathophysiology, prevalence and clinical manifestation of different types of pain in Parkinson's disease
- 2) Gain insight in pain rating scales that are validated for Parkinson's disease as a basis for pain management
- 3) Identify emerging pharmacological and non-pharmacological management strategies of pain

4414 Skills Workshop **TICKET**

MDS - UPDRS/UDysRS 17:30 – 19:00

Location: Hall 7.1a New York, Level 1

This session will be a practical and interactive survey of two core scales utilized in the clinical care and research efforts of Parkinson's disease, the MDS revision of the Unified Parkinson's Rating Scale (MDS-UPDRS) and the Unified Dyskinesia Rating Scale (UDysRS). The faculty will review the sections of each scale, their conceptual framework, and offer practical recommendations on the efficient application of these rating measures.

Anette Schrag
London, United Kingdom

Christopher Goetz
Chicago, IL, USA

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Complete ratings on the MDS-UPDRS and UDysRS
- 2) Describe the conceptual constructs of the MDS-UPDRS and UDysRS
- 3) Explain to patients and caregivers the role they play in the MDS-UPDRS and UDysRS assessments

4415 Skills Workshop **TICKET**

Presenting the MDS Genotype Phenotype Toolbox 17:30 – 19:00

Location: Hall 7.2b Budapest, Level 2

This session is intended to familiarize participants with the new nomenclature and classification of inherited movement disorders and with the use of the MDS online toolbox relating genotypes and phenotypes.

Christina Lill
Lübeck, Germany

Connie Marras
Toronto, ON, Canada

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

4415 Skills Workshop **TICKET**, cont.

At the conclusion of this session, participants should be better able to:

- 1) Describe the limitations of the current nomenclature and classification of genetic movement disorders
- 2) Describe the proposed solution by the MDS Task Force on Genetics and understand its limitations and perspectives
- 3) Recognize the value of the online tool being developed by MDS for addressing genotype-phenotype relationships and implications for diagnosis

4516 Video Session **TICKET**

What If It's Not Huntington's Disease? 17:30 – 19:00

Location: Hall 7.2a Helsinki 2, Level 2

During this interactive session, clinicians will receive updated tips how to recognize the phenomenology of Huntington's disease and other disorders (Huntington's disease-like syndromes) in which chorea is the initial main clinical feature. At the end of the session participants will be able to outline the appropriate approach and diagnostic work-up for patients with chorea.

Anne-Catherine Bachoud-Levi
Creteil, France

Anna Bentivoglio
Rome, Italy

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize the phenomenology of Huntington's disease and other disorders in which chorea is the main clinical feature
- 2) Recognize the clinical features of Huntington's disease-like (HDL) syndromes
- 3) Outline appropriate approach and diagnostic work-up for patients with chorea

4517 Video Session **TICKET**

Drug-Induced Movement Disorders 17:30 – 19:00

Location: Hall 7.1b London, Level 1

In this session, participants will be alerted to recognize common and some uncommon acute, subacute and tardive drug-induced movement disorders and describe their associated neurological features.

Mohit Bhatt
Mumbai, India

Pille Tabla
Tartu, Estonia

Recommended Audience: Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

4517 Video Session **TICKET**, cont.

At the conclusion of this session, participants should be better able to:

- 1) Identify clues leading to the suspicion of drug-induced movement disorders
- 2) Distinguish common and some uncommon acute, subacute and tardive or chronic drug-induced movement disorders
- 3) Recognize psycho-stimulant induced movement disorders and associated neurologic features

4518 Video Session **TICKET**

Update on Paroxysmal Movement Disorders / Fluctuating Movement Disorders 17:30 – 19:00

Location: Hall A1, Level 1

In this session, participants will be shown video cases of various forms of paroxysmal dyskinesia (classical forms and variants), as they differentiate, in an algorithm, the other fluctuating disorders (including epilepsy partialis).

Beom Jeon
Seoul, Korea
Emmanuel Roze
Paris, France

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Characterize the forms of paroxysmal dyskinesia (classical forms and variants)
- 2) Approach, using an algorithm, the diagnosis and the etiology of paroxysmal movement disorders
- 3) Define the differential diagnostic points in epilepsy partialis and the look-alikes

MDS Video Challenge Pre-Event Gathering

19:00 – 20:00

Locations: Foyer, Level 1
Foyer, Entrance Level
Foyer, Level 2

MDS Video Challenge

20:00 – 22:00

Location: Hall A3, Level 1
See page 9 for more information.



Thursday, June 23, 2016

5101 Plenary Session

RLS, RBD - New Approaches to Movement Disorders in Sleep 8:00 – 9:30

Location: Hall A3, Level 1
 Chairs: Birgit Högl
Innsbruck, Austria
 Wolfgang Oertel
Marburg, Germany

8:00 RLS - A Neurodevelopment Disorder of the Basal Ganglia? Update on Pathophysiology and Genetics
 Juliane Winkelmann
München, Germany

8:30 Neuropathology and Pathophysiology of RBD
 Bradley Boeve
Rochester, MN, USA

9:00 Assessments of RBD in Clinical Practice – New Tools
 Isabelle Arnulf
Paris, France

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Review current pathophysiological concepts and the neurodevelopmental component of RLS related to the genetic architecture and environmental factors
- 2) Describe neuropathological findings of neurodegeneration in REM sleep behavior disorder
- 3) Recognize the basics for quantitative EMG assessment, video-PSG and scales for assessment of RBD and appreciate some of the available computerized tools

5102 Controversies in Movement Disorders

10:00 – 11:00

Location: Hall A3, Level 1
 Chairs: Christopher Goetz
Chicago, IL, USA
 Marie Vidailhet
Paris, France

10:00 Genotype Should Influence Treatment Decisions in the Clinic (YES)
 Norbert Brüggemann
Lübeck, Germany

10:15 Genotype Should Influence Treatment Decisions in the Clinic (NO)
 Eduardo Tolosa
Barcelona, Spain

5102 Controversies in Movement Disorders, cont.

10:30 All Dopamine Agonists are Basically the Same in Terms of Parkinson's Disease Treatment (YES)
 Olivier Rascol
Toulouse, France

10:45 All Dopamine Agonists are Basically the Same in Terms of Parkinson's Disease Treatment (NO)
 K. Ray Chaudhuri
London, United Kingdom

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

Topic 1:

- 1) Recognize how movement disorder phenotypes have different genetic causes
- 2) Evaluate whether shared phenotypes with different genetic causes leads to treatment decisions
- 3) Compare treatment outcomes among shared phenotypes with different genotype etiologies

Topic 2:

- 1) Recognize the neurochemical and pharmacokinetic differences among dopamine agonists
- 2) Evaluate the relative clinical impact of different dopamine agonists
- 3) Design a treatment plan for patients receiving agonist therapy

5103 Blue Ribbon Highlights

11:00 – 12:00

Location: Hall A3, Level 1
 Chairs: C. Warren Olanow
New York, NY, USA
 Louis Tan
Singapore

This session will provide a critical review of the best poster presentations by a panel of experts, highlighting the relevance, novelty, and quality of both clinical and basic research presented by delegates.

Presenters: Marie-Francoise Chesselet
Los Angeles, CA, USA
 Caroline Tanner
San Francisco, CA, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Review recent developments in the basic science field of movement disorders
- 2) Discuss an overview of recent clinical developments
- 3) Define an overall perspective on current topics of interest in movement disorders

Guided Poster Tours

Guided Poster Tour 13: Dystonia and Pediatric Movement Disorders 12:00 – 13:30

Location: Exhibit Hall, Hall B, Level 2

Guided Poster Tour 14: Pharmacology 12:00 – 13:30

Location: Exhibit Hall, Hall B, Level 2

Guided Poster Tour 15: Parkinson's Disease: Clinical Trials I 12:00 – 13:30

Location: Exhibit Hall, Hall B, Level 2

Guided Poster Tour 16: Parkinson's Disease: Clinical Trials II and Non-PD Clinical Trials 12:00 – 13:30

Location: Exhibit Hall, Hall B, Level 2

Poster Session

12:00 – 13:30

Abstract Numbers: 1577 - 2111

Location: Exhibit Hall, Hall B, Level 2

5204 Parallel Session

The Interface of Autoimmunity and Movement Disorders 15:00 – 17:00

Location: Hall A1, Level 1
 Chairs: Hyder Jinnah
Atlanta, GA, USA

Andrew McKeon
Rochester, MN, USA

15:00 Antibodies in Movement Disorders: Clinical Approach, Pitfalls, Future Challenges
 Andrew McKeon
Rochester, MN, USA

15:40 Gluten-Associated Neurological Disorders and Related Immune-Mediated Conditions
 Marios Hadjivassiliou
Sheffield, United Kingdom

16:20 New and Emerging Disorders
 Bettina Balint
London, United Kingdom

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

16:20 New and Emerging Disorders
 Bettina Balint
London, United Kingdom

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees



Thursday, June 23, 2016

5204 Parallel Session , cont.

At the conclusion of this session, participants should be better able to:

- 1) Identify a spectrum of antibodies associated with movement and sleep disorders phenotypes
- 2) Describe evidence both for and against gluten-associated neurological disorders
- 3) Describe recently discovered antibodies and the evidence needed to link them with movement and sleep disorders phenotypes

5205 Parallel Session

Lysosomal Alterations as a Unifying Theme Underlying Parkinson's Disease and Related Synucleinopathies 15:00 – 17:00

Location: Hall 7.2b Budapest, Level 2
Chairs: Roy Alcalay
New York, NY, USA

Marie-Francoise Chesselet
Los Angeles, CA, USA

15:00 Lysosomal Alterations as a Unifying Theme Underlying Parkinson's Disease and Related Synucleinopathies
Ellen Sidransky
Bethesda, MD, USA

15:40 GBA-Related Parkinson's Disease: Intermediate Phenotypes and Biomarkers
Roy Alcalay
New York, NY, USA

16:20 The Role of Autophagy in Parkinson's Disease Pathogenesis
Leonidas Stefanis
Papagou, Greece

Recommended Audience: Basic scientists, Clinical academicians, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Identify the basic principles of lysosome biology and how these are linked to synucleinopathies
- 2) Describe the genetic links that relate Parkinson's disease and related synucleinopathies to lysosomal pathways
- 3) Recognize the new biomarker and therapeutic prospects that emerge from the connection between lysosomal alterations and synucleinopathies

5206 Parallel Session

Endemic Atypical Parkinsonism 15:00 – 17:00

Location: Hall 7.2a Helsinki 1, Level 2
Chairs: Nobutaka Hattori
Tokyo, Japan

Raymond Rosales
Manila, Philippines

15:00 Clinical, Pathological and Genetic Features of Atypical Parkinsonism in the Island of Guam
Huw Morris
London, United Kingdom

15:40 X-linked Dystonia-Parkinsonism of the Island of Panay and its Genetic Background
Aloysius Domingo
Lübeck, Germany

16:20 Geographical Cluster of Progressive Supranuclear Palsy in Northern France
Lawrence Golbe
New Brunswick, NJ, USA

Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Define the clinical and epidemiological features of endemic atypical parkinsonism
- 2) Recognize the possible foci of endemic atypical parkinsonian disorders worldwide
- 3) Elucidate the genetic and environmental causes of endemic atypical parkinsonian syndromes

5207 Parallel Session

The Cerebellum in Health and Disease 15:00 – 17:00

Location: Hall A8, Level 1
Chairs: Alfredo Beradelli
Rome, Italy

Mario-Ubaldo Manto
Brussels, Belgium

15:00 The Role of the Cerebellum in Normal Movement
Mario-Ubaldo Manto
Brussels, Belgium

15:40 The Role of the Cerebellum in Parkinson's Disease
Rick Helmich
Nijmegen, Netherlands

5207 Parallel Session , cont.

16:20 The Role of the Cerebellum in Dystonia
Alfredo Beradelli
Rome, Italy

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Describe the role of the cerebellum in normal motor control
- 2) Describe the role of the cerebellum in Parkinson's disease
- 3) Describe the role of the cerebellum in dystonia and tremor

5208 Parallel Session

iPS Modeling and Cell Therapy 15:00 – 17:00

Location: Hall 7.2a Helsinki 2, Level 2
Chairs: Steven Finkbeiner
San Francisco, CA, USA

Ole Isacson
Belmont, MA, USA

15:00 iPS Modeling of Pathological Mechanisms in Neurological Disease
Richard Wade-Martins
Oxford, United Kingdom

15:40 Modeling the Human Cell Biology of Huntington's Disease by iPS Cells
Steven Finkbeiner
San Francisco, CA, USA

16:20 Accomplishing Functional Restoration Using iPS Cells in Parkinson's Disease
Su-Chun Zhang
Madison, WI, USA

Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:

- 1) Recognize the study of pathobiology of disease using human iPS cells
- 2) Describe the neurobiology of Huntington's disease and new approaches using iPS cells
- 3) Recognize the experimental evaluation and applications of cell therapy



Thursday, June 23, 2016

5209	Parallel Session TICKET	5310	Teaching Course TICKET	5311	Teaching Course TICKET
	<p>Primary Familial Brain Calcification (PFBC): Genes, Phenotypes, and Mechanisms 15:00 – 17:00</p> <p>Location: Hall 7.1c Paris, Level 1 Chairs: Vladamir Kostic <i>Belgrade, Serbia</i> Ana Westenberger <i>Lübeck, Germany</i></p> <p>15:00 Spectrum of Genetic Mutations Causing Primary Familial Brain Calcifications and Their Penetrance Ana Westenberger <i>Lübeck, Germany</i></p> <p>15:40 The Emerging Molecular Pathways Leading to PFBC Gaël Nicolas <i>Rouen, France</i></p> <p>16:20 Clinical and Neuroimaging Features of Genetically Confirmed PFBC Vladamir Kostic <i>Belgrade, Serbia</i></p> <p>Recommended Audience: Basic scientists, Clinical academicians, Practitioners, Students/Residents/Trainees</p> <p>At the conclusion of this session, participants should be better able to:</p> <ol style="list-style-type: none"> 1) Describe the mutational spectra and penetrance in genetically confirmed forms of primary familial brain calcification 2) Summarize known and proposed pathophysiological mechanisms of primary familial brain calcification 3) Discuss the neuroimaging and clinical phenotypes of genetically confirmed forms of primary familial brain calcification 		<p>Genetic Testing for Movement Disorders: Which, Why, and When 15:00 – 17:00</p> <p>Location: Hall 7.1a New York, Level 1 Chairs: Vincenzo Bonifati <i>Rotterdam, Netherlands</i> Christian Wider <i>Lausanne, Switzerland</i></p> <p>15:00 Parkinson's Disease Vincenzo Bonifati <i>Rotterdam, Netherlands</i></p> <p>15:40 Dystonia Christian Wider <i>Lausanne, Switzerland</i></p> <p>16:20 Spinocerebellar Ataxias Ebba Lohmann <i>Istanbul, Turkey</i></p> <p>Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees</p> <p>At the conclusion of this session, participants should be better able to:</p> <ol style="list-style-type: none"> 1) Review the Mendelian genes known to cause Parkinson's disease to determine if there is an indication for routine genetic testing 2) Review the Mendelian genes known to cause isolated dystonia and discuss whether gene testing should be used clinically to guide approaches to therapy 3) Review the Mendelian genes that cause Spinocerebellar Ataxias to determine if there is a clinical use of genetic testing and how that should be accomplished: individual tests or comprehensive panel 		<p>Movement Disorder Emergencies: Recognition and Management 15:00 – 17:00</p> <p>Location: Hall 7.1b London, Level 1 Chairs: Stewart Factor <i>Atlanta, GA, USA</i> Heinz Reichmann <i>Dresden, Germany</i></p> <p>15:00 Hyperkinetic Emergencies Carlo Colosimo <i>Rome, Italy</i></p> <p>15:40 Hypokinetic Emergencies Shen-Yang Lim <i>Selangor, Malaysia</i></p> <p>16:20 Long Term Treatment Strategies in Recurrent Emergencies Stewart Factor <i>Atlanta, GA, USA</i></p> <p>Recommended Audience: Basic scientists, Clinical academicians, Non-physician Health Professionals, Practitioners, Students/Residents/Trainees</p> <p>At the conclusion of this session, participants should be better able to:</p> <ol style="list-style-type: none"> 1) Recognize the clinical features, and outline immediate management strategies in patients with movement disorders who require emergent interventions 2) Recognize the risk or precipitating factors and prodromal symptoms or signs that are associated with specific forms of movement disorder emergencies 3) Recognize and employ appropriate treatment for neuropsychiatric emergencies associated with movement disorder conditions



Faculty Listing

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4310

Earhart, Gammon

St. Louis, MO, USA
3413

Ebersbach, Georg

Beelitz-Heilstatten, Germany
1104, 2204

Edwards, Mark

London, United Kingdom
3518

Elbaz, Alexis

Villejuif, France
3204

Elble, Rodger

Springfield, IL, USA
4206

Ellis, Terry

Boston, MA, USA
1104

Emre, Murat

Istanbul, Turkey
2207

Espay, Alberto

Cincinnati, OH, USA
3211, 3516

Evans, Andrew

Hawthorn, VIC, Australia
4101

Factor, Stewart

Atlanta, GA, USA
5311

Farrer, Matthew

Vancouver, BC, Canada
3204

Ferreira, Joaquim

Lisbon, Portugal
3207

Finkbeiner, Steven

San Francisco, CA, USA
5208

Fon, Edward

Montreal, QC, Canada
2206

Foote, Kelly

Gainesville, FL, USA
2310

Fox, Susan

Toronto, ON, Canada
2102, 3207

Friedman, Jennifer

Del Mar, CA, USA
3517

Frucht, Steven

New York, NY, USA
3519

Fung, Victor

Sydney, NSW, Australia
3516

Gasser, Thomas

Tübingen, Germany
4101

Gershanik, Oscar

Buenos Aires, Argentina
1103, 2101

Goetz, Christopher

Chicago, IL, USA
2101, 2208, 4414, 5102

Golbe, Lawrence

New Brunswick, NJ, USA
5206

Gonzalez-Alegre, Pedro

Philadelphia, PA, USA
1103



Faculty Listing

Greene, Paul

New York, NY, USA
4102

Gunduz, Aysegul

Gainesville, FL, USA
3203

Guttman, Mark

Toronto, ON, Canada
4412

Hadjivassiliou, Marios

Sheffield, United Kingdom
5204

Hall, Deborah

Chicago, IL, USA
2208

Hallett, Mark

Bethesda, MD, USA
3518

Hallett, Penny

Belmont, MA, USA
4205

Hattori, Nobutaka

Tokyo, Japan
5206

Hausdorff, Jeffrey

Tel Aviv, Israel
3211

Healy, Dan

Dublin, Ireland
2518

Helmich, Rick

Nijmegen, Netherlands
5207

Högl, Birgit

Innsbruck, Austria
3207, 5101

Höglinger, Günter

Munich, Germany
4203

Houlden, Henry

London, United Kingdom
2516

Iranzo, Alejandro

Barcelona, Spain
4205

Isacson, Ole

Belmont, MA, USA
3102, 5208

Jabusch, Hans Christian

Dresden, Germany
3519

Jennings, Danna

New Haven, CT, USA
3415

Jeon, Beomseok

Seoul, Korea
4518

Jinnah, Hyder

Atlanta, GA, USA
3101, 5204

Johnson, Julia

London, United Kingdom
2413

Kalbe, Elke

Cologne, Germany
1104

Kalia, Suneil

Toronto, ON, Canada
3414

Kimber, Thomas

Adelaide, SA, Australia
4411

Klein, Christine

Lübeck, Germany
3101, 3204, 4102

Klockgether, Thomas

Bonn, Germany
4310

Klucken, Jochen

Erlangen, Germany
3211

Kordower, Jeffrey

Chicago, IL, USA
1103, 2205

Kostic, Vladimir

Belgrade, Serbia
2515, 5209

Krueger, Rejko

Esch-sur-Alzette, Luxembourg
4101

Kühn, Andrea

Berlin, Germany
4102

Kulisevsky, Jaime

Barcelona, Spain
1101

Kumar, Kishore

St. Leonards, NSW, Australia
4309

Kurian, Manju

London, United Kingdom
3517

Laguna Tuset, Ariadna

Barcelona, Spain
3205

Landwehrmeyer, Georg

Ulm, Germany
3206

Lang, Anthony

Toronto, ON, Canada
4206

Lill, Christina

Lübeck, Germany
4415

Lim, Shen-Yang

Selangor, Malaysia
5311

Litvan, Irene

La Jolla, CA, USA
4203

Lohmann, Ebba

Istanbul, Turkey
5310

Lozano, Andres

Toronto, ON, Canada
4206

Lunnon, Katie

Exeter, United Kingdom
3102

Lynch, Timothy

Dublin, Ireland
2102

Manto, Mario-Ubaldo

Brussels, Belgium
5207

Marras, Connie

Toronto, ON, Canada
4415

Martinez Vicente, Marta

Barcelona, Spain
2206

McKeon, Andrew

Rochester, MN, USA
5204

Meissner, Wassilios

Bordeaux, France
4203

Mencacci, Niccolò

London, United Kingdom
2208

Meneret, Aurelie

Paris, France
2208

Merello, Marcelo

Buenos Aires, Argentina
2412

Metz, Gerlinde

Lethbridge, AB, Canada
2203

Mirelman, Anat

Tel Aviv, Israel
3413

Miyasaki, Janis

Edmonton, AB, Canada
1104

Mollenhauer, Brit

Kassel, Germany
2102

Moore, Austen

Liverpool, United Kingdom
3310

Moratalla, Rosario

Madrid, Spain
2205

Morelli, Micaela

Cagliari, Italy
2203

Moro, Elena

Grenoble, France
2204, 3203

Morris, Huw

London, United Kingdom
5206

Nelson, Alexandra

San Francisco, CA, USA
3203

Nicolas, Gaël

Rouen, France
5209

Nieuwboer, Alice

Heverlee, Belgium
4208

Obeso, José

Madrid, Spain
2412

Odin, Per

Bremerhaven, Germany
3211

Oertel, Wolfgang

Marburg, Germany
3208, 5101

Okun, Michael

Gainesville, FL, USA
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Faculty Listing

Olanow, C. Warren
New York, NY, USA
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Ostrem, Jill
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Ozelius, Laurie
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2208, 3204

Palfi, Stephane
Creteil, France
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Paulson, Henry
Ann Arbor, MI, USA
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Paulus, Walter
Göttingen, Germany
3412

Perez Lloret, Santiago
Buenos Aires, Argentina
4413

Perlmann, Thomas
Stockholm, Sweden
3205

Pinto, Serge
Aix-en-Provence, France
2413

Pisani, Antonio
Rome, Italy
4207

Poewe, Werner
Innsbruck, Austria
4102

Postuma, Ron
Montreal, QC, Canada
3309

Pramstaller, Peter
Bolzano, Italy
4102

Prochiantz, Alain
Paris, France
3205

Rakovic, Aleksandar
Lübeck, Germany
2206

Rascol, Olivier
Toulouse, France
5102

Reich, Stephen
Baltimore, MD, USA
3516

Reichmann, Heinz
Dresden, Germany
5311

Rektorova, Irena
Brno, Czech Republic
3412

Rosales, Raymond
Manila, Philippines
3310, 5206

Roze, Emmanuel
Paris, France
4518

Rucker, Janet
New York, NY, USA
2411

Sampaio, Cristina
Princeton, NJ, USA
3206

Schmidt, Alexander
Berlin, Germany
3519

Schrag, Anette
London, United Kingdom
4414

Seppi, Klaus
Innsbruck, Austria
3415

Shang, Hui Fang
ChengDu, Peoples Republic of China
3206

Shibasaki, Hiroshi
Kyoto, Japan
2309

Shirota, Yuichiro
Göttingen, Germany
3203

Sidransky, Ellen
Bethesda, MD, USA
5205

Simon, David
Boston, MA, USA
4101

Simpson, David
New York, NY, USA
3310

Simuni, Tanya
Chicago, IL, USA
4204

Sobrido, Maria-Jesus
Santiago de Compostela, Spain
2516

Stamelou, Maria
Athens, Greece
4102

Standaert, David
Birmingham, AL, USA
3208

Stefanis, Leonidas
Papagou, Greece
5205

Stern, Matthew
Philadelphia, PA, USA
4205

Straub, Christoph
Boston, MA, USA
4207

Sue, Carolyn
Sydney, NSW, Australia
3101

Surmeier, D. James
Chicago, IL, USA
2101, 2205, 4207

Taba, Pille
Tartu, Estonia
4517

Tabrizi, Sarah
London, United Kingdom
4309

Taira, Takaomi
Tokyo, Japan
2310

Takahashi, Ryosuke
Kyoto, Japan
3208

Tan, Eng-King
Singapore
3102, 4309

Tan, Louis
Singapore
5103

Tanner, Caroline
San Francisco, CA, USA
2203, 5103

Tansey, Malu
Atlanta, GA, USA
2203

Thompson, Philip
Adelaide, SA, Australia
2309, 4411

Timmermann, Lars
Cologne, Germany
2310

Tinazzi, Michele
Verona, Italy
4413

Tolosa, Eduardo
Barcelona, Spain
2101, 5102

Trenkwalder, Claudia
Kassel, Germany
2102, 4102, 4205

Ugawa, Yoshikazu
Fukushima, Japan
2205

Van De Warrenburg, Bart
Nijmegen, Netherlands
1102

Vanderhorst, Veronique
Boston, MA, USA
4208

Verstreken, Patrik
Leuven, Belgium
3102

Vidailhet, Marie
Paris, France
2518, 5102

Vila, Miquel
Barcelona, Spain
2206

Wade-Martins, Richard
Oxford, United Kingdom
5208

Walker, Ruth
Bronx, NY, USA
1102

Westenberger, Ana
Lübeck, Germany
5209

Wider, Christian
Lausanne, Switzerland
5310

Winkelmann, Juliane
München, Germany
5101

Wissel, Joerg
Berlin, Germany
2414

Zhang, Su-Chun
Madison, WI, USA
5208



Guided Poster Tour Abstracts

Guided Poster Tour 1 - Surgical Therapy

12:30 - 14:00

Monday, June 20, 2016

- 39 Non-motor outcomes of subthalamic stimulation in Parkinson's disease depend on the location of active contacts
H.S. Dafsari, J.N. Petry-Schmelzer, K. Ashkan, L. Weis, T. Dembek, M. Samuel, A. Rizos, M. Silverdale, J. Evans, P. Martinez-Martin, A. Antonini, K.R. Chaudhuri, V. Visser-Vandewalle, L. Timmermann (Cologne, Germany)
- 45 A new tool to measure the impact of deep brain stimulation on Parkinson's disease patients: Development and validation of the deep brain stimulation impairment scale (DBS-IS)
F. Maier, C.J. Lewis, A.A. Kühn, H. Krug, J. Volkmann, A.D. Kirsch, L. Wojtecki, A. Schnitzler, G. Deuschl, J.K. Krauss, C. Woopen, L. Timmermann (Cologne, Germany)
- 59 Deep brain stimulation in the STN of a Parkinsonian rat model overexpressing human A53T α -synuclein in the substantia nigra – A proof of principle
T. Musacchio, M. Rebenstorff, F. Fluri, C. Kleinschnitz, J.M. Brotchie, J. Volkmann, J.B. Koprach, C.W. Ip (Würzburg, Germany)
- 64 An investigation of Parkinson's disease patients' desired control over the DBS stimulator
C.S. Kubu, J. Vitek, S.E. Cooper, A. Machado, P.J. Ford (Cleveland, OH, USA)
- 70 Impact of the combined depletion of monoamines on the effectiveness of deep brain stimulation of the subthalamic nucleus
A. Benazzouz, C. Delaville, E. Faggiani (Bordeaux, France)
- 85 Wearable sensors and decision algorithms for advanced therapy referral in Parkinson's disease
D.A. Heldman, J.P. Giuffrida, E. Cubo (Cleveland, OH, USA)
- 105 DTI tractographic correlates of weight gain in Parkinson's disease patients after STN DBS
O.F. Ahmad, L. Huang, N. Vanegas-Arroyave, K. Zaghoul, S.G. Horovitz, C. Lungu (Bethesda, MD, USA)
- 109 Variability in the ideal target of GPi DBS for Parkinson's disease requires advanced direct targeting for optimal results
J.D. Hilliard, T. Morishita, M.S. Okun, K.D. Foote (Gainesville, FL, USA)
- 125 Idiopathic delayed-onset edema surrounding deep brain stimulation leads: Insights from a case series and systematic literature review
C.M.K.E. de Cuba, A. Albanese, A. Antonini, G. Cossu, G. Deuschl, R. Eleopra, A. Galati, C.F.E. Hoffman, K. Knudsen, A. Landi, M.M.R. Lanotte, A. Marcante, A. Mosch, M. Pilleri, M.M. Reich, V. Ricchi, S. Rinaldo, L.M. Romito, F. Saba, H.E. Sacristan, P.R. Schuurman, A. Trezza, P. van den Munckhof, J. Volkmann, M. Zibetti, M.F. Contarino (Amsterdam, Netherlands)
- 144 Ataxic gait in subjects with essential tremor and thalamic neurostimulation is caused by posteromedial current spread in the (sub)thalamic area
M.M. Reich, J. Brumberg, N. Pozzi, M. Åström, R. Nijlunsing, T. Musacchio, F. Steigerwald, G. Marotta, A. Buck, J. Volkmann, I.U. Isaias (Wuerzburg, Germany)

Guided Poster Tour 2 - Parkinsonism, MSA, PSP

12:30 - 14:00

Monday, June 20, 2016

- 164 Imaging correlates of hypodipsia in progressive supranuclear palsy
G. Respondek, T. Conrad, I. Riederer, T. Reeb, G. Rus, K. Koch, G. Höglinger, C. Zimmer (Munich, Germany)
- 170 High frequency of mutations in the glucocerebrosidase (GBA) gene among Ashkenazi Jews with dementia with Lewy bodies
T. Shiner, A. Mirelman, M. Gana Weisz, A. Bar-Shira, E. Ash, R. Cialic, T. Gurevich, N. Bregman, A. Orr-Urtreger, N. Giladi (Tel Aviv, Israel)
- 171 Early stridor onset predicts survival in multiple system atrophy
G. Giannini, G. Calandra-Buonaura, F. Mastrolilli, M. Righini, M.L. Bacchi-Reggiani, P. Guaraldi, F. Provini, P. Cortelli (Bologna, Italy)
- 195 A cross-sectional study of sensor-based gait analysis in atypical Parkinsonian disorders
C. Raccagni, H. Gassner, S. Eschlböck, S. Bösch, F. Krismer, M. Nocker, K. Seppi, W. Poewe, J. Klucken, G. Wenning (Innsbruck, Austria)
- 199 Clinical and polysomnographic features correlates to sleep-disordered breathing in multiple system atrophy
B. Cao, Q. Wei, R. Ou, B. Zhao, T. Hu, H. Shang (Chengdu, People's Republic of China)
- 216 Serum brain-derived neurotrophic factor as an indication of disease state in parkinsonism and RBD
K. Csencsits-Smith, J. Suescun, A. Gonzalez, A. Actor, M. Schiess (Houston, TX, USA)
- 228 Deceleration capacity of heart rate indicates autonomic dysfunction in patients with PSP
V. Ries, N. Mix, D. Vadasz, A. Bauer, W.H. Oertel (Marburg, Germany)
- 240 Innsbruck multiple system atrophy cohort study – An interim analysis
S. Eschlböck, T. Benke, S. Bösch, A. Djamshidian-Tehrani¹, A. Fanciulli, R. Granata, C. Kaindlstorfer, G. Kiss, F. Krismer, K. Mair, M. Nocker, C. Raccagni, C. Scherfler, K. Seppi, W. Poewe, G. Wenning (Innsbruck, Austria)
- 255 Chronic acquired hepatocerebral degeneration: Efficacy of liver transplantation in 10 patients
J. Martins, J. Alves, S. Cavaco, J. Gandara, S. Ferreira, H. Pesseguero, M. Magalhães (Porto, Portugal)
- 260 Spinal fluid biomarkers for multiple system atrophy – A pilot study
W. Singer, A. Schmeichel, D.M. Goldstein, J.D. Schmelzer, A.D. Zeller, T.L. Gehrking, P.A. Low (Rochester, MN, USA)



Guided Poster Tour Abstracts

Guided Poster Tour 3 - Parkinson's Disease: Non-Motor Symptoms

12:30 - 14:00

Monday, June 20, 2016

- 289 Hypothalamic alpha-synuclein pathology and its relation to non-motor symptoms and disease progression in Parkinson's disease
E. De Pablo-Fernandez, R. Courtney, J.L. Holton, T.W. Warner (London, United Kingdom)
- 299 Double-blind, placebo-controlled trial of a fermented milk containing multiple probiotic strains and prebiotic fiber for constipation associated with Parkinson's disease
E. Cereda, C. Pacchetti, C. Bolliri, E. Cassani, L. Iorio, C. Pusani, G. Pinelli, G. Privitera, I. Cesari, S.A. Faierman, R. Caccialanza, G. Pezzoli, M. Barichella (Pavia, Italy)
- 340 Irritable bowel syndrome is more prevalent than functional constipation in Parkinson's disease: Clinical spectrum and changes in gut microbiota
T. Mertsalmi, V. Aho, P.A.B. Pereira, L. Paulin, E. Pekkonen, P. Auvinen, F. Scheperjans (Helsinki, Finland)
- 345 Prevalence and risk factors of orthostatic hypotension in Thai Parkinson's disease patients
S. Klanbut, S. Wongwiwatthananutik, C. Suthisang, R. Bhidayasiri, S. Phattananudee (Bangkok, Thailand)
- 358 Retinal nerve fiber layer thinning: A window into rapid eye movement sleep behavior disorders in Parkinson's disease
C.J. Mao, Z.J. Yang, J. Wei, J.R. Zhang, Y.P. Yang, C.F. Liu (Suzhou, Peoples Republic of China)
- 364 Quality of life after subthalamic stimulation depends on non-motor symptoms in Parkinson's disease
H.S. Dafsari, L. Weiss, M. Silverdale, P. Reddy, A. Rizos, M. Samuel, E. Perrier, J. Evans, K. Ashkan, J.N. Petry-Schmelzer, V. Visser-Vandewalle, A. Antonini, P. Martinez-Martin, K.R. Chaudhuri, L. Timmermann (Cologne, Germany)
- 384 Exploring association of GBA variants with pre-diagnostic features of PD in the PREDICT-PD cohort: A nested case-control study
L. R'Bibo, N.E. Mencacci, A. Schrag, J.P. Bestwick, L. Peress, J. Masters, G. Giovannoni, A.J. Lees, J. Hardy, N.W. Wood, A.J. Noyce (London, United Kingdom)
- 387 Identification of barriers preventing disclosure of non-motor symptoms in Parkinson's patients to healthcare providers
C.S. Hurt, L. Rixon, K.R. Chaudhuri, R. Moss-Morris, M. Samuel, R.G. Brown (London, United Kingdom)
- 396 Clinical and biological predictors of excessive daytime sleepiness in early Parkinson's disease
T. Simuni, J. Long, C. Caspell-Garcia, C.S. Coffey, W. Oertel, S. Lasch, K. Marek, On behalf of the PPMI Sleep Working Group (Chicago, IL, USA)
- 413 Non-motor symptoms in advanced Parkinson's disease patients treated with levodopa/carbidopa intestinal gel, deep brain stimulation, or continuous subcutaneous apomorphine: A systematic literature review and pooled analysis
K.R. Chaudhuri, E. Terasawa, Y. Jalundhwala, D. Macaulay, R. Ayyagari, Z.Y. Zhou, T. Marshall, K. Chatamra, A. Yucel, K. Sail (London, United Kingdom)

Guided Poster Tour 4 - Epidemiology and Quality of Life

12:30 - 14:00

Monday, June 20, 2016

- 434 Moist smokeless tobacco (Snus) use and risk of Parkinson's disease: Meta-analysis of individual participant data from seven prospective observational studies
F. Yang, N.L. Pedersen, W. Ye, Z. Liu, M. Norberg, L. Forsgren, Y. Trolle Lagerros, R. Bellocco, L. Alfredsson, A. Knutsson, J.H. Jansson, R. Galanti, A.C.J. Lager, M. Araghi, M. Lundberg, C. Magnusson, K. Wirdefeldt (Stockholm, Sweden)
- 439 Disease progression and clinical characteristics of Parkinson's disease patients with type 1 diabetes - An analysis on 18,162 patients from the DPV registry
L. Wang, N. Prinz, A. Marcus, K. Laubner, A. Zimmerman, S. Zlamal-Fortunat, M. Sharma, R. Holl (Tübingen, Germany)
- 455 Types of farming and prevalence and incidence of Parkinson's disease: French nationwide study
S. Kab, J. Spinosi, L. Chaperon, A. Dugravot, A. Singh-Manoux, F. Moisan, A. Elbaz (Saint-Maurice, France)
- 459 Long-term incidence of Parkinson's disease in rural areas of Finland
J. Isotalo, T. Vahlberg, V. Kaasinen (Turku, Finland)
- 466 Rotenone and Parkinson's disease (PD): Effect modification by membrane transporter variants
S.M. Goldman, F. Kamel, C. Meng, M. Korell, D.M. Umbach, J. Hoppin, G.W. Ross, C. Marras, M. Kasten, A. Chade, K. Comyns, D. Sandler, A. Blair, C.M. Tanner (San Francisco, CA, USA)
- 474 Application of the MDS research criteria for prodromal Parkinson's disease to the longitudinal population-based Brunek study cohort
P. Mahlknecht, A. Gasperi, P. Willeit, S. Kiechl, H. Stockner, J. Willeit, G. Rungger, W. Poewe, K. Seppi (Innsbruck, Austria)
- 476 Vagotomy and Parkinson's disease risk: A Swedish register-based matched cohort study
B. Liu, F. Fang, N.L. Pedersen, A. Tillander, J.F. Ludvigsson, A. Ekbom, P. Svenningsson, H. Chen, K. Wirdefeldt (Stockholm, Sweden)
- 479 Predicting poor functional outcome in Parkinson's disease
A.D. Macleod, C.E. Counsell (Aberdeen, United Kingdom)
- 508 Relationship between the MDS-UPDRS and quality of life in Parkinson's disease: A large international multicenter study of 3206 patients (the QUALPD study)
M. Škorvánek, P. Martinez-Martin, N. Kovacs, I. Zezula, M. Rodriguez-Violante, J.C. Corvol, P. Taba, K. Seppi, O. Levin, A.E. Schrag, T. Foltynie, M. Alvarez-Sanchez, T. Arakaki, Z. Aschermann, I. Aviles-Olmos, E. Benchetrit, C. Benoit, A. Bergareche-Yarza, A. Cervantes-Arriaga, A. Chade, F. Cormier, V. Datieva, D.A. Gallagher, N. Garretto, Z. Gdovinova, O. Gerschanik, M. Grofik, V. Han, J. Huang, L. Kadastik-Eerme, M.M. Kurtis, G. Mangone, J.C. Martinez-Castrillo, A. Mendoza-Rodriguez, M. Minar, H.P. Moore, M. Muldmaa, C. Mueller, B. Pinter, W. Poewe, K. Rallmann, E. Reiter, C. Rodriguez-Blazquez, C. Singer, B.C. Tilley, P. Valkovic, C.G. Goetz, G.T. Stebbins (Kosice, Slovakia (Slovak Republic))
- 540 The social value of improvement in activities of daily living from levodopa-carbidopa intestinal gel use among the advanced Parkinson's disease population
K. Sail, T. Shih, J. Sullivan, J. Yash, E. Eijndhoven, C. Zadikoff, T. Marshall, D. Lakdawalla (Mettawa, IL, USA)



Guided Poster Tour Abstracts

Guided Poster Tour 5 - Technology

12:30 - 14:00

Tuesday, June 21, 2016

- 547 sFIDA: A sensitive diagnostic assay for quantification of α -synuclein aggregates
T. Bujnicki, C. Zafiu, O. Bannach, D. Willbold (Jülich, Germany)
- 553 A validation study of a smartphone-based finger tapping application for quantitative assessment of bradykinesia in Parkinson's disease
C.Y. Lee, S.J. Kang, Y.E. Kim, U. Lee, H.I. Ma, Y.J. Kim (Anyang-si, Gyeonggi-do, Korea)
- 554 Construction of a levodopa-response index from wearable sensors for quantifying Parkinson's disease motor functions: Preliminary results
M. Memedi, D. Nyholm, J. Westin, M. Senek, A. Medvedev, H. Askmark, S.M. Aquilonius, F. Bergquist, R. Constantinescu, F. Ohlsson, J. Spira, S. Lycke, A. Ericsson (Falun, Sweden)
- 555 Prescribed gait tests versus continuous monitoring of gait in people with Parkinson's disease
C. Curtze, J. McNames, M. El-Gohary, J.G. Nutt, M. Mancini, P. Carlson-Kuhta, F.B. Horak (Portland, OR, USA)
- 558 Developing a new home monitoring device for dyskinesia in Parkinson's disease
J.E. Alty, J. Cosgrove, M.A. Lones, S. Jamieson, P. Duggan-Carter, C. Peacey, C. Wicks, R.F. Naylor, A.J. Turner, S.L. Smith (Leeds, United Kingdom)
- 559 Objective data in Parkinson's disease therapy management – A retrospective analysis of the Parkinson's kinetigraph (PKG) database
P. Lynch, Y. Zoellner, S. McGregor, M. Home (Minnetonka, MN, USA)
- 563 Sensor based gait analysis: Diagnostic application for apomorphine titration
F. Marxreiter, H. Gassner, J. Barth, J. Schlachetzki, C. Thun, D. Volc, J. Winkler, B. Eskofier, J. Klucken (Erlangen, Germany)
- 568 Reliability and responsiveness of in-clinic and at-home app-based bradykinesia assessment
D.A. Heldman, E. Urrea Mendoza, L.C. Lovera, D.A. Schmerler, J.P. Giuffrida, A.J. Espay, J.X.O. Garcia, M.E. Mohammad, M.C.U. McFarlane, H.H. Fernandez (Cleveland, OH, USA)
- 569 Survey of telemedicine use among MDS members
A. Hassan, E.R. Dorsey, E. Cubo, C.G. Goetz, B.R. Bloem, M. Guttman, S.L. Heath, M. Katz, M. Spinder, C.M. Tanner, Z. Mari, A. Pantelyat, J.A. Bajwa, N.B. Galifianakis, E.M. Gatto (Rochester, MN, USA)
- 570 Automated Telehealth Diagnostics for Remote Parkinson Monitoring
D.A. Heldman, D.A. Harris, T. Felong, B. Goldberg, J.P. Giuffrida, E.R. Dorsey, M.A. Burack (Cleveland, OH, USA)

Guided Poster Tour 6 - Genetics (PD and Non-PD)

12:30 - 14:00

Tuesday, June 21, 2016

- 582 De novo mutations in PDE10A cause childhood-onset chorea with bilateral striatal lesions
N.E. Mencacci, E.J. Kamsteeg, L. R'Bibo, D. Lynch, B. Balint, M. Willemsen, M. Adams, S. Wiethoff, J. Ng, E. Meyer, L. Veneziano, P. Giunti, D. Hughes, M. Carecchio, G. Zorzi, C. Barzaghi, B. Garavaglia, N. Nardocci, V. Salpietro, J. Hardy, A. Pittman, H. Houlden, M. Kurian, L. Vissers, N. Wood, K. Bhatia (London, United Kingdom)
- 593 Exome sequencing in dementia with Lewy bodies
S.W. Scholz, J.T. Geiger, J. Ding, B. Crane, O. Pletnikova, C. Letson, T.M. Dawson, L.S. Rosenthal, A. Pantelyat, J.R. Gibbs, M. Albert, D.G. Hernandez, A.E. Hillis, A.B. Singleton, D.J. Stone, J.A. Hardy, J.C. Troncoso (Bethesda, MD, USA)
- 603 Intracranial calcifications in children and adults: Molecular and phenotypic characterization from a tertiary referral centre
C. Panteghini, M. Carecchio, D. Tonduti, C. Barzaghi, L. Magistrelli, A. Decio, L. Chiapparini, A. Pichiecchio, S. Esposito, C. Pantaleoni, D. Riva, I. Moroni, S. Orcesi, N. Nardocci, B. Garavaglia, Cerebral Calcification Study Group (Milan, Italy)
- 621 Inflammatory profile discriminates clinical subtypes in LRRK2-associated PD
K. Brockmann, C. Schulte, N. Schneiderhan-Marra, A. Apel, C. Pont-Sunyer, D. Vilas, J. Ruiz-Martinez, M. Langkamp, J.C. Corvol, F. Cormier, T. Knorpp, T.O. Joos, A. Bernhard, T. Gasser, C. Marras, B. Schüle, J.O. Aasly, T. Foroud, J.F. Marti-Masso, A. Brice, E. Tolosa, D. Berg, W. Maetzler (Tübingen, Germany)
- 625 Lysosomal alterations in peripheral blood mononuclear cells of Parkinson's disease patients
N. Papagiannakis, M. Xilouri, C. Koros, M. Stamelou, R. Antonelou, M. Maniati, D. Papadimitriou, M. Moraitou, H. Michelakakis, L. Stefanis (Chaidari, Greece)
- 652 Neuronal nicotinamide-N-methyltransferase (NNMT) in Parkinson's disease
K. Schmeisser, A. Parker (Montreal, QC, Canada)
- 654 Epigenome-wide association study of Parkinson's disease
B. Ritz, Y.H. Chuang, S. Horvath, Y. Bordelon, J. Bronstein (Los Angeles, CA, USA)
- 666 Effect of genetic variation in SNCA and APOE on cerebrospinal fluid protein levels in patients with Parkinson's disease and controls
G. Machetanz, K. Lohmann, C.M. Lill, C. Klein, C. Trenkwalder, B. Mollenhauer (Kassel, Germany)
- 681 Deletions at 22q11.2 in idiopathic Parkinson's disease: A combined analysis of GWAS data
K.Y. Mok, U. Sheerin, J. Simón-Sánchez, A. Salaka, L. Chester, V. Escott-Price, K. Mantripragada, K.M. Doherty, A.J. Noyce, N.E. Mencacci, S.J. Lubbe, International Parkinson's Disease Genomics Consortium (IPDGC), C.H. Williams-Gray, R.A. Barker, K.D. van Dijk, H.W. Berendse, P. Heutink, J.C. Corvol, F. Cormier, S. Lesage, A. Brice, K. Brockmann, C. Schulte, T. Gasser, T. Foltynie, P. Limousin, K.E. Morrison, C.E. Clarke, S. Sawcer, T.T. Warner, A.J. Lees, H.R. Morris, M.A. Nalls, A.B. Singleton, J. Hardy, A.Y. Abramov, V. Plagnol, N.M. Williams, N.W. Wood (London, United Kingdom)
- 693 Substantial motor and non-motor symptoms in children and adults with classical galactosemia and organic acidurias
A. Kuiper, M.A. Coenen, W. Eggink, M.A.J. Tijssen, T.J. De Koning (Groningen, Netherlands)



Guided Poster Tour Abstracts

Guided Poster Tour 7 - Pathophysiology

12:30 - 14:00

Tuesday, June 21, 2016

- 723 Identification of Usp8 as a toxicity modifying deubiquitinase for α -synuclein
Z. Alexopoulou, J. Lang, R. Perrett, H.T. Kim, A.L. Goldberg, O. Ansoorge, T.A. Fulga, G.K. Tofaris (Oxford, United Kingdom)
- 743 SOD1 aggregation: A pathological link between Parkinson's disease and amyotrophic lateral sclerosis?
B.G. Trist, K.M. Davies, S. Genoud, V. Smoothy, G.M. Halliday, S. Roudeau, A. Carmona, L. Perrin-Verdugier, R. Ortega, K.L. Double (Sydney, Australia)
- 774 Dissecting the molecular mechanisms of Fyn-mediated levodopa induced dyskinesias
M.P. Bordone, M.A. Bernardi, A. Damianich, S. Sanz-Blasco, G. Gómez, I.R.E. Taravini, M.E. Avale, O.S. Gershanik, J.E. Ferrario (Buenos Aires, Argentina)
- 778 Dysregulated macroautophagy and mitochondrial dynamics in PD with glucocerebrosidase mutations
S.H. Kuo, H. Li, A. Ham, M.M. Cheng, Y. Quan, D. Sulzer, G. Tang (New York, NY, USA)
- 799 The impact of levodopa and apomorphine on beta- and gamma-oscillations in cortico-basal ganglia circuits in experimental parkinsonism
J. Kühn, J.K. Haumesser, P.J. Magill, A.A. Kühn, V.V. Nikulin, C. van Riesen (Berlin, Germany)
- 811 Subthalamic nucleus activity during virtual reality provoked lower limb freezing in a patient with Parkinson's disease and freezing of gait
M.J. Georgiades, M. Gilat, J.M. Shine, J. McMaster, N. Mahant, S.J.G. Lewis (Sydney, Australia)
- 839 Enteric neurons reveal substantial in vivo mitochondrial changes in Parkinson's disease
P.M.A. Antony, A.S. Baumuratov, M. Ostaszewski, F. He, L. Salamanca, L. Antunes, J. Weber, L. Longhino, P. Derkinderen, R. Balling, W. Koopman, N. Diederich (Belvaux, Luxembourg)
- 847 Long term recordings of subthalamic oscillatory activity in patients with Parkinson's disease
W.J. Neumann, F. Staub, A. Horn, J. Schanda, G.H. Schneider, P. Brown, A.A. Kühn (Berlin, Germany)
- 853 Increased cerebrospinal fluid lactate levels in Parkinson's disease: Is it a proof of mitochondrial inefficiency?
C. Liguori, A. Stefani, E. Olivola, N.B. Mercuri, M. Pierantozzi (Rome, Italy)
- 871 Detailed proteomic analysis of early PD brain highlights altered expression of mitochondrial proteins as an important event in sporadic PD
S. Gandhi, C.E. Murray, W.E. Heywood, J.L. Holton, K. Mills, T. Revesz (London, United Kingdom)

Guided Poster Tour 8 - Hyperkinetic Movement Disorders, RLS, Sleep

12:30 - 14:00

Tuesday, June 21, 2016

- 901 Risk of movement disorders with antipsychotic drugs in patients with schizophrenia or depressive disorders
M.V. Rey, L. Molina, B. Recinos, B. Paz, M. Rovelo, F.E. Rodriguez Elias, J. Calderon, A. Arellano, S. Pomata, S. Perez-Lloret, CA-APD Study Team (Buenos Aires, Argentina)
- 908 A comparative study of clinical profile of patients of drug induced parkinsonism with idiopathic Parkinson's disease
S. Kushwaha, R. Mistry, A. Anthony, S. Khurana (Delhi, India)
- 934 Psychiatric profile in functional (psychogenic) jerky movement disorders
Y.E.M. Dreissen, T.J. van Trier, J.M. Dijk, D.C. Cath, M.A.J. Tijssen (Amsterdam, Netherlands)
- 943 Influence of high altitude on periodic leg movements during sleep in individuals with restless legs syndrome and healthy controls: A pilot study
A. Stefani, A. Heidbreder, H. Hackner, M. Burtscher, B. Högl (Innsbruck, Austria)
- 950 Augmentation and impulse control disorders in restless legs syndrome – Coexistence or association?
B. Heim, L. Zamarian, A. Heidbreder, A. Stefani, M.T. Pertl, E. Brandauer, K. Seppi, M. Delazer, W. Poewe, B. Högl, A. Djamshidian (Innsbruck, Austria)
- 964 The temporal relationship between premonitory sensations and tics compared to obsessions
V.C. Brandt, C. Beck, J. Hermanns, T. Bäumer, B. Zurowski, S. Anders, A. Münchau (Lübeck, Germany)
- 968 Relationship of serum ferritin level and tic severity in children with Tourette syndrome
D. Ghosh, E.L. Burkman (Columbus, OH, USA)
- 974 Long-term responsive deep brain stimulation in Tourette syndrome
R.A. Molina, J.B. Shute, P.J. Rossi, E. Opri, K.D. Foote, M.S. Okun, A. Gunduz (Gainesville, FL, USA)
- 1013 Regulation in speech motor control in ET patients treated with DBS: Kinematics of the lingual and the labial systems
D. Muecke, A. Hermes, M.T. Barbe, T.B. Roettger, N. Henrik, J. Becker, M. Hartinger, I. Meister, V. Visser-Vandewalle, L. Timmermann, M. Grice (Cologne, Germany)
- 1027 Involvement of cerebellothalamocortical pathway in essential tremor and dystonic tremor
P. Panyakaew, H.J. Cho, P. Srivanitchapoom, M. Hallett (Bethesda, MD, USA)



Guided Poster Tour Abstracts

Guided Poster Tour 9 - Ataxia, Chorea

12:00 - 13:30

Wednesday, June 22, 2016

- 1056 Sustained effects of cerebellar transcranial direct current stimulation in patients with ataxia: A randomized, double blind, sham-controlled study
V. Dell'Era, A. Benussi, M. Cosseddu, A. Padovani, B. Borroni (Brescia, Italy)
- 1065 Predominant motor neuron involvement in autosomal recessive SYNE1 ataxia
W. Nachbauer, A. Schossig, C. Fauth, W. Poewe, S. Boesch (Innsbruck, Austria)
- 1087 The nucleocytoplasmic transport of ataxin-3 as pathogenic mechanism in spinocerebellar ataxia type 3
T. Schmidt, A. Sowa, I.M. Martins, M. Abedi, Z. Wang, J. Schmidt, H. Tricoire, O. Riess (Tübingen, Germany)
- 1091 Cortical grey matter atrophy in the motor system in Friedreich ataxia: The IMAGE-FRDA study
I. Harding, L. Selvadurai, L. Corben, M. Stagnitti, E. Storey, G. Egan, M. Delatycki, N. Georgiou-Karistianis (Melbourne, Australia)
- 1100 Loss of extra-striatal phosphodiesterase 10A expression in early premanifest Huntington's disease gene carriers
H. Wilson, F. Niccolini, S. Haider, T. Reis Marques, G. Pagano, C. Coello, S. Natesan, S. Kapur, E.A. Rabiner, R.N. Gunn, S.J. Tabrizi, M. Politis (London, United Kingdom)
- 1107 Combined imaging markers increase accuracy when predicting real life disease onset in Huntington's disease
S.L. Mason, R. Daws, R.A. Barker, A.D. Hampshire (Cambridge, United Kingdom)
- 1112 Early grey matter changes in structural covariance networks in Huntington's disease
E.M. Coppen, J. van der Grond, A. Hafkemeijer, S.A.R.B. Rombouts, R.A.C. Roos (Leiden, Netherlands)
- 1113 Progression of motor subtypes in Huntington's disease: A six-year follow-up
M. Jacobs, E.P. 't Hart, R.A.C. Roos (Leiden, Netherlands)
- 1128 Structural connectivity networks in prodromal and clinical Huntington's disease
C. Sanchez-Castañeda, H. Baggio, U. Sabatini, F. Squitieri, C. Junque (Barcelona, Spain)
- 1133 Demographic and phenotypic comparison of Huntington's disease in Europe and North America: Data from REGISTRY and COHORT, two prospective observational cohort studies
M. Orth, J. Bronzova, C. Tritsch, R. Dorsay, J.M. Burgunder, A. Gemperli (Ulm, Germany)

Guided Poster Tour 10 - Imaging and Neurophysiology

12:00 - 13:30

Wednesday, June 22, 2016

- 1163 Deficits in sensorimotor networks in functional movement disorders: A graph-theory based network analysis
C.W. Maurer, K. LaFaver, S. Tinaz, M. Hallett, S.G. Horowitz (Bethesda, MD, USA)
- 1169 Dorsolateral nigral hyperintensity on 3.0 tesla susceptibility-weighted imaging in idiopathic rapid eye movement sleep behaviour disorder
R. De Marzi, K. Seppi, B. Högl, C. Müller, C. Scherfler, A. Stefani, A. Iranzo, E. Tolosa, J. Santamaria, E. Gizewski, M. Schocke, C. Kremser, W. Poewe (Innsbruck, Austria)
- 1179 Manual MRI morphometry in Parkinsonian syndromes
L. Möller, J. Kassubek, M. Südmeyer, R. Hilker, E. Hattingen, K. Egger, F. Amtage, G. Respondek, M. Stamelou, A. Schnitzler, W.H. Oertel, S. Knake, H.J. Huppertz, G.U. Höglinger (Marburg, Germany)
- 1227 Neuromelanin in Parkinson's disease: A 3 T MRI study
S. Pietracupa, A. Martin-Bastida, N.L. Kaim, S. Schwarz, D. Auer, A. Berardelli, P. Piccini (Rome, Italy)
- 1234 Freezing of gait in Parkinson's disease: A stopping deficit?
K. Smulders, D.S. Peterson, M. Mancini, J.G. Nutt, F.B. Horak, B.W. Fling (Portland, OR, USA)
- 1239 Levodopa induced dyskinesia and nicotinic $\alpha 4\beta 2$ acetylcholin receptor density: A multi-tracer imaging study
J. Brumberg, S. Küsters, G. Marotta, M.M. Reich, F. Steigerwald, A. Buck, J. Volkman, S. Samnick, I.U. Isaias (Würzburg, Germany)
- 1244 Multimodal imaging assessment of nigrostriatal pathway in Parkinson's disease using 11C-PE2I PET and neuromelanin-sensitive MR
A. Martin-Bastida, N.P. Lao-Kaim, A.A. Roussakis, W. Li, M. Politis, N. Valle-Guzman, Z. Kefalopoulou, G. Paul, H. Widner, T. Foltynie, R. Barker, P. Piccini (London, United Kingdom)
- 1260 Increasing placebo response in Parkinson's disease through apomorphine pre-conditioning
E. Frisaldi, E. Carlino, L. Giudetti, A. Pampallona, M. Zibetti, M. Lanotte, L. Lopiano, F. Benedetti (Turin, Italy)
- 1264 Cerebellar GABA-A receptor activity is inversely correlated with gait speed in Parkinson's disease
N.I. Bohnen, K.A. Frey, R.A. Koeppe, P.J.H. Scott, M.L.T.M. Muller (Ann Arbor, MI, USA)
- 1324 In vivo MRI detection of Parkinson's disease associated degeneration in the lateral ventral tier of substantia nigra pars compacta
D.E. Huddleston, J. Langley, J. Sedlacik, K. Boelmans, S.A. Factor, X. Hu (Atlanta, GA, USA)



Guided Poster Tour Abstracts

Guided Poster Tour 11 - Cognition and Psychiatry

12:00 - 13:30

Wednesday, June 22, 2016

- 1337 Heart rate variability to differentiate dementia with Lewy bodies from Alzheimer's disease in patients with mild cognitive impairment
J. Yoon, S.M. Lee, J.M. Hong (Suwon, Korea)
- 1418 Quantifiable changes in cortical visual processing in patients with Parkinson's disease but no cognitive impairment
R.S. Weil, B. Bahrami, D.S. Schwarzkopf, H. Burn, J.D. Warren, H.R. Morris (London, United Kingdom)
- 1425 Monoaminergic biomarkers of cognitive decline in Parkinson's disease and Lewy body dementia
S. van der Zee, Y. Vermeiren, T. Aerts, D. van Dam, M.J. Gerritsen, J.M. Spikman, T. van Laar, P.P. de Deyn (Groningen, Netherlands)
- 1428 Plasma ceramides and glucosylceramides predict cognitive decline among cognitively normal Parkinson's disease patients
M.M. Mielke, C.E. Hagen, R. Savica, J.A. Syrjanen, X.M.T. Persson, C. Schulte, R. Dodel, M. Balzer-Geldsetzer, J.B. Schulz, K. Reetz, U. Wullner, A. Spottke, A. Storch, H.U. Wittchen, O. Riedel, E. Kalbe, S. Graber-Sultan, T. Gasser, D. Berg, I. Liepelt-Scarfone (Rochester, MN, USA)
- 1431 The effect of dopamine on global versus specific inhibitory control in Parkinson's disease
D. Kuebler, H. Schroll, R. Eva, A. Diepold, C. Meyer, A. Kuhn (Berlin, Germany)
- 1436 Mild cognitive impairment is linked with white matter degeneration in the cortico-subcortical tracts in patients with Parkinson's disease
A. Hanganu, J.C. Houde, V.S. Fonov, C. Degroot, B. Mejia-Constain, A.L. Lafontaine, V. Soland, S. Chouinard, L.D. Collins, M. Descoteaux, O. Monchi (Calgary, Canada)
- 1441 Impulsive action tendencies in GPi DBS Parkinson's patients
D. Martinez-Ramirez, C.S. Little, J.P. Chapman, S. Carbutaru, J.C. Giugni, M.W. Vasquez, F. Chai, R. Walz, A. Sririam, K. Kanoff, S.A. Wylie, M.S. Okun (Gainesville, FL, USA)
- 1470 Predicting incident impulse control disorder behaviour in Parkinson's disease patients using a clinical-genetic model
J. Kraemmer, K. Smith, D. Weintraub, V. Guillemot, M.A. Nalls, F. Cormier, I. Moszer, A. Brice, A.B. Singleton, J.C. Corvol (Paris, France)
- 1472 Personality and addictive behaviours in prodromal and early Parkinson's disease
F. BaigBM, M. Lawton, M. Rolinski, C. Ruffmann, J. Klein, K. Nithi, D. Okai, Y. Ben-Shlomo, M.T.M. Hu (Oxford, United Kingdom)
- 1473 Anxiety and cognition are associated with dopaminergic dysfunction in de novo Parkinson's disease
M. Picillo, G. Santangelo, R. Erro, A. Cozzolino, M. Amboni, C. Vitale, P. Barone, M.T. Pellecchia (Baronissi, Italy)

Guided Poster Tour 12 - Clinical Phenomenology and Rating Scales

12:00 - 13:30

Wednesday, June 22, 2016

- 1512 Dropped head syndrome in parkinsonism: Two treatable etiologies not to miss
P. Termsarasab, S.J. Frucht (New York, NY, USA)
- 1528 Utility of the Mayo sleep questionnaire in predicting final autopsy diagnosis of alpha-synucleinopathy
D. Shprecher, J. Hentz, C. Adler, B. Dugger, H. Shill, E. Driver-Dunkley, S. Mehta, M. Sabbagh, C. Belden, R. Savica, L. Sue, T. Beach (Sun City, AZ, USA)
- 1529 The practicalities of freezing of gait assessment methods
C. Stummer, E. Mallia, B. Debû, B.R. Bloem, M.U. Ferraye (Nijmegen, Netherlands)
- 1530 The movement disorder associated with NMDAR-antibody encephalitis: An expert-rater video study
J.A. Varley, K.P. Bhatia, R.C. Dale, V. Fung, T. Granata, M.A.J. Tijssen, A. Lang, J.P. Lin, M. Lim, T. Lynch, N. Nardocci, K.D. Sethi, S.R. Irani (Oxford, United Kingdom)
- 1539 Blinded video assessment of subtle Parkinsonian signs in PREDICT-PD participants
A.J. Noyce, A. Schrag, J. Masters, J.P. Bestwick, G. Giovannoni, A.J. Lees (London, United Kingdom)
- 1542 iPad-based preassessment questionnaires are feasible in a Parkinson's service
B. Mohamed, E.L. Lane, E.C. Thomas, M. Landwehr, C.W. Ngu, J. Butler, K. Williams, M. Wardle (Cardiff, United Kingdom)
- 1560 Multicenter report of clinical use of a non-motor symptom questionnaire for craniocervical dystonia: The DNMS quest
L. Klingelhofer, M. Kaiser, D. Martino, L. Perkins, M. Wienecke, A. Sauerbier, R. Untucht, D. Trivedi, K. Mammadova, T. Chiwera, A. Rizos, P. Martinez-Martin, H. Reichmann, K.R. Chaudhuri (Dresden, Germany)
- 1564 Gender and age-based differential item functioning (DIF) analysis of MDS-UPDRS
C.G. Goetz, L. Wang, G.T. Stebbins, B.C. Tilley, S. Luo (Chicago, IL, USA)
- 1572 Are clinical certainty ratings helpful in the diagnosis of Parkinson's disease?
H.V. Gupta, S.H. Mehta, J.G. Hentz, H.A. Shill, E. Driver-Dunkley, M.N. Sabbagh, C.M. Belden, B.N. Dugger, T.G. Beach, G.E. Serrano, L.I. Sue, C.H. Adler (Scottsdale, AZ, USA)
- 1575 Comparison of change in the UPDRS versus MDS-UPDRS in a population of Parkinson's disease (PD) patients treated with deep brain stimulation (DBS)
S.S. Wang, N.B. Galifianakis, M. San Luciano, P.S. Larson, P.A. Starr, N. Ziman, J.L. Ostrem (San Francisco, CA, USA)



Guided Poster Tour Abstracts

Guided Poster Tour 13 - Dystonia and Pediatric Movement Disorders

12:00 - 13:30

Thursday, June 23, 2016

- 1588 Cerebellar learning and its modifiability by alcohol in myoclonus-dystonia
A. Weissbach, E. Werner, T. Bäumer, D. Timmann, N. Brüggemann, V. Tadic, C. Klein, A. Münchau (Lübeck, Germany)
- 1594 How satisfied are cervical dystonia patients with their botulinum toxin treatment? Findings from an international observational study
V.P. Misra, C. Colosimo, D. Charles, T.M. Chung, P. Maisonobe, S. Om (London, United Kingdom)
- 1601 DYT16/*PRKRA* founder mutation causes childhood-onset generalized dystonia in a family from southern Italy
M. Quadri, S. Olgiati, M. Sensi, F. Gualandi, E. Groppo, V. Rispoli, J. Graafland, G.J. Breedveld, G. Fabbrini, A. Berardelli, V. Bonifati (Rotterdam, Netherlands)
- 1621 Digitally captured Archimedes spiral indices correlate with clinical assessment of dystonia severity
J.B. Ratliff, A. Mirallave, R. Ortega, A. Glickman, Q. Yu, D. Raymond, S. Bressman, S. Pullman, R. Saunders-Pullman (New York, NY, USA)
- 1628 Dystonia, tremor, and dystonic tremor
A.R. Rosen, A.G. Shaikh, H.A. Jinnah (Atlanta, GA, USA)
- 1635 Neck proprioception is impaired in patients with idiopathic cervical dystonia
J. De Pauw, R. Mercelis, A. Hallemans, S. Michiels, S. Truijen, P. Cras, W. De Hertogh (Antwerp, Belgium)
- 1641 Clinical characteristics and natural history of oromandibular dystonia
L. Scorr, S. Factor, H. Jinnah (Atlanta, GA, USA)
- 1650 Striatal postsynaptic dysfunction in X-linked dystonia-parkinsonism is associated with disease progression
N. Brüggemann, R.L. Rosales, J.L. Waugh, A.J. Blood, A. Domingo, M. Heldmann, R.D. Jamora, A. Münchau, L.V. Lee, I. Buchmann, C. Klein (Lübeck, Germany)
- 1691 Structural and functional brain network alterations in psychogenic dystonia
E. Sarasso, F. Agosta, A. Tomic, S. Basaia, M. Svetel, G. Mandic-Stojmenovic, M. Copetti, V.S. Kostic, M. Filippi (Milan, Italy)
- 1720 ADCY5 screening in paediatric-onset hyperkinetic movement disorders: Report of three new Italian families
M. Carecchio, N.E. Mencacci, G. Zorzi, F. Zibordi, C. Fusco, A. Iodice, L. Veneziano, C. Barzaghi, L. 'RBibo, N. Wood, B. Garavaglia, N. Nardocci (Milan, Italy)

Guided Poster Tour 14 - Pharmacology

12:00 - 13:30

Thursday, June 23, 2016

- 1830 Role of the atypical vesicular glutamate transporter VGLUT3 in I-DOPA-induced dyskinesia
G. Gangarossa, M. Guzman, V. Prado, M. Prado, S. Daumas, S. El Mestikawy, E. Valjent (Paris, France)
- 1845 AntiParkinsonian effects of the "radiprodil and tozadenant" combination in MPTP-treated marmosets
A. Michel, J.M. Nicolas, S. Rose, M. Jackson, P. Colman, W. Briône, D. Sciberras, P. Muglia, D. Scheller, M. Citron, P. Downey (Braine l'Alleud, Belgium)
- 1890 Levodopa-entacapone-carbidopa intestinal gel in Parkinson's disease – A randomized, crossover infusion study
M. Senek, D. Nyholm (Uppsala, Sweden)
- 1898 Lovastatin protects neurite degeneration in LRRK2-G2019S parkinsonism through activating the Akt/Nrf pathway and inhibiting GSK3beta activity
C.H. Lin, H.I. Lin, M.L. Chen, T.T. Lai, L.P. Cao, M.J. Farrer, R.M. Wu, C.T. Chien (Taipei, Taiwan)
- 1901 Safety, pharmacokinetics, and efficacy of levodopa prodrug ONO-2160/CD: A study in patients with Parkinson's disease
M. Nomoto, M. Nagai, N. Nishikawa, Y. Kagamiishi, K. Yano, M. Akisada, S. Saito, M. Yuba, A. Takeda (Tohon Ehime, Japan)
- 1945 Effect of pharmacist-led interventions on motor symptoms and quality of life in Parkinson's patients: A pilot study
C. Stuijt, T.V. Laar (Groningen, Netherlands)
- 1981 Levodopa-carbidopa intestinal gel in routine care of advanced Parkinson's disease patients: Final long-term efficacy results on motor complications from the GLORIA registry
W. Poewe, T. Kimber, B. Bermans, P. Odin, A. Antonini, O. Bajenaru, K. Onuk, A. Yegin, L. Bergmann, K.R. Chaudhuri (Innsbruck, Austria)
- 1985 Levodopa/carbidopa intestinal gel treatment in advanced Parkinson's disease: A long-term observational study
P. Havránková, J. Klempír, M. Fialová, A. Rezková, J. Petrtýl, V. Capek, E. Ruzicka, J. Roth, R. Jech (Prague, Czech Republic)
- 2011 Long-term safety of levodopa-carbidopa intestinal gel from an ongoing, open-label, phase 3 continued access to treatment study in advanced Parkinson's disease patients
R.L. Rodriguez, C. Zadikoff, A.J. Espay, V.S.C. Fung, C. Hall, W.Z. Robieson, K. Chatamra, S. Eaton, M.F. Facheris, J. Benesh (Orlando, FL, USA)
- 2012 ADS-5102 (amantadine HCl) extended-release capsules reduced levodopa-induced dyskinesia in the phase 3 EASE LID study
R. Pahwa, C.M. Tanner, R.A. Hauser, P. Nausieda, D.D. Truong, K. Hull, P. Agarwal, R. Johnson, A.E. Ruby, N.L. McClure, M.J. Stempien (Kansas City, KS, USA)



Guided Poster Tour Abstracts

Guided Poster Tour 15 - Parkinson's Disease: Clinical Trials I

12:00 - 13:30

Thursday, June 23, 2016

- 1903 A double blind investigation of efficacy and safety of incobotulinumtoxinA in Parkinson's disease tremor- A customized injection approach
S.O. Mittal, R. Rostami, D.G. Machado, D. Richardson, B. Jabbari (Cleveland, OH, USA)
- 1915 Factors associated with falling in early, treated Parkinson's disease: The NET-PD LS1 cohort
K.L. Chou, J.J. Elm, C.L. Wielinski, D.K. Simon, M.J. Aminoff, C.W. Chadwick, G.S. Liang, R.A. Hauser, L. Sudarsky, C.C. Umeh, T. Voss, J. Juncos, J.Y. Fang, J.T. Boyd, I. Bodis-Wollner, M. Zoltan, J.C. Morgan, A.M. Wills, S.L. Lee, S.A. Parashos, On behalf of the NINDS NET-PD Investigators (Ann Arbor, MI, USA)
- 1925 Switching double-blind opicapone, entacapone or placebo to open-label opicapone: Efficacy results of the 1-year extension of study BIPARK I
J. Ferreira, A. Lees, E. Tolosa, W. Poewe, A. Santos, N. Lopes, J.F. Rocha, P. Soares-da-Silva (Lisbon, Portugal)
- 1987 A multi-centre European comparative survey of advanced therapies (infusion and deep brain stimulation) in Parkinson's disease
A.M. Rigos, P. Martinez-Martin, P. Reddy, M. Silverdale, K. Ashkan, A. Antonini, D. Calandrella, P. Odin, T. Henriksen, N. Bryndum, A. Glad, M.G. Kramberger, Z. Pirtošek, M. Trošt, T. van Laar, R. Katzenschlager, H.S. Dafsari, L. Timmermann, A. Storch, H. Reichmann, K. Ray Chaudhuri, On behalf of EUROPAR, The IPMDS Non-Motor PD Study Group (London, United Kingdom)
- 1988 Dopamine agonist withdrawal syndrome (DAWS) in a tertiary Parkinson's disease center
S. Patel, X. Garcia, M.E. Mohammad, X.X. Yu, K. Vlastaris, K. O'Donnell, K. Sutton, H.H. Fernandez (Cleveland, OH, USA)
- 1991 Randomised trial comparing dopamine agonist, MAOB inhibitor and COMT inhibitor as adjuvant therapy in later Parkinson's disease (PD)
C.E. Clarke, S. Patel, N. Ives, C. Rick, A. Gray, C. Jenkinson, E. McIntosh, K. Wheatley, A. Williams, R. Gray (Birmingham, United Kingdom)
- 2036 Mobile decision support system for nurse management of deep brain stimulation
G. Duffley, D. Martinez, J. Krueger, B. Lutz, M.S. Okun, C.R. Butson (Salt Lake City, UT, USA)
- 2057 Status of NPF-QII after six years: Updates to the dataset
F. Cubillos, E.C. Nelson, T. Simuni, C. Marras, M. Rafferty, T. Davis, P. Schmidt (Miami, FL, USA)
- 2063 The Parkinson progression marker initiative (PPMI) – Developing a comprehensive longitudinal biomarker dataset
Parkinson Progression Marker Initiative (New Haven, CT, USA)

Guided Poster Tour 16 - Parkinson's Disease: Clinical Trials II and Non-PD Clinical Trials

12:00 - 13:30

Thursday, June 23, 2016

- 2006 Effect of patient characteristics on motor function in response to 35–50 mg of inhaled levodopa (CVT-301) in patients with Parkinson's disease: Results from a phase 2b study
P.A. LeWitt, M.I. Freed, M. Leinonen, A. Sedkov, H. Murck (West Bloomfield, MI, USA)
- 2050 Patient experiences following Parkinson's disease treatment with inhaled levodopa: Results from a Phase 2b study
P. LeWitt, A. Niyazov, A. Sedkov, H. Murck, A. Guo (West Bloomfield, MI, USA)
- 2051 Acute admissions in people with Parkinson's – More than just frailty
N. Leopold, B. Mohamed, C. Thomas (Cardiff, United Kingdom)
- 2078 Levodopa, placebo and rotigotine change biomarker levels for oxidative stress
S. Muhlack, M. Kinkel, L. Herrmann, L. Tönges, T. Müller (Bochum, Germany)
- 2088 Copper chelation efficacy of alginate/chitosan based D-penicillamine nanoparticles in rat model of non-Wilsonian brain copper toxicosis
A. Pal, B.R. Thapa, R.K. Vasishta, R. Prasad (Chandigarh, India)
- 2090 Multi-modal recruitment strategy leads to expeditious enrollment in STEADY-PD III
B.L. Greco, T. Simuni, J. Lowell, K.C. Hodgeman, S. Sharma, C.A. Marshall, J. Denmark, W. Galpern, J.L. Goudreau, C. Meunier, C. Sia, C.A. Thomas, D. Young, K.M. Biglan (Rochester, NY, USA)
- 2091 Transcranial versus root repeated magnetic stimulation as a treatment of psychogenic movement disorders
B. Garcin, C. Hubsch, L. Lliescu, L. Naccache, M. Vidailhet, E. Fournier, F. Mesrati, E. Roze, B. Degos (Paris, France)
- 2095 KINECT 3: A randomized, double-blind, placebo-controlled phase 3 trial of valbenazine (NBI-98854) for tardive dyskinesia
S.A. Factor, R.A. Hauser, S. Siegert, G.S. Liang, C.F. O'Brien (Atlanta, GA, USA)
- 2105 Development of a human neuroblastoma model of pantothenate kinase-associated neurodegeneration
A. Di Marco, G. Auciello, A. Vecchi, D. Vignone, M.R. Battista, E. Bracacel, F. Bonelli, E. Nizi, E. Monteagudo, M. Beconi (Pomezia, Italy)
- 2106 A healthy volunteer phase 1 study of RE-024, a potential phosphopantothenate replacement therapy for patients with pantothenate kinase-associated neurodegeneration (PKAN)
R.D. Marshall, A. Harring-Abbott, K. Lucey, K. Leach, M. Beconi, J. Hunt, H. Plotkin (San Diego, CA, USA)



Abstracts by Topic

Surgical Therapy: Parkinson's Disease

- 1 Clinical outcome of subthalamic deep brain stimulation in Parkinson's disease - The Helsinki experience
 M. Koivu, A. Huotari, F. Scheperjans, R. Kivisaari, E. Pekkonen (Helsinki, Finland)
- 2 How many and which kind of Parkinson's disease patients need deep brain stimulation surgery? An evaluation based on clinical observation of patients with disease history of 15th year or more
 H. Shibayama, T. Fukumoto, M. Tomura, K. Tokumoto, H. Yano, K. Tajima, F. Mitobe, F. Katada, S. Sato, T. Fukutake (Kamogawa City, Chiba, Japan)
- 3 Is inter-limb coupling modified by subthalamic deep brain stimulation and dopaminergic medication in Parkinson's disease?
 C. Duval, J.F. Daneault, A.F. Sadikot (Montréal, QC, Canada)
- 4 Tractography patterns of subthalamic nucleus deep brain stimulation
 N.S. Vanegas-Arroyave, P.M. Lauro, L. Huang, M. Hallett, S. Horowitz, K.A. Zaghloul, C. Lungu (New York, NY, USA)
- 5 Strengths and weaknesses of patient-reported outcomes following DBS surgery: Comparing clinician, patient, and caregiver assessments
 L. Shahgholi, W. Deeb, K. Foote, A. Shukla, U. Akbar, J.P. Rossi, S. De Jesus, M.S. Okun (Gainesville, FL, USA)
- 6 Efficiency of intraoperative microelectrode recording in patients with deep brain stimulation of the subthalamic nucleus. Three-year comparative research
 N. Gubareva, E. Bril, A. Tomskiy, N. Fedorova, S. Asriyants (Moscow, Russia)
- 7 Clinical characteristics of Parkinson's disease and essential tremor patients undergoing deep brain stimulation surgery: Five-year data from Columbia University Medical Center (2009 - 2014)
 M. Kestenbaum, D. Robakis, B. Ford, R.N. Alcalay, E.D. Louis (Tel Aviv, Israel)
- 8 Can stimulation of deep brain tissue improve the expression of the mouth in Parkinson's disease patients?
 M.V. Alvarez, P.M. Grogan (San Antonio, TX, USA)
- 9 Comparing the characteristics of patients with Parkinson's disease speech with and without deep brain stimulation
 M.R. Olchik, A.L. Bressanelli, M. Presotto, A.F.S. Schuh, C.R.M. Rieder (Porto Alegre, Brazil)
- 10 Effects of subthalamic deep brain stimulation in motor and nonmotor function in Parkinson's disease patients with parkin mutation
 L.M. Oliveira, R.G. Cury, H.F. Chien, J.G. Santos, M.G. Ghilardi, R.B. Machado, E.T. Fonoff, B.R. Egberto (São Paulo, Brazil)
- 11 Deep brain stimulation effect on the quality of life of individuals with Parkinson's disease
 A. Ayres, M. Ghisi, A.M. Freiry, B.S.F. Oliveira, A.F.S. Schuch, C.R.M. Rieder, M.R. Olchik (Porto Alegre, Brazil)
- 12 Spinal cord stimulation improves freezing of gait in Parkinson's disease in chronic implanted stn-dbs patients: A case report
 C.O. Souza, C.P. Souza, A.L. Pardini, D. Boari, L.A. Teixeira, E.R. Barbosa, E.T. Fonoff (São Paulo, Brazil)
- 13 Does body mass index influence outcome of deep brain stimulation in Parkinson's patients?
 H. Abboud, G. Genc, D. Reyes, N.R. Thompson, R. Cerejo, K. Wilson, A. Ahmed, M. Gostkowski, A. Machado, H.H. Fernandez (Cleveland, OH, USA)
- 14 Longitudinal changes of speech and voice disorders following subthalamic stimulation in Parkinson's disease patients
 T. Tsuboi, H. Watanabe, Y. Tanaka, R. Ohdake, K. Kawabata, K. Hara, M. Ito, M. Hirayama, Y. Fujimoto, Y. Kajita, M. Katsuno, G. Sobue (Nagoya, Japan)
- 15 The study of clinical outcome of deep brain stimulation for the idiopathic Parkinson's disease at 6 months follow-up
 P. Papitak, M. Aphiwatthanakun, T. Srikiyvilakul, N. Limotai (Bangkok, Thailand)
- 16 Subthalamic nucleus deep brain stimulation modulate catecholamine levels with significant relations to clinical outcome after surgery in patients with Parkinson's disease
 T. Yamamoto, T. Uchiyama, Y. Higuchi, M. Asahina, S. Hirano, Y. Yamanaka, S. Kuwabara (Chiba, Japan)
- 17 Bilateral subthalamic nucleus deep-brain stimulation (STN-DBS) in the management of idiopathic Parkinson's disease: Results of our first 20 cases
 E.M. Rezk, A.A.E. Shakal, S.M. Tourky (Tanta-Gharbeya, Egypt)
- 18 Effect of unilateral subthalamic deep brain stimulation in highly asymmetric Parkinson's disease: 7- year follow-up
 G. Ehm, H.J. Kim, B.S. Jeon, D.G. Kim, S.H. Paek (Goyang, Korea)
- 19 Real-world safety of deep brain stimulation in patients with ≤ 7.5 years between disease onset and device implant
 M.C. Schiess, L. Tonder, M. Wells, T. Weaver, V. Stoker (Houston, TX, USA)
- 20 DBS targeting: Validation of 3T MR image guided targeting using post-mortem 17T MR microscopy
 J.D. Hilliard, T. Morishita, C.H. Lee, S.J. Blackband, M.S. Okun, K.D. Foote (Gainesville, FL, USA)
- 21 Lead angle matters: Side effects of deep brain stimulation improved with adjustment of lead angle
 M.H. Pourfar, A.Y. Mogilner (New York, NY, USA)
- 22 Stereotactic pallidotomy for Parkinson's disease in El Salvador: One year follow up
 S.L. Peña, R.E. Amaya (San Salvador, El Salvador)
- 23 Distribution of oscillatory activities in MRI confirmed subthalamic nucleus subregions
 M. Beudel, A. Oswal, A. Jha, T. Foltynie, L. Zrinzo, M. Hariz, P. Limousin, S. Derrey, H. Akram, L. Vladimir, P. Brown (Groningen, Netherlands)
- 24 Can intraoperative clinical testing really predict the effects of deep brain stimulation in the subthalamic nucleus?
 J. Blume, J. Schlaier, F. Zeman, E. Rothenfußer, A. Brawanski, U. Bogdahn, M. Lange (Regensburg, Germany)
- 25 Successful DBS: Doctors happy, patients not - Why?
 M.H. Strothjohann, B. Holzinger, G.A. Fuchs, F. Weber (Bad Camberg, Germany)
- 26 Mortality after deep brain stimulation surgery for patients with advanced Parkinson's disease
 H.S. Ryu, S. You, M.J. Kim, Y.J. Kim, K. Kim, S.J. Chung (Seoul, Korea)
- 27 Chronic directional subthalamic nucleus deep brain stimulation in Parkinson's disease - A pilot study
 P. Reker, T.A. Dembek, A. Gierich, J. Wirths, H.S. Dafsari, J. Roediger, M.T. Barbe, L. Timmermann, V. Visser-Vandewalle (Cologne, Germany)



Abstracts by Topic

- 28 DBS related on-state freezing of gait – A case series
Y.C. Tai, E. Everingham, D. Tsui, V. Fung, N. Mahant (Kaohsiung, Taiwan)
- 29 A multi-site survey of Parkinson's disease deep brain stimulation center best practice: moving toward a standard of care for DBS
A.A. Butala, K.A. Mills, P. Schmidt, M.S. Okun, Z. Mari (Baltimore, MD, USA)
- 30 Effect of frequency modulation on freezing of gait in PD patients after bilateral STN DBS
R.M. Kandadai, V.V.P. Kagita, S.A. Jabeen, A.K. Puligopu, M.A. Kanikannan, R. Borgohain (Hyderabad, India)
- 31 Toward clinical use of electrode localizations in deep brain stimulation therapy
S. Ewert, A. Horn, P. Plettig, M. Ruch, A. Kühn (Berlin, Germany)
- 32 Objectivisation of postural disorders in patients with Parkinson's disease during the screening stage for DBS
A.G. Buniak, I.P. Maryenko, S.A. Likhachev (Minsk, Belarus)
- 33 Difference between physiologically defined subthalamic nucleus target and final lead placement: Influence in clinical outcome
A. Medina, D. Cerquetti, M. Merello (Buenos Aires, Argentina)
- 34 Rechargeable pacemaker technology in deep brain stimulation: A step forward, but not for everyone
J. Runge, A. Wloch, M. Abdallad, M. Manu, J.K. Krauss (Hannover, Germany)
- 35 Two years after unilateral Forel's H campotomy for Parkinson's disease: Quality of life, motor and cognitive outcomes of eleven patients
F. Godinho, M.O. Oliveira, P. Terzian, C. Costa, P. Gordon, M.S. Rocha (São Paulo, Brazil)
- 36 Face and color recognition after subthalamic nucleus stimulation in Parkinson's disease
A. Gündüz, S. Yagci, S. Aydin, B.Ç. Poyraz, G. Genç, S. Oguz, H. Apaydin, G. Kiziltan, H. Hanagasi, M. Hanci, S. Ertan (Istanbul, Turkey)
- 37 Effect of STN-DBS on impulse control disorder and affective behavioral complications of Parkinson's disease: A 1-year longitudinal study
S.M. Omarova, N.V. Fedorova, E.V. Bril, A.A. Tomskiy, A.A. Gamaleya (Moscow, Russia)
- 38 The core assessment program for surgical interventional therapies in Parkinson's disease (CAPSIT-PD): Tolerability of preoperative neuropsychological testing for deep brain stimulation in Parkinson's disease
G.D. Pal, V. Persinger, B. Bernard, B. Ouyang, C. Goetz, L. Verhagen (Chicago, IL, USA)
- 39 Non-motor outcomes of subthalamic stimulation in Parkinson's disease depend on the location of active contacts
H.S. Dafsari, J.N. Petry-Schmelzer, K. Ashkan, L. Weis, T. Dembek, M. Samuel, A. Rizos, M. Silverdale, J. Evans, P. Martinez-Martin, A. Antonini, K.R. Chaudhuri, V. Visser-Vandewalle, L. Timmermann (Cologne, Germany)
- 40 "Two odd targets" strategy in deep brain stimulation for Parkinson's disease with unilateral dystonia
S. Sekimoto, G. Oyama, T. Jo, A. Nakajima, Y. Shimo, M. Nakajima, A. Umemura, M. Ito, H. Arai, N. Hattori (Bunkyo-ku, Japan)
- 41 Upregulated vascular endothelial nitric oxide synthase in Parkinson's disease cases that have received subthalamic stimulation: A post-mortem evaluation
C. Mantanona, L. Hodgson, J.L. Elson, I.S. Pienaar (Newcastle upon Tyne, United Kingdom)
- 42 Multiple-source current steering in bilateral subthalamic nucleus deep brain stimulation for Parkinson's disease: Our experience
J.M. Cardenas Prieto, P.A. Millan Giraldo (Cali, Colombia)
- 43 Role of contact polarity on therapeutic impedances at two deep brain stimulation (DBS) targets
N. Bukhari, B.H. Kopell, R.A. Ramdhani (New York, NY, USA)
- 44 Efficacy of the bilateral subthalamic stimulation in Parkinson's disease, results from the Neuromodulation Centre in Budapest
A. Kelemen, L. Eröss, D. Albert, I. Rózsa, E. Csibri, L. Entz, D. Fabó, L. Halász, G. Rudas, P. Barsi, P. Golopenca, G. Tamás (Budapest, Hungary)
- 45 A new tool to measure the impact of deep brain stimulation on Parkinson's disease patients: Development and validation of the deep brain stimulation impairment scale (DBS-IS)
F. Maier, C.J. Lewis, A.A. Kühn, H. Krug, J. Volkman, A.D. Kirsch, L. Wojtecki, A. Schnitzler, G. Deuschl, J.K. Krauss, C. Woopen, L. Timmermann (Cologne, Germany)
- 46 Minimal impact of "interleaving" on neuromodulation device battery drain when interleave frequency is halved
Y.M. Fernandez, D.L. Caputo, D.P. Schneider, S.F. Danish, R.J. Dipaola, E.L. Hargreaves (New Brunswick, NJ, USA)
- 47 Stimulation of the globus pallidus internus in the treatment of Parkinson's disease: Long-term results of a monocentric follow-up
M.L. Lachenmayer, C. Bettschen, I. Debove, J. Muellner, C. Bernasconi, J.M. Burgunder, J.K. Krauss, M. Oertel, A. Kaelin, C. Pollo, M. Schuepbach (Bern, Switzerland)
- 48 Improvement of impulse control disorder in Parkinson's disease patients treated with subthalamic nucleus stimulation
E.J. Choi, J.K. Gu, D.G. Lee, S.M. Kim, J.K. Lee, C.S. Lee (Seoul, Korea)
- 49 The long-term follow-up of subthalamic nucleus deep brain stimulation comparing medication alone in advanced Parkinson's disease patients
S.H. Lin, S.Y. Chen, F.S. Jaw (Hualien, Taiwan)
- 50 A cognitive monitoring program for individuals with Parkinson's disease submitted to deep brain stimulation
L. Fontão, R. Barreto, L. Ruano, A. Sousa, A.I. Martins, A. Costa, A. Aires, C. Sousa, J. Lima, J. Pais, M.J. Rosas, R. Vaz, V.T. Cruz (Santa Maria da Feira, Portugal)
- 51 Identification of unique metabolite signatures in post-mortem DBS human tissue using LC-HRMS
V. Vedam-Mai, S. Sternberg, M. Williams, T. Garrett, M.S. Okun (Gainesville, FL, USA)
- 52 Electric stimulation of the nucleus subthalamicus is able to modulate prepulse inhibition. A pilot study in Parkinson's disease
J. Schuster, I. Galazky, M. Kühne, S. Specht, S. Nullmeier, H.J. Heinze, A. Kupsch, T. Zaehle, J. Voges, P. Panther (Magdeburg, Germany)



Abstracts by Topic

- 53 Measurement of effect of variable deep brain stimulation (DBS) frequencies on static postural control in Parkinson's disease (PD) patients with bilateral STN or GPI stimulators by employing force plate
 A. Deep, A. Lieberman, R. Dhall, T. Lockhart, S. Shafer, C. Frames, N. Tateuchi, E. Simpson, M. McCauley, N. Krishnamurthi, S. Syed (Phoenix, AZ, USA)
- 54 Can a leopard change its spots? How impulse control disorder affects subthalamic stimulation paradigm
 N.G. Pozzi, B. Minafra, M. Picascia, R. Zangaglia, D. Servello, C. Pacchetti (Pavia, Italy)
- 55 Morbidity and comorbidity of deep brain stimulation for Parkinson's disease – A thirteen-years retrospective cohort study
 S.Y. Chen, Y.H. Pan, S.H. Lin (Hualien, Taiwan)
- 56 Quantification of tremor and rigidity during deep brain stimulation surgery for Parkinson's disease
 P. Poortvliet, A. Fytagoridis, T. Coyne, P. Silburn (Brisbane, Australia)
- 57 Comparison of four DBS lead designs under voltage and current operating modes based on patient specific simulations
 F. Alonso, N. Göransson, P. Zsgimond, K. Wårdell (Linköping, Sweden)
- 58 Electrophysiological activity of anatomically identified STN subterritories in Parkinson's disease
 N.G. Pozzi, G. Arnulfo, F. Steigerwald, A. Canessa, R. Nickl, C. Matthies, J. Volkmann, I.U. Isaias (Würzburg, Germany)
- 59 Deep brain stimulation in the STN of a Parkinsonian rat model overexpressing human A53T α -synuclein in the substantia nigra – A proof of principle
 T. Musacchio, M. Rebenstorff, F. Fluri, C. Kleinschnitz, J.M. Brotchie, J. Volkmann, J.B. Koprach, C.W. Ip (Würzburg, Germany)
- 60 Changes in mood and behavior following DBS – Measurement by self-reported questionnaires
 I. Galazky, S. Hubich, T. Zähle, J. Voges (Magdeburg, Germany)
- 61 MR-guided high intensity focused ultrasound in Parkinson's disease: A series of 5 cases
 N. Wegener, G. Kaegi, R. Bauer, B. Werner, E. Martin, S.R. Schreglmann, A. Lebeda, S. Haegele-Link (St. Gallen, Switzerland)
- 62 Comparison of effect of variable deep brain stimulation (DBS) frequencies on gait and balance in Parkinson's disease (PD) patients with either bilateral GPI or STN stimulators employing wearable wireless sensors
 A. Deep, A. Lieberman, R. Dhall, T. Lockhart, C. Frames, S. Shafer, N. Tateuchi, E. Simpson, M. McCauley, N. Krishnamurthi (Phoenix, AZ, USA)
- 63 The effects of 60 Hz frequency of STN-DBS on gait in Parkinson's disease
 H. Brozová, K. Peterová, E. Ruzicka, J. Ruz, E. Plananská, L. Brabcová, R. Jech (Prague, Czech Republic)
- 64 An investigation of Parkinson's disease patients' desired control over the DBS stimulator
 C.S. Kubu, J. Vitek, S.E. Cooper, A. Machado, P.J. Ford (Cleveland, OH, USA)
- 65 Pisa syndrome in Parkinson's disease effectively treated with subthalamic deep brain stimulation: Case report
 C.A. Artusi, A. Romagnolo, M. Zibetti, M.G. Rizzone, A. Merola, F. Dematteis, M. Lanotte, L. Lopiano (Torino, Italy)
- 66 Effect of bilateral subthalamic nuclei deep brain stimulation on impulse control disorders in PD
 R. Borgohain, P.K. Pesala, R.K. Mridula, A.K. Puligopu, V.V.P. Kagita, S.A. Jabeen, M.A. Kanikannan (Hyderabad, India)
- 67 Neurophysiological assessment of corticospinal tract activation due to subthalamic deep brain stimulation in patients with Parkinson's disease
 P. Mahlknecht, H. Akram, D. Georgiev, J. Candelario, A. Zacharia, Z. Kefalopoulou, L. Zrinzo, J. Hyam, M. Hariz, C. Milabo, T. Foltynie, J.C. Rothwell, P. Limousin (Innsbruck, Austria)
- 68 Deep brain stimulation in a Parkinsonian patient with severe psychiatric complication
 T. Ichikawa, Y. Hashimoto, T. Obuchi, K. Kobayashi, H. Oshima (Ageo, Japan)
- 69 Evaluation of the accuracy of stereotactic DBS electrode implantation by post-operative image fusion
 P. Fricke, S. Johannes, R. Nickl, R.I. Ernestus, F. Steigerwald, J. Volkmann, C. Matthies (Würzburg, Germany)
- 70 Impact of the combined depletion of monoamines on the effectiveness of deep brain stimulation of the subthalamic nucleus
 A. Benazzouz, C. Delaville, E. Faggiani (Bordeaux, France)
- 71 A dopamine-dependent activity of the STN in the control of balance in Parkinson's disease
 G. Arnulfo, N.G. Pozzi, C. Palmisano, A. Canessa, J. Brumberg, C.A. Frigo, G. Pezzoli, F. Steigerwald, J. Volkmann, I.U. Isaias (Würzburg, Germany)
- 72 Cortical and subcortical contribution in the production of reaching movements in Parkinson's disease
 A. Canessa, N.G. Pozzi, G. Arnulfo, J. Brumberg, F. Steigerwald, M.F. Ghilardi, J. Volkmann, I.U. Isaias (Würzburg, Germany)
- 73 A prospective study of patients' expectations in subthalamic nucleus deep brain stimulation for Parkinson's disease
 N.R. Mundil, H.Y. Ling, H. Hasegawa, M. Samuel, K. Ashkan (London, United Kingdom)
- 74 Is the PPN a valuable target for deep brain stimulation in treatment of Parkinsonian disorders? Experience of a patient's series
 I. Galazky, A. Kupsch, E. Wirkus, F. Casjens, S. Specht, H.J. Heinze, J. Voges (Magdeburg, Germany)
- 75 In vivo validation of a new wireless portable stimulator for chronic deep brain stimulation in freely moving rats
 F. Naudet, F. Kölbl, G. N'kaoua, E. Faggiani, B. Ribot, S. Renaud, N. Lewis, A. Benazzouz (Bordeaux, France)
- 76 Airway protective mechanisms and deep brain stimulation in Parkinson's disease
 M.S. Troche, A.E. Brandimore, K.W. Hegland, P.W. Davenport, K.F. Foote, M.S. Okun (New York, NY, USA)
- 77 Improving parkinsonism in DBS poor-responders by surgical lead revision of subthalamic electrodes
 R.C. Nickl, M.M. Reich, S. Johannes, F. Steigerwald, P. Fricke, V. Sturm, R.I. Ernestus, J. Volkmann, C. Matthies (Würzburg, Germany)
- 78 Single versus multiple microelectrode recordings (MER) in STN-DBS-surgery for PD: A randomized double-blind controlled trial
 S. Bjerknes, A.E. Konglund, E. Ilstad, U. Pham, M. Skjelland, E. Dietrichs, M. Toft (Oslo, Norway)



Abstracts by Topic

- 79 The effect of short pulse width neurostimulation in GPI-DBS
K. Kimura, H. Kishida, N. Ueda, K. Hamada, T. Kawasaki, F. Tanaka (Yokohama, Japan)
- 80 Accuracy of intraoperative CT during DBS procedures: Comparison with postoperative MRI
L. Verhagen Metman, P. van den Munckhof, R. Bakay, G. Stebbins, M. Bot (Chicago, IL, USA)
- 81 Jaw opening dystonia and blepharospasm following bilateral VIM DBS for postural and action dystonic tremor
V. Paramanandam, D.A. Olszewska, C. Fearon, B. Magennis, B. Cheeran, T. Lynch (Dublin, Ireland)
- 82 Deep brain stimulation in early stage Parkinson's disease: Is it disease modifying?
M.L. Hacker, M. Turchan, J. Tonascia, P.E. Konrad, T.L. Davis, J.S. Neimat, F.T. Phibbs, A.L. Sternberg, D.M. Shade, L.T. Drye, D. Charles (Nashville, TN, USA)
- 83 Speech 10 years post bilateral STN-DBS for Parkinson's disease
E. Tripoliti, P. Mahlknecht, L. Zrinzo, M. Hariz, T. Foltynie, J. Candelario, P. Limousin (London, United Kingdom)
- 84 Traditional trial-and-error versus neuroanatomical-3D-image software-assisted deep brain stimulation programming in patients with Parkinson's disease
N. Pavese, S. Rodemark, Y.F. Tai, N. Yousif, D. Nandi, P.G. Bain (London, United Kingdom)
- 85 Wearable sensors and decision algorithms for advanced therapy referral in Parkinson's disease
D.A. Heldman, J.P. Giuffrida, E. Cubo (Cleveland, OH, USA)
- 86 Patient-centered outcomes of DBS in Parkinson's disease
J. Karl, B. Ouyang, K. Colletta, L. Verhagen (Chicago, IL, USA)
- 87 Implantable pulse generator (IPG) longevity decreases following each replacement surgery in Parkinson's disease (PD) patients treated with bilateral sub-thalamic nucleus deep brain stimulation (STN-DBS)
S.D. Israeli-Korn, S. Tessler, G. Yahalom, S. Benizri, O.S. Cohen, C. Shabat, H. Strauss, N. Warmann-Alaluf, E. Stein, Z. Zibly, R. Spiegelman, S. Hassin (Ramat Gan, Israel)
- 88 Is awake intraoperative mapping still necessary for bilateral subthalamic stimulation for Parkinson's disease in a modern surgical environment?
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- 89 Cognitive outcome in the patients with Parkinson's disease one year after subthalamic implants in Taiwan
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- 90 Comparison of clinically derived and model based programming parameters of subthalamic nucleus stimulation in Parkinson's disease
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- 91 Effectiveness and micro-electrodes findings of deep brain stimulation of the STN via a parietal approach in post-infectious previously implanted Parkinson's patients
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- 92 How do patients experience deep brain stimulation surgery: A prospective patient satisfaction survey
A. Fazl, M. Gillego, A. Mogliner, M.H. Pourfar (New York, NY, USA)
- 93 DBS programming requirements and longevity
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- 94 A pilot study of horizontal current steering with chronically implanted segmented electrodes for STN-DBS in Parkinson's disease
F. Steigerwald, L. Mueller, S. Johannes, C. Matthies, J. Volkmann (Würzburg, Germany)
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- 96 Transient, symptomatic, non-infectious hypodensity around deep brain stimulation electrode
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- 101 Assessment of freezing of gait in Parkinson's disease patients treated with STN-DBS
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- 103 AntiParkinsonian medication adjustments following deep brain stimulation of subthalamic nucleus in patients with advanced Parkinson's disease
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- 104 Cognitive change following deep brain stimulation in patients with movement disorders
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- 105 DTI tractographic correlates of weight gain in Parkinson's disease patients after STN DBS
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- 107 The subthalamic nucleus activity during gait in Parkinson's disease
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- 108 A case of thalamic malignant glioma formation in a patient with STN-DBS for Parkinson's disease
 A. Tomskiy, A. Gamaleya, N. Gubareva, Y. Latyshev, G. Kobayakov, L. Shishkina, I. Pronin (Moscow, Russia)
- 109 Variability in the ideal target of GPi DBS for Parkinson's disease requires advanced direct targeting for optimal results
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- 110 DBS of the STN in 44 patients with Parkinson's disease – Radiological and clinical outcome
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- 112 Unilateral microelectrode mapping to guide bilateral deep brain stimulation electrode implantation: A retrospective study of anatomical lead placement and DBS programming outcomes
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- 114 Suggested protocol for electroconvulsive therapy for depression in a Parkinson's disease patient with a deep brain stimulator: A case report
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- 122 Prospective evaluation of pallidal deep brain stimulation in Huntington's disease
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- 124 Surgical replacement of implantable pulse generators in deep brain stimulation: Adverse events and risk factors in a multicenter cohort
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- 133 An international, randomized, sham controlled trial of focused ultrasound thalamotomy for essential tremor
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- 134 VOP/ZI deep brain stimulation for the relief of tremor in multiple sclerosis
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- 136 Sweet spot of antidystonic effect in pallidal neurostimulation
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- 143 Thalamic-subthalamic deep brain stimulation for refractory orthostatic tremor: A report of 3 cases
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- 144 Ataxic gait in subjects with essential tremor and thalamic neurostimulation is caused by posteromedial current spread in the (sub)thalamic area
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- 154 Movement disorders after stroke in the third Moroccan level hospital, Marrakech
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- 155 Imaging-based differential diagnosis between multiple system atrophy and Parkinson's disease
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- 162 Progression of microglial activation and neuroinflammatory responses in a transgenic mouse model of multiple system atrophy
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- 163 Deep brain stimulation may lead to dramatic worsening of slowly progressive multiple system atrophy: A clinicopathological series and review of the literature
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- 181 Muscle ceroid-lipofuscine-like deposits in a patient with FTD due to a progranulin mutation
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- 182 Cognitive impairment in Parkinson's disease
 B. Kurbanov (Tashkent, Uzbekistan)
- 183 Magnetic resonance characteristic of Parkinson's disease based on the presence of cognitive impairment
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- 185 The basal ganglia muscarine receptors impairment in progressive supranuclear palsy
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- 186 Pan American multiple system atrophy (PANMSA) consortium database
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- 187 Cognitive profile in the Parkinsonian variant of multiple system atrophy: Findings from a Tunisian cohort
A. Nasri, M. Ben Djebara, I. Kacem, Y. Sidhom, A. Gargouri, R. Gouider (Tunis, Tunisia)
- 188 Sleep disorders in progressive supranuclear palsy
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- 189 Association between clinical features and pre- and post-synaptic dopaminergic dysfunction in multiple system atrophy: [18F]-FP-CIT PET and [18F]-FDG PET analyses
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- 190 Incidence of dystonia in patients with progressive supranuclear palsy
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- 191 Midbrain atrophy differentially progresses between Richardson's Syndrome, progressive supranuclear palsy-parkinsonism and Parkinson's disease: Longitudinal MRI study
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- 193 An elderly patient presenting as pure akinesia with gait freezing (PAGF): Idiopathic aqueductal stenosis-associated hydrocephalus
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- 195 A cross-sectional study of sensor-based gait analysis in atypical Parkinsonian disorders
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- 196 MRI-supported diagnosis of multiple system atrophy: Implications for clinical trials
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- 200 Auditory function and speech discrimination abilities are impaired in progressive supranuclear palsy
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- 201 Sniffing the diagnosis: Olfactory testing in neurodegenerative parkinsonism
F. Krismer, B. Pinter, C. Müller, P. Mahlknecht, M. Nocker, E. Reiter, A. Djamshidian-Tehrani, S.M. Bösch, G.K. Wenning, C. Scherfler, W. Poewe, K. Seppi (Innsbruck, Austria)
- 202 Impact of comorbidities and compliance initiatives in management of patients with early Parkinson's disease
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- 203 Subjective report does not predict objective swallow impairment in atypical Parkinsonian syndromes
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- 204 Withdrawn by Author
- 205 EBM review on the diagnostic work-up of multiple system atrophy
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- 206 The importance of Ishihara testing in early diagnosing of Parkinson's disease
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- 208 Application and correlates of the PSP quality of life scale
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- 209 Quantification of striatal dopamine transporters with [18F] PR04.MZ in patients with progressive supranuclear palsy and Parkinson's disease
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- 210 Drug induced parkinsonism: Role of functional imaging and follow up
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- 212 Comparative gait analysis of patients with vascular parkinsonism and idiopathic Parkinson's disease
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- 213 Clusterin CSF levels in differential diagnosis of neurodegenerative disorders
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- 214 LRRK2, MAPT and HTRA2 mutations in the pedigree of familial neurodegenerative parkinsonism with cognitive deterioration spanning five generations in a genetically isolated population of south-eastern Moravia, Czech Republic
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- 215 Unusual phenotype of pathologically confirmed progressive supranuclear palsy with autonomic dysfunction and cerebellar ataxia
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- 224 Modeling trajectories of brain damage in progressive supranuclear palsy: A longitudinal multimodal MRI study
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- 226 Atypical Parkinsonian disorders: Insights for a differential diagnosis through the analysis of oculomotor profile in MSA, PSP and CBD patients
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- 229 Prevalence and characterisation of vocal fold motion impairment (VFMI) in patients with multiple system atrophy
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- 230 Cognitive functioning in Parkinson's disease and Parkinson plus syndrome
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- 235 Low cerebrospinal fluid 3,4-dihydroxyphenylacetic acid and 3,4-dihydroxyphenylglycol levels are biomarkers of Parkinsonian disorders, including PSP
A. Stefani, C. Holmes, E. Olivola, Y. Sharabi, D. Goldstein (Rome, Italy)
- 236 Triple stimulation technique findings in patients with Parkinson's disease and multiple system atrophy
H. Wang, Q. Ding, J. Yuan, L. Cui (Beijing, People's Republic of China)
- 237 Clinical phenotype (motor and neuropsychological presentation) and neuroimaging in Sardinian patients affected by atypical parkinsonisms, carriers of 20-22 repeats of C9ORF72 hexanucleotide expansion
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- 239 Diagnostic value of cardiac 123I-MIBG SPECT and CT co-registration in PD and MSA-P
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- 240 Innsbruck multiple system atrophy cohort study – An interim analysis
S. Eschlböck, T. Benke, S. Bösch, A. Djamshidian-Tehrani¹, A. Fanciulli, R. Granata, C. Kaindlstorfer, G. Kiss, F. Krismer, K. Mair, M. Nocker, C. Raccagni, C. Scherfler, K. Seppi, W. Poewe, G. Wenning (Innsbruck, Austria)
- 241 A polysomnography study of REM sleep without atonia and REM sleep behavior disorder in MSA and PD
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- 242 Understanding, predicting, and preventing falls in progressive supranuclear palsy
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- 247 Greater incidence of depressive symptoms in atypical parkinsonism: Importance of early screening
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- 249 Can deep brain stimulation implantation cause multiple system atrophy? A retrospective review of MSA patients
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- 258 Parkinsonism and movement disorders in cerebral autosomal-dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL)
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- 259 Parkinsonism in patients with CADASIL
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- 260 Spinal fluid biomarkers for multiple system atrophy – A pilot study
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- 262 J-FIRST: First-in-Japan observational study of Parkinson's disease treatments and nonmotor symptoms
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- 265 Higher doses of dopamine agonists, impulse control disorders and history of deep brain stimulation (DBS): Risk factors for dopamine agonists withdrawal syndrome (DAWS)?
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- 267 Sleep deprivation (SD) amongst carers of patients with Parkinson's disease (PD)
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- 268 Non-motor symptoms (NMS) as a determinant of caregiver burden in a cohort of older patients with Parkinson's disease (PD)
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- 270 Autonomic failure and circadian rhythm of arterial blood pressure in IDIOPATHIC REM behaviour disorders and Parkinson's disease
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- 272 Cerebral vasoreactivity in Parkinson's disease and multiple system atrophy: A pilot study
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- 275 Do subjective ratings of the Parkinson's disease sleep scale-2 converge with results from polysomnography in early Parkinson's disease? - A report from the DeNoPa cohort
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- 276 Relationship between fatigue and sleep disturbances in patients with Parkinson's disease: A study using Parkinson's disease sleep scale-2
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- 277 Clinical efficacy of istradefylline on lower urinary tract symptoms in Parkinson's disease: A prospective study
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- 278 Exercise induced analgesia is present in people with Parkinson's disease
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- 279 Motor features and response to levodopa in Parkinson's disease with normal olfactory function
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E. Dalle, W. Daniels, M. Mabandla (Durban, South Africa)
- 281 Hyposmia as a predictor of non-motor symptom in patients with de novo Parkinson's disease
M. Sanoeva, N. Mansurova, A. Prokhorova (Bukhara, Uzbekistan)
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- 283 Is continuous twenty four hour blood pressure monitoring a suitable tool in evaluating sleep disturbances in Parkinson's disease?
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- 284 The evolution of REM sleep behavior disorder in Parkinson's disease: The DeNoPa cohort at 2-year follow-up
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- 285 The prevalence of gastrointestinal disorders and non-motor symptoms in a cohort of patients with Parkinson's disease
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- 286 Non-motor symptoms trajectory in Parkinson's disease: Magnitude and importance of the change
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- 287 Correlations among motor, cognitive, and neuropsychiatric symptoms in Parkinson's disease without dementia
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- 288 Impact of expiratory muscle strength training (EMST) on phonatory performance in Parkinson's patients
T.E. Tong, M.L. Ng, N. Yan (Hong Kong, Hong Kong)
- 289 Hypothalamic alpha-synuclein pathology and its relation to non-motor symptoms and disease progression in Parkinson's disease
E. De Pablo-Fernandez, R. Courtney, J.L. Holton, T.W. Warner (London, United Kingdom)
- 290 Swallowing in individuals with Parkinson's disease: A study of FEES
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- 291 Increased monosaccharide intake in patients with Parkinson's disease
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- 292 Rehabilitation of dysphagia in Parkinson's disease: Effect of chin-down postural maneuver
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- 293 Prodrimal Parkinson's disease in Argentinean patients with Gaucher disease type 1: Preliminary report
E.M. Gatto, J.L. Etcheverry, N. Basack, L. Aversa, N. Fernández Escobar, B. Soberón, A. Sanguinetti, M. Cesarini, G. Drelichman, E.M. Gatto (Buenos Aires, Argentina)
- 294 Emotion processing in Parkinson's disease – Possible link between inability to decode complex emotional stimuli and impairment of executive functions
E. Klimiec, K. Kowalska, P. Pasinska, A. Szyper, T. Dziedzic, A. Slowik, A. Klimkowicz-Mrowiec (Krakow, Poland)
- 295 Motor and non-motor symptoms in Parkinson's disease: Correlation and impact on quality of life and activities of daily living
P. Bugalho, T. Lampeira, R. Miguel, M. Mendonça, A. Caetano, R. Barbosa (Lisbon, Portugal)
- 296 Systematic literature review of droxidopa in clinical trials for neurogenic orthostatic hypotension (nOH) in parkinsonism
S. Tashiro, K. Dashtipour, J.J. Chen, K. Frei, E. Rashidian (Loma Linda, CA, USA)
- 297 Body weight determinants in Parkinson's disease: A multifactorial study
A. Bril, M. Rossi, S. Fariña, P. Morisset, L. Sorrentino, M. Iglesias, A. Medina Escobar, P. Millar Vernetti, D. Cerquetti, S. Perez Lloret, M. Merello (Buenos Aires, Argentina)
- 298 Olfactory loss - early non-motor symptom in Parkinson's disease
A. Kadirova, K. Mirzaeva, G. Rakhimbaeva (Tashkent, Uzbekistan)
- 299 Double-blind, placebo-controlled trial of a fermented milk containing multiple probiotic strains and prebiotic fiber for constipation associated with Parkinson's disease
E. Cereda, C. Pacchetti, C. Bolliri, E. Cassani, L. Iorio, C. Pusani, G. Pinelli, G. Privitera, I. Cesari, S.A. Faierman, R. Caccialanza, G. Pezzoli, M. Barichella (Pavia, Italy)
- 300 Gastrointestinal non-motor symptoms in PD: Correlation between objective markers and subjective symptoms
K. Knudsen, T. Fedorova, K. Østergaard, K. Krogh, P. Borghammer (Aarhus C., Denmark)
- 301 Anxiety and freezing of gait: A new perspective for early intervention
K.A. Ehgoetz Martens, J.M. Hall, M. Gilat, M.J. Georgiades, C.C. Walton, S.J.G. Lewis (Camperdown, Australia)
- 302 Neuropsychiatric disturbances in Parkinson's disease patients' with chronic pain
G. Pavlic, I. Moldovanu, N. Diaconu, L. Rotaru (Chisinau, Republic of Moldova)
- 303 Relationship between cognitive functions and striatal 123I-FP-CIT uptake in Parkinson's disease
H. Sawada, T. Sekiguchi, M. Takahashi, A. Inaba, S. Orimo (Tokyo, Japan)
- 304 Non-motor symptoms in PD candidates for DBS treatment
M.G. dos Santos Ghilardi, R.C.R. Martinez, R.G. Cury, J.R. Aranha, M.J. Teixeira, E.R. Barbosa, E.T. Fonoff (Sao Paulo, Brazil)
- 305 Chronic levodopa treatment accelerates the disorders of circadian rhythm in 6-OHDA induced Parkinson's disease model
S. Li, Y. Wang, W. Liu, D. Lv, C. Liu (Suzhou, People's Republic of China)
- 306 Influence of motor manifestation and onset's side on the spectrum of non-motor symptoms in patients with Parkinson's disease
M.A. Nikitina, I.A. Zhukova, V.M. Alifrova, N.G. Zhukova, O.P. Izhboldina, J.S. Mironova, M.A. Titova, N.G. Brazovskaya (Tomsk, Russia)
- 307 Unusual motor and non-motor symptoms and signs in the early stage of Parkinson's disease
H.A.G. Teive, D.C. Bertucci, R.P. Munhoz (Curitiba, Brazil)
- 308 The combined effect of REM sleep behavior disorder and hyposmia on cognition and motor phenotype in Parkinson's disease
S.B. Koh, S.H. Kang, H.M. Lee, W.K. Seo, J.H. Kim (Seoul, Korea)
- 309 Hypothalamic volume loss is associated with reduced melatonin output in Parkinson's disease
D.P. Breen, C. Nombela, R. Vuono, P.S. Jones, K. Fisher, D.J. Burn, D.J. Brooks, A.B. Reddy, J.B. Rowe, R.A. Barker (Cambridge, United Kingdom)
- 310 Premotor symptoms as prognostic indicators of Parkinson's disease: A nationwide population-based and case-control study
M.H. Chang (Taichung, Taiwan)
- 311 Pulmonary dysfunction in Parkinson's disease: A feature of early disease?
G. Baille, T. Perez, D. Devos, L. Defebvre, C. Moreau (Lille, France)
- 312 The prevalence of constipation and irritable bowel syndrome in Parkinson's disease patients according to Rome III diagnostic criteria
T. Mishima, J. Fukae, S. Fujioka, K. Inoue, Y. Tsuboi (Fukuoka, Japan)
- 313 Comprehensive motor and non-motor staging system in Parkinson's disease: Results from a global cross-sectional study
C. Rodriguez-Blazquez, A. Rizos, K.R. Chaudhuri, P. Martinez-Martin, NILS, EUROPAR and MDS Non-Motor PD Study Groups (Madrid, Spain)
- 314 Use of the physiotherapy in the treatment of initial stages of Parkinson's disease
O.L. Tondiy (Kharkiv, Ukraine)
- 315 Survey of prodromal symptoms of Parkinson's disease in Japan
M. Yogo, M. Morita, M. Suzuki (Katsushika-ku, Japan)
- 316 A case series of sigmoid volvulus in Parkinson's disease
K. Khalid, A. McColl, M. Gosney, A.K. Chatterjee (Reading, United Kingdom)
- 317 Inhibition of nociceptive responses by modulating serotonergic signals at the rostral ventromedial medulla in 6-OHDA-induced Parkinson's disease rat model
C. Wang, C. Mao, F. Wang, J. Yang, X. Zhang, Y. Yang, C. Liu (Suzhou, People's Republic of China)
- 318 Orthostatic intolerance and falls in Parkinson's disease
A. Fanciulli, C. Dallinger, G. Goebel, R. Granata, S. Duerr, F. Sprenger, F. Krismer, C. Mueller, S. Boesch, M. Nocker, C. Scherfler, K. Seppi, W. Poewe, G.K. Wenning (Innsbruck, Austria)
- 319 Could smell test differ from scans without evidence of dopaminergic deficit and Parkinson's disease?
S.J. Kang, J.Y. Ahn, H.T. Kim (Seoul, Korea)
- 320 Depression and anxiety in Parkinson's disease with rapid eye movement sleep behavior disorder
Y. Saitoh, Y. Mukai, T. Sakamoto, M. Murata (Tokyo, Japan)



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- 321 The heterogeneity of fatigue in different stages of Parkinson's disease
M.R. Nodel, N.N. Yakhno (Moscow, Russia)
- 322 Withdrawn by Author
- 323 RBD increase non-motor symptom in Parkinson's disease
Y. Wu, Y. Liu, X. Zhu, X. Zhang, S. Kuo, W.G. Ondo (Shanghai, People's Republic of China)
- 324 Non motor symptoms of Parkinson's disease: Prevalence and impact on quality of life
M. Chraa, K. Choulli, N. Kissani (Marrakech, Morocco)
- 325 Chin EMG variance and dream-enactment behavior during polysomnography in Parkinson's disease
Y. Shen, K.P. Xiong, C.J. Mao, C.F. Liu (Suzhou, People's Republic of China)
- 326 A case of PD with non-motor symptoms onset
L. Khachatryan, N. Gasparyan, E. Mamyan, N. Mamyan, A. Hakobyan (Yerevan, Armenia)
- 327 Assessment of olfactory dysfunction in Parkinson's disease with an objective test
Y. Sucullu Karadag, N. Turkmen, O. Gulden, A. Eryilmaz, A. Altundag, N. Subutay Oztekin, F. Ak (Ankara, Turkey)
- 328 Nutritional status and quality of life in patients with Parkinson's disease in a tertiary hospital in Northeast Mexico
I.E. Estrada, P. Ancer, H.J. Villarreal, C. Lopez, J. Rocha, A. Treviño, J.J. Peña, D. Ortiz (Monterrey, Mexico)
- 329 Idiopathic Parkinson's disease presenting with dysphagia 15 years before PD diagnosis
T. Munteanu, C. Goggins, D. Costigan, J. Molloy, T. O'Dwyer, T. Lynch (Dublin, Ireland)
- 330 Withdrawn by Author
- 331 Italian olfactory identification test (IOIT) scores correlates with clinical features in Parkinson's disease
E. Brahimi, N. Tambasco, P. Eusebi, P. Nigro, E. Sacchini, S. Simoni, E. Marsili, F. Ripandelli, M. Romoli, P. Calabresi (Perugia, Italy)
- 332 The influences of STN-DBS and levodopa on cardiovascular autonomic function in patients with Parkinson's disease: Evaluated by trigonometric regressive spectral analysis
K. Li, M. Wolz, R. Haase, H. Reichmann, T. Ziemssen (Dresden, Germany)
- 333 Detrusor overactivity is associated with frontal dysfunction in patients with Parkinson's disease?
T. Uchiyama, T. Yamamoto, K. Suzuki, T. Kadowaki, Y. Watanabe, K. Hashimoto, T. Shingo, K. Kaga, C. Shibata-Yamaguchi, T. Yamanishi, R. Sakakibara, S. Kuwabara, K. Hirata (Tochigi, Japan)
- 334 Pain correlates with sleep disturbances in Parkinson's disease
Y. Fu, C. Mao, L. Ma, M. Ding, Y. Wang, C. Liu (Suzhou, People's Republic of China)
- 335 Olfactory deficit characterization in Parkinson's disease
A.M. Crespo-Cuevas, L. Ispierto, A. Planas, D. Vilas, A. Planas, J. Sanchez, I. Isern, J. De Haro, R. Alvarez (Badalona, Spain)
- 336 Clinical correlates of depression and anxiety in patients with Parkinson's disease
H.D. Hambardzumyan, H.M. Manvelyan (Yerevan, Armenia)
- 337 Olfactory testing in differential diagnosis of atypical essential tremor and tremor-dominant Parkinson's disease
O. Izhboldina, I. Zhukova, N. Zhukova, V. Alifirova, A. Latypova, M. Nikitina, Y. Mironova (Tomsk, Russia)
- 338 The non-motor side of the honey-moon period of Parkinson's disease
R. Erro, M. Picillo, C. Vitale, M. Amboni, M. Moccia, M.T. Pellecchia, P. Barone (London, United Kingdom)
- 339 Verb naming in hypokinetic and hyperkinetic movement disorders: Preliminary results
E. Bayram, M.C. Akbostanci (Ankara, Turkey)
- 340 Irritable bowel syndrome is more prevalent than functional constipation in Parkinson's disease: Clinical spectrum and changes in gut microbiota
T. Mertsalmi, V. Aho, P.A.B. Pereira, L. Paulin, E. Pekkonen, P. Auvinen, F. Scheperjans (Helsinki, Finland)
- 341 Bradykinesia of external urethral sphincter in a Patient with Parkinson's disease: Case report
I.E. Estrada-Bellmann, A. Gutierrez, H.J. Villarreal, J.J. Peña, D. Ortiz (Monterrey, Mexico)
- 342 Risks and predictive factors for pneumonia amongst Parkinson's disease patients with dysphagia
K.H. Goh, H.L. Ng, K.Y. Tay, S. Acharyya, S.Y.E. Ng, J.P.L. Boo, A.H.J. Kooi, W. Li, W.L. Au, L.C.S. Tan (Singapore)
- 343 Clinical profile and outcome of hospitalized patients with Parkinson's disease
P. Chatterjee, K. Chatterjee, R. Banerjee, S. Choudhury, B. Mondal, M. Ummekulsum, S.S. Jha, S. Chatterjee, S.S. Anand, H. Kumar (Kolkata, India)
- 344 Characterization of sleep disturbances in a prospective population-based cohort to investigate Parkinson's disease
S. Tunc, J. Hampf, E.J. Vollstedt, K. Hüchelheim, E. Warrlich, C. Kritzing, C. Bibergeil, J. Graf, C. Klein, M. Kasten (Lübeck, Germany)
- 345 Prevalence and risk factors of orthostatic hypotension in Thai Parkinson's disease patients
S. Klanbut, S. Wongwiwatthananutit, C. Suthisisang, R. Bhidayasiri, S. Phattananudee (Bangkok, Thailand)
- 346 Anxiolytic-like activity of the adenosine A2A receptor antagonist, istradefylline (KW-6002) in rodent models of anxiety
K. Yamada, M. Kobayashi, J. Kase, A. Mori, P. Jenner, T. Kanda (Shizuoka, Japan)
- 347 Anxiety in patients with Parkinson's disease
K. Zhu, J.J. van Hilten, J. Marinus (Leiden, Netherlands)
- 348 Diagnostic value of combined acute levodopa challenge and olfactory testing to predict Parkinson's disease diagnosis
M. Rossi, C. Terroba Chambi, A. Bril, P. Millar Vernetti, D. Cerquetti, A. Cammarota, M. Merello (Buenos Aires, Argentina)
- 349 Alpha-synuclein aggregates of cardiac sympathetic nerves in synucleinopathies and in neurologically unimpaired subjects. Correlation with sympathetic denervation
M. Carmona-Abellán, I. Marcilla, I. Martínez-Valbuena, T. Tuñón, R. Luquin-Piudo (Pamplona, Spain)



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- 350 Impaired hippocampal neurogenesis associates with serotonergic axonal degeneration in transgenic rat and mouse models of Parkinson's disease
Z. Kohl, J. Deuber, D. Amato, C.P. Müller, O. Riess, E. Masliah, S. Nuber, J. Winkler (Erlangen, Germany)
- 351 Awareness and perception of gastrointestinal symptoms in Parkinson's disease: A survey of patients and caregiving relatives
P. Themann (Halsbrücke, Germany)
- 352 Assessment of gait dysfunction in patients with Parkinson's disease and REM behavioral disorder
L.R. Niemand, A. Dang, C. Singer, C.C. Luca (Miami, FL, USA)
- 353 Unawareness of causes of sudden deterioration in Parkinson's patients in movement disorder clinic
V. Paramanandam, D.A. Olszewska, C. Fearon, B. Magennis, T. Lynch (Dublin, Ireland)
- 354 Motor rigidity selectively associates with impaired odor identification in Parkinson's disease
J.D. Haugen, M.L.T.M. Muller, V. Kotagal, K.A. Frey, R.L. Albin, N.I. Bohnen (Ann Arbor, MI, USA)
- 355 Dementia in Parkinson's disease is associated with increased diffusivity in amygdala and external capsule
A. Umemura, T. Oeda, K. Yamamoto, M. Kohsaka, S. Tomita, K. Park, H. Sugiyama, H. Sawada (Kyoto, Japan)
- 356 Depression, anxiety, and apathy in Parkinson's disease: Insights from neuroimaging studies
M.C. Wen, L.L. Chan, L.C.S. Tan, E.K. Tan (Singapore)
- 357 Longitudinal assessment of sleep in an incident Parkinson's disease cohort
S.T. O'Dowd, G.W. Duncan, T.K. Khoo, A.J. Yarnall, R.A. Lawson, D.J. Burn, K.N. Anderson (Newcastle upon Tyne, United Kingdom)
- 358 Retinal nerve fiber layer thinning: A window into rapid eye movement sleep behavior disorders in Parkinson's disease
C.J. Mao, Z.J. Yang, J. Wei, J.R. Zhang, Y.P. Yang, C.F. Liu (Suzhou, People's Republic of China)
- 359 Emotional valence and arousal ratings from rewarding and fearful stimuli are not influenced by levodopa in Parkinson's disease
T. Serranova, T. Sieger, P. Dušek, E. Ruzicka, R. Jech (Prague, Czech Republic)
- 360 P100 latency of pattern reversal visual evoked potential and visual hallucination in Parkinson's disease
M. Kohsaka, T. Oeda, A. Umemura, S. Tomita, K. Park, K. Yamamoto, H. Sugiyama, H. Sawada (Kyoto, Japan)
- 361 Impaired color discrimination selectively associates with postural instability and gait difficulties in Parkinson's disease
J.D. Haugen, M.L.T.M. Muller, N.I. Bohnen (Ann Arbor, MI, USA)
- 362 Anosmia predicts development of more severe motor symptoms including freezing of gait and impaired balance at 2 year follow-up in PD
N.I. Bohnen, J. Haugen, V. Kotagal, K.A. Frey, R.L. Albin, M.L.T.M. Muller (Ann Arbor, MI, USA)
- 363 Clinical profile of Parkinson's disease at the neurology department of Point G Teaching Hospital
T. Coulibaly, A.S. Sissoko, T. Coulibaly, L. Guida, K. Mamadou, G.C. Oumar (Bamako, Mali)
- 364 Quality of life after subthalamic stimulation depends on non-motor symptoms in Parkinson's disease
H.S. Dafsari, L. Weiss, M. Silverdale, P. Reddy, A. Rizos, M. Samuel, E. Perrier, J. Evans, K. Ashkan, J.N. Petry-Schmelzer, V. Visser-Vandewalle, A. Antonini, P. Martinez-Martin, K.R. Chaudhuri, L. Timmermann (Cologne, Germany)
- 365 Evolution of mild Parkinsonian signs in a longitudinal population-based cohort
J. Hampf, S. Tunc, J. Graf, K. Hükelheim, E.J. Vollstedt, B. Staemmler, C. Klein, M. Kasten (Luebeck, Germany)
- 366 Does link between fatigue syndrome and camptocormia in patients with Parkinson's disease exist?
V. Datieva, O. Levin (Moscow, Russia)
- 367 Prevalence and risk factors for orthostatic hypotension in early PD
C. McDonald, R.A. Lawson, G.W. Duncan, T.K. Khoo, D.J. Brooks, R.A. Barker, A.J. Yarnall, D.J. Burn (Newcastle upon Tyne, United Kingdom)
- 368 Measurement of night time sleep using an accelerometry based system
M. Horne, S. McGregor, G. Hamilton, D. O'Driscoll, R. Blaze, P. Churchward (Parkville, Australia)
- 369 Application of Parkinson's well-being map to assess impairment of digestive system in patients of Tomsk region, Russia
Y. Mironova, I. Zhukova, N. Zhukova, V. Alifirova, O. Izhboldina, A. Latypova, M. Nikitina (Tomsk, Russia)
- 370 Sleep disordered breathing in patients of Parkinson's disease with REM sleep behavior disorder
R. Yadav, N. Kamble, J. Saini, K. Kumar, P.K. Pal (Bangalore, India)
- 371 Apathy and striatal dopamine defects in non-demented patients with Parkinson's disease
S.J. Chung, J.J. Lee, J.H. Ham, P.H. Lee, Y.H. Sohn (Seoul, Korea)
- 372 The non-motors symptoms in Parkinson's disease patients with freezing of gait
H.C. Huang, M.K. Lu, C.H. Tsai (Taichung, Taiwan)
- 373 The effects of dysphagia course for speech & language pathologist in Israel on clinical-related knowledge and confidence
Y. Manor, H. Shabtai, O. Sella (Tel-Aviv, Israel)
- 374 Parkinson's disease prodromal dysautonomia versus pure autonomic failure and MSA
M. Rosso, A. Merola, A.J. Espay, S. Maule, M. Zibetti, A. Romagnolo, L. Lopiano (Torino, Italy)
- 375 Longitudinal evolution of possible REM sleep behavior disorder in early Parkinson's disease
W. Oertel, T. Simuni, C. Caspell-Garcia, J. Long, C.S. Coffey, A. Iranzo, G. Mayer, L. Chahine, S. Lasch, K. Marek, On behalf of the PPMI Sleep Working Group (Marburg, Germany)
- 376 Impulse control disorders after STN DBS for Parkinson's disease
P.G. Frederic, P. Camille, J. Nicolas, S. Abbas, F. Maria, P. Michel (Montreal, QC, Canada)
- 377 Analysis of the olfactory impairments in PINK1 deficient mice
A. Hummel, A. Zimprich, L. Garret, B. Sperling, F. Giesert, J. Nagler, H. Fuchs, V. Gailus-Durner, M. Hrabé de Angelis, S.M. Koch, D. Vogt Weisenhorn, W. Wurst (Neuherberg, Germany)



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- 378 Modulation and mechanism for the neuroprotective effects of 17-beta-estradiol: Relevance to depressive symptoms in Parkinson's disease
 P. Kumar, N. Baquer (New Delhi, India)
- 379 Validation study of Parkinson anxiety scale, Czech version
 N. Zemanová, M. Baláz (Brno, Czech Republic)
- 380 Associated and predictive factors of depressive symptoms in patients with Parkinson's disease
 K. Zhu, J.J. Van Hilten, J. Marinus (Leiden, Netherlands)
- 381 Nighttime sleep problems in patients with Parkinson's disease: Risk factors and longitudinal associations
 K. Zhu, J.J. van Hilten, J. Marinus (Leiden, Netherlands)
- 382 Gender differences in heart rate variability among patients affected by Parkinson's disease
 P. Solla, E. Erriu, C. Cadeddu, L. Cugusi, G. Costantini, S. Nieddu, M.R. Aresu, R. Farris, M. Meloni, D. Fonti, G. Mercurio, F. Marrosu (Monserrato (Cagliari), Italy)
- 383 Impact of autonomic dysfunction on disease progression and survival in Parkinson's disease
 E. De Pablo-Fernandez, C. Tur, T. Revesz, J.L. Holton, T.T. Warner (London, United Kingdom)
- 384 Exploring association of GBA variants with pre-diagnostic features of PD in the PREDICT-PD cohort: A nested case-control study
 L. R'Bibo, N.E. Mencacci, A. Schrag, J.P. Bestwick, L. Peress, J. Masters, G. Giovannoni, A.J. Lees, J. Hardy, N.W. Wood, A.J. Noyce (London, United Kingdom)
- 385 Blunted perception of respiratory resistive loads in Parkinson's disease
 K.W. Hegland, M.S. Troche, M.S. Okun, A.E. Brandimore (Gainesville, FL, USA)
- 386 A computerized cognitive behavioral therapy randomized, controlled, pilot trial for insomnia in Parkinson's disease (The ACCORD-PD study)
 S. Patel, O. Ojo, G. Genc, L. Wang, J. Benab, M. Drerup, N. Foldvary, A. Ahmed, H.H. Fernandez (Cleveland, OH, USA)
- 387 Identification of barriers preventing disclosure of non-motor symptoms in Parkinson's patients to healthcare providers
 C.S. Hurt, L. Rixon, K.R. Chaudhuri, R. Moss-Morris, M. Samuel, R.G. Brown (London, United Kingdom)
- 388 Non motor symptoms burden and motor staging of Parkinson's disease: Evidence for dichotomy and non-motor dominant subtypes from analysis of 249 cases
 K. Ray Chaudhuri, A. Sauerbier, T. Thavayogarajah, A. Rizos, L. Perkins, C. Rodriguez Blazquez, P. Martinez-Martin, On behalf of EUROPAR, the MDS Non-Motor PD Study Group, The NILS Group (London, United Kingdom)
- 389 Impulse control disorders in Parkinson's disease - Determinants and effect of DBS
 A.K. Puligopu, P.K. Pesala, V.V.P. Kagita, R.M. Kandadai, S.A. Jabeen, M.A. Kanikannan, R. Borgohain, A. Kumar (Hyderabad, India)
- 390 Dopaminergic therapy and its influence on the olfactory function of patients with Parkinson's disease
 O. Izhboldina, I. Zhukova, N. Zhukova, V. Alifrova, A. Latypova, M. Nikitina, Y. Mironova (Tomsk, Russia)
- 391 Longitudinal evolution of excessive daytime sleepiness in early Parkinson's disease
 T. Simuni, C. Caspell-Garcia, J. Long, C.S. Coffey, W. Oertel, S. Lasch, K. Marek, On behalf of the PPMI Sleep Working Group (Chicago, IL, USA)
- 392 Baseline prevalence and longitudinal evolution of non-motor symptoms in early Parkinson's disease. PPMI cohort
 T. Simuni, D. Weintraub, C. Caspell-Garcia, M. Walker, C.S. Coffey, S. Lasch, C. Tanner, D. Jennings, K. Kiebertz, K. Marek, On behalf of the PPMI Investigators (Chicago, IL, USA)
- 393 Effects of antidepressants on gait parameters in Parkinson's disease
 D. Martinez-Ramirez, J.C. Giugni, W. Deeb, M.S. Okun, C.J. Hass (Gainesville, FL, USA)
- 394 Usefulness of total neuropathy score revised as a screening tool of peripheral neuropathy in patients with Parkinson's disease
 P.W. Ko, J.S. Park, K. Kang, H.W. Lee (Daegu, Korea)
- 395 Vocal fold augmentation in patients with Parkinson's disease: A case series and review of the literature
 A.A. Thekdi (Houston, TX, USA)
- 396 Clinical and biological predictors of excessive daytime sleepiness in early Parkinson's disease
 T. Simuni, J. Long, C. Caspell-Garcia, C.S. Coffey, W. Oertel, S. Lasch, K. Marek, On behalf of the PPMI Sleep Working Group (Chicago, IL, USA)
- 397 Frequency and characteristics of diplopia in non-demented patients with Parkinson's disease
 K.A. Schindlbeck, W. Naumann, D.J. Friedrich, S. Schönfeld, A. Maier, F. Klostermann, F. Marzinik (Berlin, Germany)
- 398 Dopamine transporter, depression and anxiety differences between tremor-predominant and non-tremulous PD are already evident within 2 years of PD diagnosis
 Q. Hu, F. Zhou, C.P. Jedynek, L.S. Rosenthal, Z. Mari, B.M. Jedynek (Baltimore, MD, USA)
- 399 Neurocognitive domains of impulsivity in Parkinson's disease (PD) and the effects of dopaminergic replacement therapy (DRT)
 M. Sousa, N. Canário, F. Moreira, C. Duarte, M. Castelo-Branco, C. Januário (Coimbra, Portugal)
- 400 Neuropsychological assessment in the Luxembourg Parkinson's cohort (HELP-PD)
 G. Hipp, P. Kolber, K. Roomp, M. Kerschenmeyer, S.K. Mosch, L. Longhino, A. Schweicher, M. Faltz, V.P. Satagopam, N. Goncharenko, M. Gantenbein, M. Vaillant, F. Betsou, A. Chioti, R. Schneider, R. Schneider, R. Balling, N.J. Diederich, R. Krüger (Belvaux, Luxembourg)
- 401 First documented case of burning mouth syndrome (BMS) responsive to levodopa-carbidopa intestinal gel (LCIG) infusion in Parkinson's disease (PD)
 X.X. Yu, H. Fernandez (Cleveland, OH, USA)
- 402 Speech evaluation in Parkinson's disease using a transcribed version of the Frenchay dysarthria assessment
 M. Löhle, A. Zenker, R. Jäckel, C. Bosredon, R. Hoffmann, A. Storch (Rostock, Germany)
- 403 Identification of premotor Parkinson's disease
 K.C. Hughes, X. Gao, M.A. Schwarzschild, A. Ascherio (Boston, MA, USA)



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- 404 Allele specificity in neurodegenerative olfactory dysfunction
B.A. Chase, K. Markopoulou, P. Robowski, A. Strongosky, E. Narozanska, E.J. Sitek, M. Berdyski, M. Barcikowska, M.C. Baker, R. Radamakers, J. Slawek, Z.K. Wszolek (Omaha, NE, USA)
- 405 Fundamental differences in Parkinsonian rat limbic regions contribute to anxious behavior and diminished responsiveness to diazepam
K.A. O'Connor, P.J. Feustel, A. Ramirez-Zamora, E. Molho, J.G. Pilitsis, D.S. Shin (Albany, NY, USA)
- 406 Clinical features of Parkinson's disease patients developing stridor with acute respiratory failure
J. Tashiro, S. Hamada, H. Soma, M. Nonaka, S. Honma, K. Hamada, A. Takei, F. Moriwaka, K. Tashiro (Sapporo, Japan)
- 407 Deep brain stimulation of the globus pallidus interna improves performance in complex oculomotor tasks
C.A. Antoniadis, P. Rebelo, C. Kennard, T. Aziz, A.L. Green, J.J. FitzGerald (Oxford, United Kingdom)
- 408 Frequency and factors associated with neuropathic pain in patients with Parkinson's disease
J.F. Pascacio-Astudillo, A.L. Bazán-Rodríguez, M. Rodríguez-Violante, A. Cervantes-Arriaga (Mexico City, Mexico)
- 409 Parasacral effects of electrical stimulation on lower urinary tract symptoms and constipation in patients with Parkinson's disease: Preliminary data
I.V. Brandi, L.F. Silva, A.M. Lanzarini, A.F.A. Musengante (Salvador, Brazil)
- 410 Headache in patients with Parkinson's disease: Pilot study results
V. Aldinio, N.S. Araoz Olivos, R. Maiola, F.E. Micheli (Buenos Aires, Argentina)
- 411 Characterization of burning mouth syndrome in patients with Parkinson's disease
P.J. Blanchet, D. Bonenfant, P.H. Rompré, N. Rei, N. Jodoin, V.L. Soland, V. Rey, C. Brefel-Courbon, F. Ory-Magne, O. Rascol (Montreal, QC, Canada)
- 412 Withdrawn by Author
- 413 Non-motor symptoms in advanced Parkinson's disease patients treated with levodopa/carbidopa intestinal gel, deep brain stimulation, or continuous subcutaneous apomorphine: A systematic literature review and pooled analysis
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- 414 Musical ear syndrome as a presenting symptom of Lewy body disorder
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- 415 Preliminary results of a cross-linguistic comparison on dysarthria in Parkinson's disease
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- 417 Parkinsonism risk factors in Salt Lake City, Utah
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- 418 E-counselling to movement disorder callers in Africa
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- 420 Head and trunk control during stair ascent and descent in people with Parkinson's disease
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- 422 Translation of the European physiotherapy guideline for Parkinson's disease to Portuguese
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- 423 An innovative international educational network to improve physicians' current management practices of patients with cervical dystonia and spasticity
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- 424 Introducing the 2nd edition of the occupational therapy for people with Parkinson's: Best practice guidance
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- 425 The National Parkinson Foundation mentoring and networking program: Phase I the process
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- 426 Withdrawn by Author
- 427 Withdrawn by Author
- 428 Efficacy of deep brain stimulation (DBS) patient education and post operative support: A summary of 3 months monitoring of unscheduled patient phone requests. An Australian private neurology clinic experience
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- 429 Barriers to providing quality care for people with Parkinson's living in care homes in the UK: The role of staff training
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- 430 Patient-centered educational intervention using hand-held electronic devices
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- 431 The impact of a movement disorders specialist on resident knowledge, as measured by the resident in-service training examination (RITE)
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- 432 Increased access to training in a Parkinson-specific rehabilitation approach through online learning
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- 433 Pshychoeducational interventions for demented patients with parkinsonism and their families
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- 434 Moist smokeless tobacco (Snus) use and risk of Parkinson's disease: Meta-analysis of individual participant data from seven prospective observational studies
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- 435 Dynamics in statin use, low density lipoprotein cholesterol levels and Parkinson's disease. A population-based cohort study using big-data
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- 436 Frequency of non-motor symptoms in Iranian patients with Parkinson's disease
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- 437 Cardiovascular and cerebrovascular disorders are associated with a higher prevalence of parkinsonism: Data from a neuroepidemiologic community-based survey
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- 438 Prevalence of Parkinson's disease and myotonic dystrophy in the nomadic population: Mongolian study
 T. Sosorburam, B. Samdan, J. Amar (Ulan-Bator, Mongolia)
- 439 Disease progression and clinical characteristics of Parkinson's disease patients with type 1 diabetes – An analysis on 18,162 patients from the DPV registry
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- 440 Dementia in adult type 2 diabetes patients – An analysis from the multicenter German/Austrian diabetes patient follow-up registry DPV
 N. Prinz, L. Wang, J. Stingl, M.D. Denking, P. Fasching, P.M. Jehle, S. Merger, S. Mühlendorfer, A. Schuler, A. Zeyfang, M. Sharma, R.W. Holl (Ulm, Germany)
- 441 Statistical aspects when exploring the association between change in body mass index (BMI), UPDRS scores and survival in the NET PD long-term study-1
 A. Perez, A.M. Wills, J. Wang, X. Su, J. Morgan, S.S. Rajan, M. Leehey, G.M. Pontone, K.L. Chou, C. Umeh, Z. Mari, J. Boyd, For the NINDS NET-PD Investigators (Austin, TX, USA)
- 442 Are inflammatory bowel disease and/or treatment with aminosalicylates protective factors against Parkinson's disease?
 F. Escamilla-Sevilla, J. Pinel-Ríos, C.J. Madrid-Navarro, R. Piñar-Morales, J.D. Herrera-García, M.J. Pérez-Navarro, C. Del Canto-Pérez, M.J. Cabello-Tapia, M.d.m. Martín-Rodríguez, D. Sánchez-Capilla, M.J. Piña-Vera, A. Aguilar-Muñoz, V. Campos-Arillo, J. Gutiérrez-García, C.E. Chamorro-Santos, M.R. Gómez-García, A. Mínguez-Castellanos (Granada, Spain)
- 443 Prevalence of Parkinson's disease in Ukraine
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- 444 Underutilization of physiotherapy for Parkinson's disease in the United States
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- 445 Burden of movement disorders in Cameroon: In/out patient population study
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- 446 Phenotypic differences between African American and Caucasian Parkinson's disease patients
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- 447 Demographic feature and clinical characteristic of patients with Parkinson's disease in Isfahan, Iran
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- 448 Predictors of transfer to community hospital or nursing home after discharge of inpatients with Parkinson's disease: A Japanese single center retrospective study
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- 449 The finger tapping and disrupted smooth pursuit to detect the hepatic encephalopathy: Results of the subgroup analysis of movement disorders in non-Wilsonian hepatic cirrhotic patients
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- 450 Comorbid conditions associated with Parkinson's disease: A longitudinal study
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- 452 Parkinsonian syndrome prevalence in the world
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- 454 Parkinson's in an aging population: Implications from a nation-wide prevalence and incidence study in New Zealand
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- 455 Types of farming and prevalence and incidence of Parkinson's disease: French nationwide study
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- 456 Development and external validation of a prognostic model of mortality in Parkinson's disease
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- 457 Cardiometabolic syndrome and risk of Parkinson's disease: A case-control study in Mexican population
 G. Parra-López, L. Bazán-Rodríguez, M. Rodríguez-Violante, A. Cervantes-Arriaga, A. Jorge de Saráchaga, M. Escobar-Barrios, E. Carreón-Bautista (Mexico City, Mexico)



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- 458 Prevalence of hemifacial spasm in Northern Cyprus
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- 459 Long-term incidence of Parkinson's disease in rural areas of Finland
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- 460 Characteristics of patients initiating droxidopa for the treatment of neurogenic orthostatic hypotension (nOH)
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- 475 Physical therapy practice variability and outcomes for people with Parkinson's disease: Data from the National Parkinson Foundation quality improvement initiative (NPF-QII)
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- 477 Comparing psychosocial risk factors in patients with functional movement disorders and patients with psychogenic non-epileptic seizures
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- 478 Gender effect on non-motor symptoms in Parkinson's disease: Are men more at risk for most of them?
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- 481 Recognition of parkinsonism in African Americans in a community-based sample
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- 488 Jan Evangelista Purkinje: Contributions to study of anatomy and physiology of movement disorders
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- 490 Medication errors: The role of the nurse in an interdisciplinary home visit program for advanced Parkinson's disease patients
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- 491 Dyadic decision making & decisional satisfaction in advanced Parkinson's disease
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- 492 Effectiveness of occupational therapy multi-domain group therapy program for Parkinson's disease
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- 502 Motor symptoms in patients with early stages of Parkinson's disease
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- 503 Feasibility and preliminary outcomes of an interdisciplinary home visit program for patients with advanced Parkinson's disease
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- 504 Meaningful life attitudes support positive coping in patients with idiopathic Parkinson's disease
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- 505 Quality of life of Parkinson's disease patients in a tertiary hospital in Hong Kong
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- 506 Patients' employment status and quality of life affect caregivers burden in Parkinson's disease in Singapore
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- 507 Impact of subclinical apathy prior to deep brain stimulation on the quality of life of patients with Parkinson's disease
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- 508 Relationship between the MDS-UPDRS and quality of life in Parkinson's disease: A large international multicenter study of 3206 patients (the QUALPD study)
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- 510 The changing profile of informal carers for people with Parkinson's with disease progression
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- 511 Predictors of clinically meaningful change in PDQ-39 in Parkinson's disease
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- 513 Promoting optimal physiotherapy practice worldwide: Role of the Association of Physiotherapists in Parkinson's disease Europe (APPDE)
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- 516 Assessment of malnutrition in patients with Parkinson's disease
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- 517 Life expectancy and dementia – Two sides of the coin in Parkinson's disease
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- 522 The value of preference-based measures of quality of life in people with Parkinson's: A systematic review
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- 523 Treating Parkinson's 2015 – A nationwide survey of treatment responses and complications in 1000 Irish patients with Parkinson's disease
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- 525 Quality of life and living with Parkinson's in Ireland
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- 526 Implications of direct and indirect costs in health-related quality of life in Parkinson's disease: A cross-sectional study in Mexico
M. Rodríguez-Violante, A. Jorge de Saráchaga, A. Cervantes-Arriaga, H. Soto-Molina, M. Márquez-Cruz (Mexico City, Mexico)
- 527 The care needs project: Understanding the experience of people with Parkinson's in institutional care and understanding the care needs of people with Parkinson's
A. Hand, R.W. Walker, W.K. Gray, L.L. Oates (North Shields, United Kingdom)
- 528 Influence of vibration to quality of life of patients with Parkinson's disease
V. Rashidov (Tashkent, Uzbekistan)
- 529 Quality of life and epidemiological profile of patients undergoing botulinum toxin treatment
G. Amorelli, L.F. Vasconcellos, M. Spitz, L.F. Fraga (Rio de Janeiro, Brazil)
- 530 Preliminary results for a study on quality of life in Huntington's disease patients and their caregivers in Peru
A. Vishnevsky, M.A. Inca-Martinez, M. Illanes-Manrique, M. Cornejo-Olivas (Lima, Peru)
- 531 Impact of self-efficacy education on physical and psychosocial functioning in newly-diagnosed Parkinson patients
D. Cook, C. McRae, R. Kumar (Englewood, CO, USA)
- 532 The effect of a structured medication review on quality of life in patients with Parkinson's disease. An interim analysis
A. Verbeek, N. Oonk, E. Munster, K. Movig, K. ter Huurne, H. Nijmeijer, J. van der Palen, L. Dorresteyn (Eerbeek, Netherlands)
- 533 The association between objectively measured physical activity and health-related-quality of life in people with Parkinson's disease
J.M.T. Van Uem, I. Liepelt-Scarfone, B. Cerff, M. Kampmeyer, J. Prinzen, M. Zuidema, M.A. Hobert, S. Hucker, S. Del Din, S. Gräber, D. Berg, W. Maetzler (Tübingen, Germany)
- 534 My PD Journey: Experiences reported by people with Parkinson's disease in several European countries – A quantitative and qualitative study
A. Schrag, O. Rascol, R. Merritt, S. Hotham, G. Bartl, L. Graham, On behalf of the European Parkinson's Disease Association (EPDA) and the Movement Disorder Society- European Section European Section (London, United Kingdom)
- 535 Broadening the evaluative scope of quality of life in Parkinson's: Testing the construct validity of the ICECAP-O instrument
Y. Xin, J. Lewsey, R. Gray, C.E. Clarke, E. McIntosh (Glasgow, United Kingdom)
- 536 Evaluation of stigmatization and quality of life before and after botulinum toxin treatment in hemifacial spasm
B. Yuksel, F. Genc, A. Yaman, P. Dogan Ak, E. Ozaydin Goksu, A. Aybar, Y. Bicer Gomceli (Antalya, Turkey)
- 537 Twelve-week sensor assessment in Parkinson's disease: Impact on quality of life
J.M.T. Van Uem, K.S. Maier, A.T. Santos, O. Fagerbakke, F. Larsen, J.J. Ferreira, W. Maetzler (Tübingen, Germany)
- 538 How long is the wait to see a Parkinson's disease specialist in the United States?
S.G. Reich, K. Holmes, J. Martello, K. Maki (Baltimore, MD, USA)
- 539 Measuring interdependence of the health status of people with Parkinson's disease and their spouses
F. Noubary, S.D. Gunnery, E.M. Naumova, M. Saint-Hilaire, C.A. Thomas, L. Tickle-Degnen (Boston, MA, USA)



Abstracts by Topic

- 540 The social value of improvement in activities of daily living from levodopa-carbidopa intestinal gel use among the advanced Parkinson's disease population
 K. Sail, T. Shih, J. Sullivan, J. Yash, E. Eijndhoven, C. Zadikoff, T. Marshall, D. Lakdawalla (Mettawa, IL, USA)
- 541 Longitudinal assessment of caregiver strain in Parkinson's disease
 C.K. Okoro, P. Schmidt, S.S. Wu, J.G. Goldman (Chicago, IL, USA)
- 542 Assessing the impact of PD motor symptom states on quality of life in patients with advanced Parkinson's disease
 Y. Jalundhwala, P. Kandukuri, T. Marshall, A. Yucel, K. Chatamra, K. Sail (Mettawa, IL, USA)

Technology

- 543 Quantification of postural stability in Parkinson's disease patients utilizing mobile technology
 J.L. Alberts, M.M. Koop, S.M. Linder, T. Dey, S.J. Ozinga (Cleveland, OH, USA)
- 544 Potential advantages of high resolution lead designs for deep brain stimulation
 J. Wu, M. Astrom, G. Molnar (Minneapolis, MN, USA)
- 545 Can body worn cameras help us understand the complex relationship between physical activity and falls in people with Parkinson's?
 K. Baker, M. Harvey, J. Monaghan, L. Rochester (Newcastle Upon Tyne, United Kingdom)
- 546 Evaluating Parkinsonian motor features via the routine use of consumer electronics - neuroQWERTY
 Á. Sánchez-Ferro, C.S. Mendoza, I. Butterworth, M. Matarazzo, P. Montero, R. Trincado, T. Arroyo Gallego, V. Puertas Martín, M.J. Catalán, J.A. Molina, F. Bermejo-Pareja, L. Giancardo (Móstoles, Spain)
- 547 sFIDA: A sensitive diagnostic assay for quantification of α -synuclein aggregates
 T. Bujnicki, C. Zafiu, O. Bannach, D. Willbold (Jülich, Germany)
- 548 Wrist reveals the fall risk in activities of daily living
 T. Pozaic, R. Foell, A.K. Grebe, W. Stork (Waiblingen, Germany)
- 549 Objective decrement in Parkinson's disease – A new parameter for the BRAIN tap test
 H. Hasan, D.S. Athauda, T. Foltynie, G. Giovannoni, T. Warner, A.J. Lees, A. Noyce (East Riffa, Bahrain)
- 550 Validation of an electronic motor diary for patients with Parkinson's disease
 A. Medina, D. Cerquetti, F. Nanni, M. Rossi, M. Merello (Buenos Aires, Argentina)
- 551 Caring for the majority: Telemedicine management of Parkinson's disease (PD) in underserved populations in People's Republic of China: A randomized trial
 P.B. Chan, S. Liu, Z. Gu, J. An, C.M. Tanner (Beijing, People's Republic of China)
- 552 A strategy to classify Parkinson's disease patients with dyskinesia: The analysis of center of pressure with impact of cognitive loading
 W. Buated, P. Lolekha, T. Fujinami, S. Hidaka (Nomi, Japan)
- 553 A validation study of a smartphone-based finger tapping application for quantitative assessment of bradykinesia in Parkinson's disease
 C.Y. Lee, S.J. Kang, Y.E. Kim, U. Lee, H.I. Ma, Y.J. Kim (Anyang-si, Gyeonggi-do, Korea)
- 554 Construction of a levodopa-response index from wearable sensors for quantifying Parkinson's disease motor functions: Preliminary results
 M. Memedi, D. Nyholm, J. Westin, M. Senek, A. Medvedev, H. Askmark, S.M. Aquilonius, F. Bergquist, R. Constantinescu, F. Ohlsson, J. Spira, S. Lycke, A. Ericsson (Falun, Sweden)
- 555 Prescribed gait tests versus continuous monitoring of gait in people with Parkinson's disease
 C. Curtze, J. McNames, M. El-Gohary, J.G. Nutt, M. Mancini, P. Carlson-Kuhta, F.B. Horak (Portland, OR, USA)
- 556 Diagnostic sensitivity and remote monitoring of motor and non-motor dysfunction in Parkinson's disease
 K. Muhammed, S. Arora, M. Hu, M. Husain (Oxford, United Kingdom)
- 557 Objective movement recording in PD patient before and after STN-DBS
 D. Flisar, B. Pikš, B. Meglic, Z. Pirtošek, G. Kramberger (Ljubljana, Slovenia)
- 558 Developing a new home monitoring device for dyskinesia in Parkinson's disease
 J.E. Alty, J. Cosgrove, M.A. Lones, S. Jamieson, P. Duggan-Carter, C. Peacey, C. Wicks, R.F. Naylor, A.J. Turner, S.L. Smith (Leeds, United Kingdom)
- 559 Objective data in Parkinson's disease therapy management – A retrospective analysis of the Parkinson's kinetigraph (PKG) database
 P. Lynch, Y. Zoellner, S. McGregor, M. Home (Minnetonka, MN, USA)
- 560 Monitoring dyskinesia severity using wearable sensor data
 J.F. Daneault, F.N. Golabchi, S.I. Lee, G. Vergara-Díaz, G. Ferreira Carvalho, E. Fabara, S. Sapienza, P. Bonato (Charlestown, MA, USA)
- 561 Clinically 'slight' bradykinesia in Parkinson's disease is accurately detected using evolutionary computation analysis of finger tapping
 J.E. Alty, J. Cosgrove, M.A. Lones, S.L. Smith, K. Possin, N. Schuff, S. Jamieson (Leeds, United Kingdom)
- 562 Effect of European physiotherapy guideline for Parkinson's disease and Microsoft Kinect® adventures games training on postural control, cognition and quality of life: Randomized clinical trial
 J.E. Pompeu, K.G. Silva, T.B. Freitas, R.A. Nuvolini, F. Doná, C. Torriani-Pasin, F.F. Ganaça, H.B. Ferraz (São Paulo, Brazil)
- 563 Sensor based gait analysis: Diagnostic application for apomorphine titration
 F. Marxreiter, H. Gassner, J. Barth, J. Schlachetzki, C. Thun, D. Volc, J. Winkler, B. Eskofier, J. Klucken (Erlangen, Germany)
- 564 A 12-month, 2-arm, 2-period, randomized, controlled trial of a digital solution for the management of Parkinson's disease (PD): Rationale and study design
 S. Papapetropoulos, G. Mitsi (Boston, MA, USA)
- 565 The method of biofeedback training for the patients with Parkinson's disease
 I.S. Goursky, S.A. Likhachev, V.V. Vashchilin (Minsk, Belarus)
- 566 Automated assessment of advanced motor Parkinson's disease; a pilot study of the Parkinson's KinetiGraph as an objective tool for measurement of motor fluctuations
 P. Bogdanova-Mihaylova, N. Kavanagh, R.A. Walsh (Dublin, Ireland)



Abstracts by Topic

- 567 Implementation of a mobile application in the Luxembourg Parkinson's study for identification and validation of disease stage and variation
R. Krüger, G. Hipp, M. Kerschenmeyer, P.L. Kolber, A. Trister, C. Suver, V.P. Satagopam, K. Roomp, S.K. Mosch, L. Longhino, A. Schweicher, M. Gantenbein, M. Vaillant, F. Betsou, A. Chioti, R. Schneider, R. Balling, S. Friend (Belvaux, Luxembourg)
- 568 Reliability and responsiveness of in-clinic and at-home app-based bradykinesia assessment
D.A. Heldman, E. Urrea Mendoza, L.C. Lovera, D.A. Schmerler, J.P. Giuffrida, A.J. Espay, J.X.O. Garcia, M.E. Mohammad, M.C.U. McFarlane, H.H. Fernandez (Cleveland, OH, USA)
- 569 Survey of telemedicine use among MDS members
A. Hassan, E.R. Dorsey, E. Cubo, C.G. Goetz, B.R. Bloem, M. Guttman, S.L. Heath, M. Katz, M. Spinder, C.M. Tanner, Z. Mari, A. Pantelyat, J.A. Bajwa, N.B. Galifianakis, E.M. Gatto (Rochester, MN, USA)
- 570 Automated Telehealth Diagnostics for Remote Parkinson Monitoring
D.A. Heldman, D.A. Harris, T. Felong, B. Goldberg, J.P. Giuffrida, E.R. Dorsey, M.A. Burack (Cleveland, OH, USA)
- 571 Testing feasibility and utility of remote data capture technology to assess Parkinson's disease
J. Carter, N. Hellmers, A. Hanineva, C. Henchcliffe (New York, NY, USA)
- 572 mPower: A smartphone-based study of Parkinson's disease provides personalized measures of disease impact
A.D. Trister, E.C. Neto, B.M. Bot, T. Perumal, A. Pratap, A. Klein, E.R. Dorsey, C.M. Tanner, S.H. Friend (Seattle, WA, USA)
- 573 Quantifying turning behavior in Parkinson's disease patients using mobile technology
M. Miller Koop, S.J. Ozinga, J.L. Alberts (Cleveland, OH, USA)
- 574 Analysis of temporal gait features extracted from accelerometer-based signals during ambulatory walking in Parkinson's disease
M. Boutaayamou, M. Demonceau, O. Brûls, J.G. Verly, G. Garraux (Liège, Belgium)
- 575 Technology use habits and preferences of a population with Parkinson's disease and their care partners
J.M. Dean (Boulder, CO, USA)
- 576 Spatial accuracy and reliability of the Microsoft Kinect V2 in the assessment of joint movement in comparison to marker-based motion capture (Vicon)
K. Otte, B. Kayser, S. Mansow-Model, A.U. Brandt, J. Verrel, T. Schmitz-Hübsch (Berlin, Germany)
- 577 Evaluation of kinematic parameters of potential clinical use extracted from Microsoft Kinect V2 motor assessments
K. Otte, B. Kayser, S. Mansow-Model, A.U. Brandt, J. Verrel, T. Schmitz-Hübsch (Berlin, Germany)
- 578 Quantitative assessment of advanced therapies in Parkinson's disease using the Parkinson kinetigraph (PKG)
R.L. Blaze, J. Tan, A.H. Evans (Parkville, Australia)
- 579 Efficacy and safety of a L-dopa delivery and monitoring medical device
Y.G. Tirat-Gefen (Fairfax, VA, USA)

Genetics (Non-PD)

- 580 Novel THAP1 missense mutation leading to focal and segmental dystonia
D. Crosiers, C. Van Broeckhoven, P. Cras (Edegem, Belgium)
- 581 Myoclonus Dystonia: A report of two rare mutations
A. Mahajan, C. Sidiropoulos (Detroit, MI, USA)
- 582 De novo mutations in PDE10A cause childhood-onset chorea with bilateral striatal lesions
N.E. Mencacci, E.J. Kamsteeg, L. R'Bibo, D. Lynch, B. Balint, M. Willemsen, M. Adams, S. Wiethoff, J. Ng, E. Meyer, L. Veneziano, P. Giunti, D. Hughes, M. Carecchio, G. Zorzi, C. Barzaghi, B. Garavaglia, N. Nardocci, V. Salpietro, J. Hardy, A. Pittman, H. Houlden, M. Kurian, L. Vissers, N. Wood, K. Bhatia (London, United Kingdom)
- 583 Withdrawn by Author
- 584 Development of the UK hereditary spastic paraplegia registry: Analysis of SPAST patients reveals high rate of psychiatric comorbidities
V. Chelban, A. Tucci, H. Houlden (Chisinau, Republic of Moldova)
- 585 Computational analysis of expression profiling data in a neuronal model of X-linked dystonia-parkinsonism
A. Domingo, A. David, G. Karen, L.V. Lee, R. Rosales, R.D. Jamora, R. Shamir, C. Klein, A. Westenberger (Lübeck, Germany)
- 586 TAF1 and its isoforms is underexpressed in different endogenous models of X-linked dystonia-parkinsonism
A. Domingo, K. Grütz, P. Seibler, P. Capetian, L.V. Lee, R. Rosales, R.D. Jamora, A. Westenberger, A. Rakovic, C. Klein (Lübeck, Germany)
- 587 DYT2 screening in early-onset isolated dystonia in Italy
C. Reale, F. Invernizzi, M. Carecchio, S. Petrucci, G. Zorzi, F. Zibordi, M. Ginevrino, E.M. Valente, N. Nardocci, B. Garavaglia (Milan, Italy)
- 588 Two new cases of a novel ovario-leukodystrophy related to AARS2 mutation from Korea
H.J. Yang, J.M. Lee, J.H. Kwon, S.T. Lee, H.J. Kim, B. Jeon (Ulsan, Korea)
- 589 Ninjurin 1 gene D110a single nucleotide polymorphism as a genetic marker for nerve damage leprosy patients from South India
A. Sundaramoorthy, S. Keshavarao, A. Valsala Gopalakrishnan (Coimbatore, India)
- 590 Expanding the spectrum of PEX10-related peroxisomal biogenesis disorders: Slowly progressive recessive ataxia
M. Renaud, C. Guissart, S. Ferdinandusse, D. Cheillan, O. Lagha-Boukbiza, M. Mallaret, J. Muller, C. Tranchant, M. Anheim, M. Koenig (Strasbourg cedex, France)
- 591 Primary progressive aphasia and frontotemporal dementia in an Irish-American family due to a novel progranulin mutation
D.A. Olszewska, A. McCarthy, E.D. Huey, I. Delon, G. Pope, A. Blanco-Campal, T. Lynch (Dublin, Ireland)
- 592 Expanding the spectrum of ATP1A3 related disorders: Continuum from alternating hemiplegia of childhood to rapid-onset dystonia parkinsonism?
S.A. Rodríguez-Quiroga, D. González-Moron, S.A. Vishnopska, G.L. Vigo, M. Cordoba, N. Medina, T. Arakaki, N.S. Garretto, M.A. Kauffman (Caba, Argentina)



Abstracts by Topic

- 593 Exome sequencing in dementia with Lewy bodies
 S.W. Scholz, J.T. Geiger, J. Ding, B. Crane, O. Pletnikova, C. Letson, T.M. Dawson, L.S. Rosenthal, A. Pantelyat, J.R. Gibbs, M. Albert, D.G. Hernandez, A.E. Hillis, A.B. Singleton, D.J. Stone, J.A. Hardy, J.C. Troncoso (Bethesda, MD, USA)
- 594 The relevance of movement disorders gene panels in clinical practice: How many patients are we sorting out?
 C. Barzaghi, C. Panteghini, M. Carecchio, A. Legati, V. Monti, C. Reale, F. Invernizzi, B. Garavaglia (Milan, Italy)
- 595 Phenotype and genotype variability of CACNA1A in a cohort of ataxia in Taiwan
 P.Y. Fong, T.H. Yeh, S.C. Lai, C.S. Lu (Taoyuan City, Taiwan)
- 596 Analysis of MAPT, GRN and C9orf72 genes in progressive supranuclear palsy, corticobasal syndrome and frontotemporal lobar degeneration in Russian population
 E.Y. Fedotova, N.Y. Abramycheva, M.S. Stepanova, A.S. Vetchinova, S.N. Illarionov (Moscow, Russia)
- 597 Familial SPG17/distal hereditary motor neuropathy type V–Complicated hereditary spastic paraplegia with many faces
 T. Musacchio, A.K. Zaum, N. Üceyler, C. Sommer, N. Pfeifroth, K. Reiners, E. Kunstmann, J. Volkmann, S. Rost, S. Klebe (Würzburg, Germany)
- 598 SLC6A17 mutations are not a common cause of intellectual disability and movement disorders in a large cohort of consanguineous Iranian families
 I.A. Meijer, L.J. Azcona, H. Darvish, C. Paisán-Ruiz (New York, NY, USA)
- 599 Hyperekplexia secondary to cumulative novel glycine pathway mutations
 S. Nandipati, S. Ceulemans, J. Friedman (La Jolla, CA, USA)
- 600 Genetic analysis of eighty-seven multiple system atrophy patients
 G. Franco, D. Ronchi, I. Trezzi, L. Borellini, F. Del Sorbo, B. Garavaglia, A.E. Elia, G. Ardolino, G. Mora, S. Bonato, N. Bresolin, G.P. Comi, A. Di Fonzo (Milan, Italy)
- 601 Clinical and genetic analyses in a cohort of the Taiwanese patients with apparently sporadic pure spastic paraplegia
 Y.Y. Chang, Y.F. Chen, T.H. Yeh, Y.R. Wu, C.H. Tsai, Y.C. Chang, W.J. Hwang, H.C. Kuo, C.C. Huang, C.C. Lin, Y.Y. Jian, H.C. Shen, C.S. Lu, M.Y. Lan (Kaohsiung, Taiwan)
- 602 Paediatric and adult-onset parkinsonism in Chediak-Higashi disease: A new family
 M. Carecchio, E. Salsano, A. Legati, C. Lamperti, E. Corsini, B. Garavaglia, D. Pareyson, D. Ghezzi (Milan, Italy)
- 603 Intracranial calcifications in children and adults: Molecular and phenotypic characterization from a tertiary referral centre
 C. Panteghini, M. Carecchio, D. Tonduti, C. Barzaghi, L. Magistrelli, A. Decio, L. Chiapparini, A. Pichiechio, S. Esposito, C. Pantaleoni, D. Riva, I. Moroni, S. Orcesi, N. Nardocci, B. Garavaglia, Cerebral Calcification Study Group (Milan, Italy)
- 604 Mutational analysis of GNAL gene in isolated dystonia patients from Spain
 P. Gómez-Garre, I. Huertas-Fernández, M.T. Cáceres-Redondo, A. Alonso-Canovas, I. Bernal-Bernal, A. Blanco-Ollero, M. Bonilla-Toribio, J.A. Burguera, M. Carballo, F. Carrillo, M.J. Catalán-Alonso, F. Escamilla-Sevilla, R. Espinosa-Rosso, M.C. Fernández-Moreno, J. García-Caldentey, J.M. García-Moreno, S. Giacometti-Silveira, J. Gutiérrez-García, S. Jesús-Maestre, E. López-Valdés, J.C. Martínez-Castrillo, M.P. Medialdea-Natera, C. Méndez-Lucena, A. Mínguez-Castellanos, M. Moya, J.J. Ochoa-Sepúlveda, T. Ojea, N. Rodríguez, I. Rubio-Agusti, M. Sillero-Sánchez, J. del Val, L. Vargas-González, P. Mir (Seville, Spain)
- 605 Correlation among DNA methylation status and LINE-1 expression in rat brain
 S. Mukherjee, K. Upadhyaya, D. Sharma (New Delhi, India)
- 606 A novel phenotype associated with GRN mutations: Spastic ataxia
 I. Faber, J.R.M. Prota, A.R.M. Martinez, B.S. Carvalho, Í.T. Lopes-Cendes, M.C. França Jr (Campinas, Brazil)
- 607 A clinico-genetical study in a large cohort of patients with spastic paraplegia type 4 (SPG4)
 A. Orlacchio, M. Mearini, L. Pedace, A. Casella, C. Montecchiani, F. Gaudiello, M. Maurialuisa, R. Massa, C. Caltagirone, R.P. Munhoz, J.L. Pedrosa, O.G.P. Barsottini, T. Kawarai (Rome, Italy)
- 608 Alternating hemiplegia of childhood (AHC) as a new presentation of adenylate cyclase 5 (ADCY5)-mutation-associated disease
 C. Max, A. Westenberger, N. Brueggemann, A. Domingo, K. Gruetz, H. Pawlack, A. Weissbach, A.A. Kuehn, J. Spiegler, A.E. Lang, J. Sperner, V.S.C. Fung, J. Schallner, G. Gillessen-Kaesbach, A. Muenchau, C. Klein (Lübeck, Germany)
- 609 A pilot study of whole exome sequencing in progressive supranuclear palsy
 K.Y. Mok, A. Tucci, R. de Silva, H.R. Morris, A.B. Singleton, H. Houlden, J. Hardy, IPDGC (London, United Kingdom)
- 610 The distinguishing clinical features of rapid-onset parkinson-dystonia (RDP) syndrome due to ATP1A3 mutations
 I.A. Meijer, R.A. Ortega, D. Raymond, N. Lubarr, V. Shanker, W.L. Severt, S. Bressman, L. Ozelius, R. Saunders-Pullman (New York, NY, USA)
- 611 A rare genetic transcriptomopathy syndrome involving TAF1 leading to insights into more common neurologic disorders, including X-linked dystonia-parkinsonism (XDP)
 G.J. Lyon (New York, NY, USA)

Parkinson's Disease: Genetics

- 612 FBOX07 mutation with juvenile parkinsonism and behavioral disorders
 M. Kuzu, F.N. Durmaz, Ç. Ulukan, H. Kaymakçalan, A.O. Çaglayan, C. Akbostanci (Ankara, Turkey)
- 613 Reduced thalamo-cortical functional connectivity in asymptomatic LRRK2 mutation carriers
 D. Vilas, B. Segura, C. Pont-Sunyer, M.J. Martí, Y. Compta, F. Valldeoriola, H. Baggio, M. Quintana, A. Bayés, J. Hernández-Vara, M. Calopa, M. Aguilar, C. Junqué, E. Tolosa (Barcelona, Spain)
- 614 Phenotypic characteristics in GBA-associated Parkinson's disease (PD): A study in a Greek population
 A.M. Simitsi, C. Koros, N. Papagiannakis, R. Antonelou, M. Moraitou, H. Michelakakis, M. Stamelou, L. Stefanis (Athens, Greece)
- 615 In utero delivery of scAAV9 mediates widespread brain transduction in rats and monkeys: Towards new models of Parkinson's disease
 M. Bourdenx, L. Chansel-Debordeaux, S. Dovero, V. Groughier, N. Dutheil, S. Brun, A. Espagna, L. Groc, Q. Li, C. Jimenez, E. Bezaud, B. Dehay (Bordeaux, France)
- 616 Response to thermal and pain stimulation and genetic variance for pain in patients with Parkinson's disease - Are they all related?
 A. Khlebtovsky, R. Dabby, Y. Rodity, I. Steiner, R. Djaldetti (Petach Tikva, Israel)



Abstracts by Topic

- 617 No RAB39B gene mutations in Chinese familial Parkinson's disease
J.F. Guo, J.F. Kang, X.X. Yan, B.S. Tang (Changsha, People's Republic of China)
- 618 Relationship between Alzheimer's disease GWAS-linked top hits and risk of Parkinson's disease with or without cognitive decline: A Chinese population-based study
J.F. Guo, Y.Q. Wang, X.X. Yan, B.S. Tang (Changsha, People's Republic of China)
- 619 Association of four new candidate genetic variants with Parkinson's disease in Han Chinese
L. Wang, L. Cheng, N.N. Li, W.J. Yu, X.Y. Sun, R. Peng (Chengdu, People's Republic of China)
- 620 Roles of combined functional catechol-o-methyltransferase genotypes in Chinese Parkinson's disease: A cross-sectional survey
Y. Qian, X. Yang, S. Xu, J. Liu, Q. Xiao (Shanghai, People's Republic of China)
- 621 Inflammatory profile discriminates clinical subtypes in LRRK2-associated PD
K. Brockmann, C. Schulte, N. Schneiderhan-Marra, A. Apel, C. Pont-Sunyer, D. Vilas, J. Ruiz-Martinez, M. Langkamp, J.C. Corvol, F. Cormier, T. Knorpp, T.O. Joos, A. Bernhard, T. Gasser, C. Marras, B. Schüle, J.O. Aasly, T. Foroud, J.F. Marti-Masso, A. Brice, E. Tolosa, D. Berg, W. Maetzler (Tübingen, Germany)
- 622 Parkinson's disease characteristics in patients with Gaucher's disease
A. Thaler, A. Mirelman, E. Shimoni, M. Victor, O. Assais, M. Grumberg, T. Gurevich, T. Shiner, M. Gana Weisz, A. Orr Urtreger, N. Giladi (Tel-Aviv, Israel)
- 623 Clinical phenotype of Parkinsonian patients with α -synuclein mutation: Our case report and review of the literature
P. Nigro, N. Tambasco, M. Romoli, S. Simoni, E. Sacchini, E. Brahim, E. Marsili, F. Ripandelli, P. Prontera, P. Calabresi (Perugia, Italy)
- 624 Dopamine D3 receptor Ser9Gly variant is a risk factor for impulse control disorders in Parkinson's disease
A. Kishore, S. Krishnamoorthy, R. Rajan, S. Sarma, M. Banerjee (Trivandrum, India)
- 625 Lysosomal alterations in peripheral blood mononuclear cells of Parkinson's disease patients
N. Papagiannakis, M. Xilouri, C. Koros, M. Stamelou, R. Antonelou, M. Maniati, D. Papadimitriou, M. Moraitou, H. Michelakakis, L. Stefanis (Chaidari, Greece)
- 626 Alpha-synuclein levels and dimerization in erythrocytes of Parkinson's disease patients
N. Papagiannakis, C. Koros, M. Stamelou, A.M. Simitsi, M. Maniati, R. Antonelou, D. Papadimitriou, G. Dermentzaki, M. Moraitou, H. Michelakakis, L. Stefanis (Chaidari, Greece)
- 627 Mitochondrial cardiolipin couples electron transport between ubiquinone and complex I to rescue PINK1 deficiency
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- 631 E326K GBA polymorphism and Parkinson's disease in Russian population
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- 632 Hereditary atypical parkinsonism with novel mutation of the VPS35 and FBXO7 genes
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- 633 LRRK2 G2019S mutation carrier with an unusual phenotype: Progressive logopenic aphasia
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- 634 Elucidating mechanisms of endogenous disease protection resulting in reduced penetrance in PINK1 deficiency
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- 635 Reduced lifespan and climbing ability observed in the overexpressing human α -synuclein without heat shock protein CNB115 in Parkinson's disease drosophila line
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- 636 The role of non-steroidal anti-inflammatory use in symptomatic and asymptomatic LRRK2 G2019S mutation carriers
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- 637 Elevated SNCA expression in CD45+ peripheral blood cells in patients with dementia with Lewy bodies
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- 639 Familial Parkinson's disease in Ireland
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- 640 Inhibition of the mitochondrial calcium uniporter (MCU) rescues dopaminergic neurons in pink1^{-/-} zebrafish
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- 642 The Faroese Parkinson's diseases research program- Multifactorial analyses of a complex syndrome
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- 643 Investigation of mosaicism for copy number variants in PD brain
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- 644 Exome sequencing in the Czech patients with early-onset Parkinson's disease
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- 645 Genetic analysis of CHCHD2 gene in Parkinson's disease in a Taiwanese population
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- 646 Genetic risk factors of dementia and psychosis in Parkinson's disease
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- 647 Genetic Identification of early-onset parkinsonism among Norwegian patients
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- 648 Lack of association between LRRK2 G2385R and cognitive dysfunction in Korean patients with idiopathic Parkinson's disease
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- 649 Frequency of GBA1 and LRRK2 G2019S mutations, and body mass index in Ashkenazi Jews
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- 650 Impulse control disorder associates with tyrosine hydroxylase 2 gene variants in Parkinson's disease patients subject to dopaminergic therapy
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- 653 Serum levels of polychlorinated biphenyls, CYP2B6 and neurodegenerative disease in the Faroe Islands
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- 654 Epigenome-wide association study of Parkinson's disease
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- 655 C9ORF72 intermediate repeat copies as a rare genetic cause of atypical Parkinsonian syndromes or Parkinson's disease complicated by psychosis in a Sardinian population
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- 656 Next-generation profiling to identify the molecular etiology of Parkinson's disease dementia
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- 657 Do environmental factors influence the age at onset of Parkinson's disease in LRRK2 G2019S carriers?
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- 659 Oligomeric alpha-synuclein and glucocerebrosidase activity levels in GBA-associated Parkinson's disease
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- 660 Vitamin D receptor polymorphisms and Parkinson's disease in a Korean population: Revisited
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- 661 Transient parkinsonism during pregnancy in patient heterozygous for Gaucher's disease: Case report
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- 663 Systematic review of autosomal recessive parkinsonism using the MDGene database protocol
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- 664 A web resource on levodopa-induced dyskinesia (LID) genetics
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- 665 Do mutations in the TGM6 (SCA35) gene cause early-onset Parkinson's disease?
 A. Westenberger, M. Svetel, N. Dragašević, I. Brænne, V. Dobričić, A.A. Hicks, A. Tomić, N. Kresojević, H. Pawlack, K. Grütz, A. Domingo, J. Erdmann, V.S. Kostic, C. Klein (Luebeck, Germany)
- 666 Effect of genetic variation in SNCA and APOE on cerebrospinal fluid protein levels in patients with Parkinson's disease and controls
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- 667 Protective effects of ATP13A2 in Parkinson's disease models
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- 669 Familial Parkinson's disease in the Province of Quebec
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- 670 Clinical exome sequencing - diagnostic yield in a sample of German patients with Parkinson's disease
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- 672 Longitudinal evaluation of motor and non motor symptoms among LRRK2 risk variants
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- 673 High throughput pooled-DNA sequencing of mendelian/susceptibility Parkinson's disease genes in Spanish population
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- 676 SMPD1 mutations, acid-sphingomyelinase activity and α -synuclein accumulation in Parkinson's disease
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- 678 Analysis of the genetic variability in Parkinson's disease from southern Spain
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- 679 Two cases of parkinsonism with atypical genetics
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- 680 Genetic variation near the SNCA gene associates with Parkinson's disease motor phenotype and progression
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- 681 Deletions at 22q11.2 in idiopathic Parkinson's disease: A combined analysis of GWAS data
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- 682 Risk prediction modeling in Parkinson's disease using genetic and environmental/lifestyle factors
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- 683 Premotor phase of PD in two GBA mutation carriers
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- 687 Paroxysmal exercise-induced dystonia within the phenotypic spectrum of ECHS1 deficiency
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- 690 Intracerebroventricular D-galactose injection provokes motor coordination impairment and cerebellar damage in Wistar rats
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- 692 The French experience of liver transplantation for severe neurological forms of Wilson disease
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- 694 L-dopa-responsive, diurnally fluctuating auricular tremor with tetrahydrobiopterin (BH4) deficiency
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- 695 Same cerebellar atrophy pattern in hyper- and hypokinetic movement disorders due to mitochondrial cytopathy
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- 696 Bristle hair may point to hereditary spastic paraplegia type SPG35/ FAHN
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- 697 Levodopa-responsive hereditary spastic paraplegia, SPG35, due to FA2H mutations in siblings
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- 698 Deficiency of HGPrt in Lesch-Nyhan disease is associated with abnormal dopaminergic neurodevelopment in vivo
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- 699 A heterozygous splicing variant in NPC2 in a patient with PSP
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- 700 Neurodegeneration with brain iron accumulation (NBIA): Two cases with different subtypes and a rare mutation
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- 701 Two siblings with action myoclonus renal failure syndrome
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- 707 Characterisation of the A30P mutation in alpha-synuclein gene in patient-derived cellular model of Parkinson's disease
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- 708 Clinical and neuroimaging outcomes up to 18 years after fetal tissue transplant for Parkinson's disease
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- 709 Unconventional chaperone inhibits alpha-synuclein amyloid formation by promoting off-pathway aggregation
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- 710 Parkinson's disease-associated Miro1 mutants cause mitochondrial dysfunction
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- 717 Integrity of the superior longitudinal fascicle and its relationship with anticipatory postural adjustments in people with Parkinson's disease and freezing of gait
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- 718 Relationships of cognitive functions and psychiatric symptoms with motor phenotypes in patients with untreated early-stage Parkinson's disease
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J. Shiraishi, T. Okazaki, M. Mizuba, K. Kajiwara, S. Saeki, R. Matsugaki, T. Takei, T. Uozumi (Fukuoka, Japan)
- 721 Influence of levodopa on functional brain connectivity in Parkinson's disease
S. Kobayashi, K. Asano, N. Matsuda, H. Kubo, M. Abe, Y. Ugawa (Fukushima-shi, Japan)
- 722 Pre-formed fibrils injection worsen pathology caused by AAV-mediated over expression of α -synuclein
L.S. Breger, P. Thakur, O.W. Wan, B. Mattsson, K. Luk, V.M. Lee, J. Trojanowski, A. Björklund (Lund, Sweden)
- 723 Identification of Usp8 as a toxicity modifying deubiquitinase for α -synuclein
Z. Alexopoulou, J. Lang, R. Perrett, H.T. Kim, A.L. Goldberg, O. Ansorge, T.A. Fulga, G.K. Tofaris (Oxford, United Kingdom)
- 724 PINK1-dependent clearance of depolarized mitochondria is driven by the UPS and can occur independently of (macro) autophagy
A. Rakovic, J. Ziegler, C.U. Mårtensson, J. Prasuhn, K. Shurkewitsch, P. König, H.L. Paulson, C. Klein (Luebeck, Germany)
- 725 Alpha-synuclein gene variants may predict neurostimulation outcome
D. Weiss, S. Herrmann, L. Wang, C. Schulte, K. Brockmann, C. Plewnia, T. Gasser, M. Sharma, A. Gharabaghi, R. Krüger (Tübingen, Germany)
- 726 Mitochondrial dysfunction in skin fibroblasts from single heterozygous ATP13A2 (PARK9) mutation carriers
J.S. Park, C. Klein, C.M. Sue (St. Leonards, Australia)
- 727 Defective ubiquitinated mitochondria accumulation in aged Parkinsonian LRRK2R1441G knockin mice
H.F. Liu, P.W.L. Ho, L.F. Li, G.C.T. Leung, C.S.C. Lam, M.H.W. Kung, D.B. Ramsden, S.L. Ho (Hong Kong)
- 728 The correlation between N30 SEP and motor function in Parkinson's disease
S.Y. Kang, Y.J. Kim, Y.H. Sohn, H.I. Ma (Hwaseong, Korea)
- 729 Vascular degeneration in Parkinson's disease
J. Guan, P. Yang, R.L.M. Faill, M. Dragunow, H.J. Waldvogel (Auckland, New Zealand)
- 730 Carrier mediated delivery system bearing dopamine for effective management of parkinsonism
V. Bhargava, S. Bhargava (Kanpur, India)
- 731 α -synuclein in peripheral organs decreases in Lewy body disease complicated by Alzheimer's disease
H. Sumikura, J. Fujigasaki, Y. Nakano, A. Uchino, Y. Saito, H. Mochizuki, S. Murayama (Tokyo, Japan)
- 732 A comprehensive characterisation of the salivary proteome of patients with Parkinson's disease
J.M. Masters, A.J. Noyce, S. Lynham, T.T. Warner, G. Giovannoni, G.B. Proctor (Herts, United Kingdom)
- 733 Vitamin D in early Parkinson's disease
I.M. Sleeman, T. Aspray, S. Coleman, G. Duncan, T.K. Khoo, I. Schoenmakers, L. Rochester, D.J. Burn, A.J. Yarnall (Newcastle, United Kingdom)
- 734 Microglia P2Y6 receptor is related to Parkinson's disease and involved in the neuroinflammatory process
X. Yang, Y. Lou, X. Wang, G. Liu, Y. Qian, J. Ding, S. Chen, Q. Xiao (Shanghai, People's Republic of China)
- 735 Increased anti-MAG autoantibodies titers in Parkinson's disease
E. Papuc, K. Rejdak (Lublin, Poland)
- 736 Toward a new biomarker on Parkinson's disease: Study of alpha synuclein on upper enteric system by endoscopy
N. Ben Ali, S. Mrabet, S. Hawet, R. Debiche, S. Belal (Tunis, Tunisia)
- 737 Alpha-synuclein in gastric and colonic mucosa in Parkinson's disease: Limited role as a biomarker
S.J. Chung, J. Kim, H.J. Lee, H.S. Ryu, K.W. Jung, M.J. Kim, M.J. Kim, S.M. Hong, S.J. Myung (Seoul, Korea)
- 738 Longitudinal measurements of cerebrospinal fluid biomarkers in Parkinson's disease
S. Hall, Y. Surova, A. Öhrfelt, K. Blennow, H. Zetterberg, O. Hansson (Lund, Sweden)
- 739 Objective methods for quantifying the deep brain stimulation (DBS) efficacy in subthalamic-nuclei (STN) neurons with microelectrode recording (MER) technology
V.R. Rama Raju, R.K. Mridula, R. Borgohain, V. Rama Raju (Hyderabad, India)
- 740 Counteracting PINK1/parkin deficiency by activating alternative mitophagic pathway: a potential therapeutic intervention for Parkinson's disease
B. Koentjoro, J.S. Park, C.M. Sue (Sydney, Australia)
- 741 Physical training prevents depressive-like behavior and bdnf decrease in an animal model of Parkinson's disease
T. Tuon, S.S. Valvasori, J.L. Quevedo, C.T. Souza, R.A. Pinho (Criciúma, Brazil)
- 742 Speed and severity of toxicity induced by pre-formed α -synuclein fibrils in rat brain is enhanced by α -synuclein overexpression
P. Thakur, L. Breger, B. Mattsson, K. Luk, V.M. Lee, J. Trojanowski, A. Björklund (Lund, Sweden)
- 743 SOD1 aggregation: A pathological link between Parkinson's disease and amyotrophic lateral sclerosis?
B.G. Trist, K.M. Davies, S. Genoud, V. Smoothy, G.M. Halliday, S. Roudeau, A. Carmona, L. Perrin-Verdugier, R. Ortega, K.L. Double (Sydney, Australia)
- 744 Cerebellar atrophy in Parkinson's disease and its implication for network connectivity
J.M. Shine, C. O'Callaghan, M. Hornberger, G.M. Halliday, S.J.G. Lewis (Palo Alto, CA, USA)
- 745 Analysis of relationships between spinal deformity and walking ability in Parkinson's disease patients
Y. Nakamura, Y. Machida, T. Hanawa, M. Kanai, K. Tajima, S. Asano (Satte, Japan)
- 746 Impairments in trunk muscle function influence head and trunk stability during walking in Parkinson's disease fallers
M.H. Cole, G.A. Naughton, P.A. Silburn (Virginia, Australia)
- 747 Differences of gut bacterial community relate to pathology progress in Parkinson's disease
T. Minato, S. Hasegawa, Y. Fujisawa, H. Tsuji, T. Asahara, K. Nomoto, A. Okamoto, T. Maeda, K. Ohno, M. Hirayama (Nagoya, Japan)
- 748 IL-6 and motor symptoms in Parkinson's disease
T. Torgan, T. Baidina, N. Demchuk, M. Danilova (Perm, Russia)



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- 749 Postural and nonmotor disturbances in Parkinson's disease
 A. Pilipovich, V. Golubev, G. Ptimat (Moscow, Russia)
- 750 Presynaptic dopamine depletion predicts late complications and time of progression to advanced disease in patients with early Parkinson's disease
 R. Djaldetti, L. Greenbaum, M. Lorberboym (Petah Tiqva, Israel)
- 751 Astroglia exert a neuro-protective role in Parkinson's disease by reducing oxygen stress through dopamine-induced activation of the pentose-phosphate pathway
 K. Mashima, S. Takahashi, T. Iizumi, T. Abe, N. Suzuki (Tokyo, Japan)
- 752 Clinical aspects of postural instability in Parkinson's disease
 T.S. Lovtsova, A.F. Vasilenko (Chelyabinsk, Russia)
- 753 Withdrawn by Author
- 754 Neuromelanin imaging is useful for monitoring disease progression in Parkinson's disease and PARK2
 T. Hatano, A. Okuzumi, K. Kamagata, K. Daida, D. Taniguchi, M. Hori, H. Yoshino, S. Aoki, N. Hattori (Tokyo, Japan)
- 755 Differences between responders and non-responders of Istradefylline for the wearing off in Parkinson's disease
 A. Yoritaka, H. Mori, N. Hattori (Saitoma, Japan)
- 756 Drp1 inhibition ameliorates α -synuclein-mediated neurodegeneration in rats
 S. Bido, L. Arcuri, M. Helly, R. Fan, K. Tieu, E. Bezard (Bordeaux, France)
- 757 Opioid K receptor variant delays the onset of dyskinesias in Parkinson's disease
 R. Cilia, R. Asselta, R. Benfante, E. Cereda, D. Vallauri, L. Marabini, D. Fornasari, S. Goldwurm, G. Pezzoli (Milan, Italy)
- 758 Glatiramer acetate (Copaxone) causes restoration of the striatal dopamine in a progressive MPTP mouse model of Parkinson's disease
 C.K. Meshul, M.J. Churchill (Portland, OR, USA)
- 759 The kinase Fyn mediates levodopa induced dyskinesias in Parkinson's disease
 J.E. Ferrario, S. Sanz-Blasco, M. Bordon, A. Damianich, A. Bernardi, G. Gomez, I. Taravini, E. Avale, O. Gershanik (Buenos Aires, Argentina)
- 760 Identifying freezing of gait and falls in Parkinson's disease patients using a body-worn sensor
 Y. Okuma, H. Mitoma, M. Yoneyama (Izunokuni, Japan)
- 761 Gait impairment is more than a motor symptom in Parkinson's disease
 H.F. Chan, D.K.W. Chau, T. Fung, Y.F. Cheung, W.C. Fong (Hong Kong)
- 762 Selenotranscriptomic analyses identify signature selenoproteins in brain regions in a mouse model of Parkinson's disease
 J.Y. Wang, X. Zhang, Y.L. Ye, H.H. Fan, H.M. Wu, W.H. Cheng, J.H. Zhu (Wenzhou, People's Republic of China)
- 763 Quantifying daily living transitions in patients with Parkinson's disease using a body-fixed sensor
 J.M. Hausdorff, H. Bernad-Elazari, T. Herman, A. Mirelman, E. Gazit, N. Giladi (Tel Aviv, Israel)
- 764 Localization and functional study of synaptic vesicle protein synaptogyrin-3 (SYNGR3) on dopaminergic neuronal system
 L.F. Li, P.W.L. Ho, H.F. Liu, Z.H.M. Tse, C.S.C. Lam, M.C.T. Leung, M.H.W. Kung, D.B. Ramsden, S.W.L. Ho (Hong Kong)
- 765 A whole brain anatomical network model and its application in PD research
 X. Lei, T. Chen, X. Hu, B. Zhang (Kunming, People's Republic of China)
- 766 Withdrawn by Author
- 767 Effect of intra-striatal 6-OHDA lesion on extra-striatal structures in the mouse
 B. Becker, M. Demirbas, C. Beyer, S. Tan, M. Kipp (Aachen, Germany)
- 768 Increased energy expenditure in early Parkinson's disease during exercise
 T. Margalio Kalifa, N. Ziv, H. Bergman, S. Nusair, D. Arkadir (Jerusalem, Israel)
- 769 Hyperin inhibits lipopolysaccharide-induced microglia activation through p38 and NF κ B signaling
 X. Zhang, Y.N. Wang, H.H. Fan, R. Yang, S.Y. Li, J.H. Zhu (Wenzhou, People's Republic of China)
- 770 Different patterns of spontaneous brain activity between tremor-dominant and postural instability/gait difficulty subtypes of Parkinson's disease: A resting-state fMRI study
 H. Chen, Z. Wang, J. Fang, L. Gao, T. Feng (Beijing, People's Republic of China)
- 771 Lower levels of uric acid and striatal dopamine in non-tremor dominant Parkinson's disease subtype
 I. Huertas Fernandez, S. Jesus, J.A. Lojo, F.J. Garcia Gomez, M. Caceres Redondo, J.M. Oropesa Ruiz, F. Carrillo, L. Vargas Gonzalez, J.F. Martin Rodriguez, P. Gomez Garre, D. Garcia Solis, P. Mir (Sevilla, Spain)
- 772 Impact of prolonged temporal discrimination threshold on finger movements of Parkinson's disease
 M.J. Lee, J.S. Son, J.H. Lee, S.J. Kim, C.H. Lyoo, M.S. Lee (Busan, Korea)
- 773 Multidisciplinary group program integrating voice and dance movement therapy for Parkinson's disease patients: Preliminary experience
 R. Peled, D. Shpunt, Y. Manor, M. Brozgol, A. Ezra, N. Hezi, R. Hen Simon, J.M. Hausdorff, T. Gurevich (Tel Aviv, Israel)
- 774 Dissecting the molecular mechanisms of Fyn-mediated levodopa induced dyskinesias
 M.P. Bordone, M.A. Bernardi, A. Damianich, S. Sanz-Blasco, G. Gómez, I.R.E. Taravini, M.E. Avale, O.S. Gershanik, J.E. Ferrario (Buenos Aires, Argentina)
- 775 Olfaction and gray matter volume in Parkinson's disease. A voxel-based morphometry study
 K. Witt, N. Schmidt, O. Granert, L. Paschen, S. Wolff, G. Deuschl (Kiel, Germany)
- 776 Cellular senescence induced by paraquat drives neuropathology associated with Parkinson's disease
 S.J. Chinta, G. Woods, M. Demaria, J. Campisi, J.K. Andersen (Novato, CA, USA)
- 777 Urate and homocysteine: Changes in motor and cognitive symptoms in newly diagnosed Parkinson's disease
 I.J. Sleeman, R. Lawson, A. Yarnall, G. Duncan, F. Johnston, T. Khoo, D. Collerton, J.P. Taylor, D. Burn (Newcastle upon Tyne, United Kingdom)
- 778 Dysregulated macroautophagy and mitochondrial dynamics in PD with glucocerebrosidase mutations
 S.H. Kuo, H. Li, A. Ham, M.M. Cheng, Y. Quan, D. Sulzer, G. Tang (New York, NY, USA)



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- 779 Mitochondrial-nuclear interplay in single respiratory chain-deficient Parkinson's disease neurons
A. Grünewald, K.A. Rygiel, P.D. Hepplewhite, C.M. Morris, M. Picard, D.M. Turnbull (Belvaux, Luxembourg)
- 780 Kinematic analysis of repetitive finger movements and the effects of selegiline and pramipexole in early Parkinson's disease
G. Leodori, M. Bologna, P. Stirpe, G. Paparella, D. Belvisi, A. Fasano, G. Fabbrini, A. Berardelli (Rome, Italy)
- 781 LC3 deacetylation by SIRT1 is involved in neuroprotective effects of resveratrol in an MPTP mouse model of Parkinson's disease
Y. Wu, Y. Guo, S. Dong, X. Cui, Y. Feng, W. Zhao (Shanghai, People's Republic of China)
- 782 The epigenetic regulation of HIF-1 α by SIRT1 in MPP+ treated SH-SY5Y cells
Y. Wu, S. Dong, Y. Guo, Y. Feng, X. Cui, S. Kuo, T. Liu (Shanghai, People's Republic of China)
- 783 Generation of dopaminergic neurons for studying Parkinson's disease using patient blood cells
D. Ma, W. Zhou, Y. Chao, Y. Zhao, E.K. Tan (Singapore)
- 784 Is the assessment of 5 meters of gait with body-worn-sensors enough to recognize Parkinsonian gait?
M.E. Micó Amigo, I. Kingma, A. Kunikoshi, R.V. Lummel, W. Maetzler, J.V. Dieën (Amsterdam, Netherlands)
- 785 Long-duration response to levodopa in Parkinson's disease is independent of disease duration: A prospective study on de novo patients in Ghana
R. Cilia, E. Cereda, M. Amboni, A. Akpalu, F.S. Sarfo, M. Cham, M. Fabbri, G. Pezzoli (Milan, Italy)
- 786 Mitochondrial response precedes intracellular accumulation of α -synuclein in Parkinson's disease
I. Milenkovic, E. Dassler, M. Weber, G.G. Kovacs (Vienna, Austria)
- 787 Chronic cerebral hypoperfusion accelerates cognitive dysfunction and microvascular impairment in the MPTP mouse model of Parkinson's disease
H. Tang, R. Zhu, L. Gao, K. Nie, S. Feng, Z. Duan, Y. Zhang, X. Zhao, L. Wang, J. Zhao, Z. Huang, Y. Zhang, L. Wang (Guangzhou, People's Republic of China)
- 788 Lessons learned from the Nilotinib trial: Cardio-vascular conditions in parkinsonism
Y. Torres-Yaghi, A. Keys, V. Ellen, S. Ashot, M. Elizabeth, S. Justin, M. Charbel, P. Fernando (Washington, DC, USA)
- 789 Modulating neuronal activity in dopaminergic neurons to promote their survival
M.A. Bernardi, N. Baffa-Trasci, O. Gershanik, M.E. Avale, J.E. Ferrario (Caba, Argentina)
- 790 Constipation in early de novo Parkinson's disease: Prevalence and correlates with clinical features, imaging and non-imaging biomarkers
G. Pagano, F. Nicolini, M. Politis (London, United Kingdom)
- 791 A novel *C. elegans* model for identification of small molecules that target alpha-synuclein-mediated toxicity
L.V. Kalia, K. Menezes, Y. Zhang, S. Ishikura, N. Tran, H. Chau, A.M. Lozano, S.K. Kalia, J.G. Culotti, S. Suo, W.S. Ryu (Toronto, ON, Canada)
- 792 Difference of REM sleep behavior disorder between the onset of before and after Parkinson's disease
T. Nomura, Y. Inoue, K. Nakashima (Yonago, Japan)
- 793 Cell-surface expression of dopamine transporter facilitates the uptake of α -synuclein
J. Kobayashi, T. Hasegawa, S. Yoshida, N. Sugeno, R. Oshima, A. Kikuchi, A. Takeda, M. Aoki (Sendai, Japan)
- 794 Bcr-Abl tyrosine-kinase inhibitors (B-ATKI) and Parkinson's disease (PD)
E.A. Shamim, S.F. Baker, F.F. Liu, K.K. Mane, J.G. Layug, S. Vupputuri, C.C. DiStasio, S.M. Khandhar, C. Neff, S. Van Den Eeden, C. Lungu, R. Cooley, H.S. Martel, C. Chen, J. Dorman, M.A. Sinkiewicz, J. Klingman (Largo, MD, USA)
- 795 Optimization of 6-hydroxydopamine animal model of early stage Parkinson's disease for the assessment of neurorestorative therapies
J.V. Leikas, T.M. Kääriäinen, A.J. Jalkanen, M. Lehtonen, T. Rantamäki, M.M. Forsberg (Kuopio, Finland)
- 796 Modulation of microglia function in the prion-like spreading of α -synuclein in the murine brain
W.M. Wemheuer, P. Garcia, E. Konica, A. Masuch, S. Brioschi, K. Biber, A. Weihofen, H. Kollmus, K. Schughart, D. Coowar, R. Balling, M. Buttini (Esch-sur-Alzette, Luxembourg)
- 797 Neurodegeneration and microgliosis are independent of α -synuclein aggregation in a mouse model of "prion-like" α -synuclein spreading
P. Garcia, W. Wemheuer, S. Brioschi, A. Masuch, E. Masliah, V. Koziel, T. Pillot, E. Koncina, C. Jaeger, A. Weihofen, R. Balling, K. Biber, M. Buttini (Esch-sur-Alzette, Luxembourg)
- 798 Role of macroautophagy in regulating microglia-mediated neuroinflammation and dopaminergic neuron injury
M. Jin, L. Hu, C. Liu (Suzhou, People's Republic of China)
- 799 The impact of levodopa and apomorphine on beta- and gamma-oscillations in cortico-basal ganglia circuits in experimental parkinsonism
J. Kühn, J.K. Haumesser, P.J. Magill, A.A. Kühn, V.V. Nikulin, C. van Riesen (Berlin, Germany)
- 800 Lymphocytes have a detrimental effect on motor behavior in the AAV1/2 A53T α -synuclein mouse model of Parkinson's disease
A.A. Karikari, M. Gehmeyr, E. Ribechini, V. Maltese, J. Volkmann, J.M. Brotchie, J.B. Koprach, M.B. Lutz, C.W. Ip (Würzburg, Germany)
- 801 Lewy body extracts from Parkinson's disease brains as models for high-throughput screens of neurotoxicity and α -synuclein spreading from cell-to-cell
E. Bezard, F. Cavaliere, P. Kitchener, E.Y. Pioli, B. Dehay, M. Bourdenx, P. Ramos-Gonzalez, J. Obeso, C. Matute (Bordeaux, France)
- 802 The contribution of the subthalamic nucleus in gait initiation of subjects with Parkinson's disease
C. Palmisano, G. Arnulfo, N.G. Pozzi, A. Canessa, A. Leporini, C.A. Frigo, G. Pezzoli, F. Steigerwald, J. Volkmann, I.U. Isaias (Wuerzburg, Germany)
- 803 Parkinson's disease motor subtypes show similar deficits in inhibitory control
C.M. Tolleson, M. Turchan, N. van Wouwe, S.A. Wylie (Nashville, TN, USA)



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- 804 Effects of Arachidonyl-2'-chloroethylamide (ACEA), a selective CB1 receptor agonist, in MPTP mouse model of Parkinson's disease
 M. Omidbeigi, S. Asaadi, A. Zali (Tehran, Islamic Republic of Iran)
- 805 Alpha-synuclein - super-resolution microscopy reveals potential new role of alpha-synuclein at the pre-synapse
 J. Lautenschlaeger, F. Stroehl, A. Stephens, C.F. Kaminski, G.S. Kaminski Schierle (Cambridge, United Kingdom)
- 806 Floor square size predicts step count of 360° turns in PD patients with freezing
 U.M. Fietzek, L. Stuhlinger, A. Plate, A.O. Ceballos-Baumann, K. Bötzel (Munich, Germany)
- 807 Differential expression of cerebral dopamine neurotrophic factor (CDNF) in the hippocampus and in the striatum of LRRK-2 mutant rat model of Parkinson's disease
 J. Varghese, K. Terpstra, S. Chiu, R. Mishra, Y. Bureau (London, ON, Canada)
- 808 Diffusion tensor imaging (DTI) within the primate caudate nucleus marks dopaminergic (DA) and serotonergic (5-HT) lesions
 S. Thobois, E. Météreau, M. Beaudoin-Gobert, S. Duperrier, L. Tremblay, V. Sgambato-Faure (Bron, France)
- 809 Role of dopamine and GABA during subthalamic and pallidal deep brain stimulation: Evidence of dopamine release during subthalamic Deep Brain Stimulation
 A. Nakajima, Y. Shimo, T. Uka, N. Hattori (Tokyo, Japan)
- 810 Reach-to-grasp impairments of both hands in individuals with Parkinson's disease
 S. Khacharoen, J. Tretriluxana, A. Pisarnpong, P. Chaiyawat (Nakhon Pathom, Thailand)
- 811 Subthalamic nucleus activity during virtual reality provoked lower limb freezing in a patient with Parkinson's disease and freezing of gait
 M.J. Georgiades, M. Gilat, J.M. Shine, J. McMaster, N. Mahant, S.J.G. Lewis (Sydney, Australia)
- 812 F1 crossbreds of C57BL/6 and CD-1 mice demonstrate resistance to 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) induced nigral neurodegeneration
 P.A. Alladi, D. Vidyadhara, H. Yarreiphang, T.R. Raju (Bengaluru, India)
- 813 Involvement of peripheral immune system in the pathogenesis of Parkinson's disease
 Y.X. Chao, S.C. Wong, K.J. Puan, J.J.Y. Tai, O. Röttschke, B. Lee, M. Poidinger, E.K. Tan (Singapore)
- 814 Piper longum L. alkaloids inhibit lipopolysaccharide-stimulated microglial activation and protect nigral dopaminergic neurons
 H. Yang, C. Duan (Beijing, People's Republic of China)
- 815 An exuberant cortical gb influences the unmasking and intensity of dyskinesia in 6-OHDA-treated freely-moving rats
 S. Galati, V. D'Angelo, A. Salvadè, A. Kaelin, A. Stefani (Lugano, Switzerland)
- 816 Dynamic and static posturographic analysis among fallers and non-faller Parkinson's disease (PD) patients using Neurocom SMART EquiTest
 A. Lieberman, C. Frames, A. Deep, M. McCauley, S. Shafer (Phoenix, AZ, USA)
- 817 Evaluation of regional changes in striatal DAT binding in a progressing Parkinson's disease (PD) cohort: Lessons for imaging biomarker assessment in disease-modifying therapeutic trials
 J.P. Seibyl, D. Jennings, K. Marek (New Haven, CT, USA)
- 818 Alpha synuclein and crystallin expression in human lens in Parkinson's disease
 S.A. Schneider, E. Richert, G. Kühlenbäumer, B. Nölle, K.P. Bhatia, G. Deuschl, J. Roeder, A. Klettner (München, Germany)
- 819 α-synuclein CSF levels correlate with urinary dysfunction in early de novo Parkinson's disease patients
 G. Pagano, F. Niccolini, M. Politis (London, United Kingdom)
- 820 Discrimination of Parkinson's disease participants from healthy controls using telephone-quality voice recordings
 S. Arora, A. Tsanas (Oxford, United Kingdom)
- 821 The effect of STN-DBS on movement initiation control is modulated by the noradrenergic system: Evidence of an interaction from a combined pharmacological/DBS/EEG study
 C. Spay, M. Albares, S. Thobois, E. Broussolle, P. Boulinguez, B. Ballanger (Bron, France)
- 822 Gender-age features of autonomic heart rhythm disturbances in Parkinson's disease patients
 I. Solodovnikova (Odessa, Ukraine)
- 823 Brain metabolic profile changes reflect subtle pathological alterations in different murine models of Parkinson's disease
 E. Glaab, F. Giesert, C. Jaeger, P. Dirscherl, A. Zimprich, A. Ulusoy, D.A. Di Monte, P. Garcia, R. Balling, W. Wurst, D. Truembach, M. Buttini, D. Vogt-Weisenhorn (Esch-Alzette, Luxembourg)
- 824 Apathy phenotype in Parkinson's disease: Motor and non-motor features
 S. Varanese, A. Di Rocco, M.F. Ghilardi, N. Modugno, R. Gilbert-Wolf, B. Perfetti (Pozzilli, Italy)
- 825 Associations between cerebrospinal fluid proteins and cytokines in Parkinson's disease
 R. Wijeyekoon, S. Moore, K. Farrell, D. Breen, R. Barker, C.H. Williams-Gray (Cambridge, United Kingdom)
- 826 Micro-RNA in cerebrospinal fluid as a biomarker for early diagnosis, differential diagnosis and prognostic marker in Parkinson's disease
 A. Fischbach, A.E. Roser, F. Maass, M. Börger, M. Bähr, I. Zerr, A. Fischer, P. Lingor (Göttingen, Germany)
- 827 Protein levels of SV2A and VGLUT1 in brain tissue from patients with Parkinson's disease, dementia with Lewy bodies and Alzheimer's disease
 S. Frykman, M. Oosterhof, M.S. Ahmed, D. Howlet, T. Hortobagyi, P. Francis, D. Årsland (Huddinge, Sweden)
- 828 Vagus nerve stimulation as a novel treatment strategy for Parkinson's disease
 A. Farrand, R. Gregory, K. Helke, S. Hays, V. Hinson, H. Boger (Charleston, SC, USA)



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- 829 Non-motor symptoms profiles in UK white Caucasian and Asian as well as overseas Thai and East Indian patients with Parkinson's disease
A. Sauerbier, O. Jitkriksadukul, R. Bhidayasiri, H. Kumar, P. Martinez-Martin, R. Banerjee, M. Kulsum, A. Rizos, G. Harington, L. Perkins, T. Chiwera, D. Trivedi, A. Martin, M. Parry, R. Brown, J. Al-Hashel, W. Kamel, A. Kilany, S. Lim, A. Tan, K. Bhattacharyya, R. Walker, K. Ray Chaudhuri. On behalf of EUROPAR, the MDS Non-Motor PD Study Group and the NILS Group (London, United Kingdom)
- 830 Diffusion tensor imaging biomarkers of nigrostriatal neurodegeneration in early Parkinson's disease
J.A. Pineda-Pardo, G. Foffani, J.A. Obeso (Madrid, Spain)
- 831 Glucocerebrosidase activity in a cohort of PD patients
I. Trezzi, V. Melzi, G. Franco, L. Borellini, E. Monfrini, A. Bordoni, N. Bresolin, G.P. Comi, A. Di Fonzo (Milan, Italy)
- 832 Mild mitochondrial impairment promotes corticostriatal synaptic plasticity alterations in PINK1 heterozygous knockout mice
P. Imbriani, G. Martella, G. Madeo, M. Maltese, V. Vanni, E. Ferraro, E.M. Valente, T. Schirinzi, L. Bonanni, J. Shen, N.B. Mercuri, P. Bonsi, A. Pisani (Rome, Italy)
- 833 Changes in serum amino acid levels with progression of Parkinson's disease
M. Figura, K. Kusmierska, E. Bucior, S. Szlufik, D. Kozirowski, Z. Jamrozik, A. Friedman, P. Janik (Warsaw, Poland)
- 834 Investigating the role of Parkin in mitigating oxidative stress
J.M. Tokarew, D. El Kodsji, J.T. Tomlinson, M.G. Schlossmacher (Ottawa, ON, Canada)
- 835 Clinical predictors of airway protective dysfunction in Parkinson's disease
M.S. Troche, A.E. Brandimore, B. Schumann, M.S. Okun, K.W. Hegland (New York, NY, USA)
- 836 Disease severity is not predictive of the dose required for apomorphine sublingual film (APL-130277) to convert a patient with Parkinson's disease from OFF to fully ON
H. Shill, E.J. Pappert, A. Agro, B. Dzyngel, T. Bilbault, S. Isaacson, R. Hauser (Phoenix, AZ, USA)
- 837 Treatment of OFF episodes in Parkinson's disease: An evaluation of patient and caregiver insights
E.J. Pappert, N. deGruyther, A. Agro (Toronto, ON, Canada)
- 838 Treatment of OFF episodes in Parkinson's disease: An evaluation of physician practices
E.J. Pappert, A. Agro, N. deGruyther (Toronto, ON, Canada)
- 839 Enteric neurons reveal substantial in vivo mitochondrial changes in Parkinson's disease
P.M.A. Antony, A.S. Baumuratov, M. Ostaszewski, F. He, L. Salamanca, L. Antunes, J. Weber, L. Longhino, P. Derkinderen, R. Balling, W. Koopman, N. Diederich (Belvaux, Luxembourg)
- 840 Detection of leucine-rich repeat kinase 2 in human biofluids
E. Mutez, W. Sibran, T. Comptdaer, P. Semaille, M. Drouyer, S. Bleuse, L. Defebvre, A. Destee, M.C. Chartier-Harlin, J.M. Taymans (Lille, France)
- 841 The small GTP-binding protein Rhes influences midbrain dopaminergic neurons: Behavioral and biochemical studies
A. Pinna, F. Napolitano, G. Costa, P.F. Porceddu, L. Contu, J. Wardas, M.A. Casu, A. Usiello, M. Morelli (Cagliari, Italy)
- 842 Histone deacetylase 4 is regulated by microRNA 128 in SH-SY5Y cells of Parkinson's disease
J. Li, N. Xiong, H. Jiang, L. Liu, C. Han, K. Ma, X. Xu, Y. Shen, Y. Xia, L. Wang, S. Guo, J. Huang, T. Wang (Wuhan, People's Republic of China)
- 843 Disruption of circadian rhythm function and anti-oxidation via SIRT1-BMAL1 pathway in 6-OHDA induced Parkinson's disease model
Y. Wang, S. Li, C. Mao, Y. Yang, F. Wang, C.F. Liu (Suzhou, People's Republic of China)
- 844 Withdrawn by Author
- 845 Evaluation of the role of oxidative stress in Parkinson's disease and Parkinson plus syndrome
R. Qadri, M.A. Faiq, M. Behari, V. Goyal, A.K. Mukhopadhyay (New Delhi, India)
- 846 Oral apomorphine film (APL-130277) produces no buccal mucosal irritation: Results of a toxicological study
A. Agro, B. Dzyngel, T. Bilbault, E.J. Pappert (Toronto, ON, Canada)
- 847 Long term recordings of subthalamic oscillatory activity in patients with Parkinson's disease
W.J. Neumann, F. Staub, A. Horn, J. Schanda, G.H. Schneider, P. Brown, A.A. Kühn (Berlin, Germany)
- 848 APL-130277 is a sublingual film being studied in phase 3 trials to rapidly turn patients ON from OFF episodes by delivering apomorphine via the oral mucosa
H. Shill, E.J. Pappert, A. Agro, B. Dzyngel, T. Bilbault, R. Hauser, S. Isaacson (Phoenix, AZ, USA)
- 849 Sodium butyrate attenuates rotenone-induced neurodegeneration via enhancing autophagy and preventing α -synuclein aggregation
L. Liu, C. Han, K. Ma, X. Xu, J. Huang, N. Xiong, T. Wang (Wuhan, People's Republic of China)
- 850 Pharmacokinetic-pharmacodynamic effects of apomorphine sublingual film (APL-130277) for the rapid management of OFF episodes in patients with Parkinson's disease
E.J. Pappert, B. Dzyngel, T. Bilbault, A. Agro (Toronto, ON, Canada)
- 851 Minimum MDS-UPDRS part III change needed to convert a Parkinson's disease patient from the OFF to full ON state with apomorphine sublingual film (APL-130277)
H. Shill, A. Agro, E.J. Pappert, B. Dzyngel, T. Bilbault, S. Isaacson, R. Hauser (Phoenix, AZ, USA)
- 852 Effect of vibration on motor performance: A new intervention to improve bradykinesia in Parkinson's disease?
A. Macerollo, C. Palmer, T. Foltynie, P. Korlipara, P. Limousin, M. Edwards, J. Kilner (London, United Kingdom)
- 853 Increased cerebrospinal fluid lactate levels in Parkinson's disease: Is it a proof of mitochondrial inefficiency?
C. Liguori, A. Stefani, E. Olivola, N.B. Mercuri, M. Pierantozzi (Rome, Italy)
- 854 Synaptic homeostasis in Parkinson's disease: An high-density EEG study in different stage of the disease
S. Galati, S. Sarasso, C. Moeller, A. Kalein-Lang, C. Staedler (Lugano, Switzerland)
- 855 The effects of viral priming on neurotoxin induced neurodegeneration and synapse dysfunction in cell culture models relevant to Parkinson's disease
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- 856 Characterization of striatal TH-immunoreactive cells in chronic and acute L-DOPA treatment in a mice model of Parkinson's disease
 G. Gomez, M. Bordone, S.I. Sanz-Blasco, M.A. Bernardi, J.E. Ferrario, I.R.E. Taravini, M.G. Murer, O.S. Gershanik (Buenos Aires, Argentina)
- 857 Is levodopa-induced dyskinesia in Parkinson's disease associated with increased blood brain barrier permeability and volumetric changes?
 O. Segal, D. Last, D. Guez, Y. Mardor, G. Yahalom, O.S. Cohen, S. Benizri, C. Hoffman, S. Hassin-Baer (Ramat Gan, Israel)
- 858 Parkinson's disease onset on non-dominant side predicts greater motor disability
 T.A. Finseth, S. Sillau, B. Berman (Aurora, CO, USA)
- 859 Exploring aging-VMAT2 gene-rotenone interactions in a cell model for Parkinson's disease
 H. Jiang, J. Li, C. Han, K. Ma, L. Liu, Y. Shen, L. Wang, S. Guo, Y. Xia, J. Huang, T. Wang (Wuhan, People's Republic of China)
- 860 Saliva swallowing frequency measured using 24-hours ambulatory impedance-pH monitoring in patients with Parkinson's disease and drooling
 J.G. Kalf, S. Scholten, W. Hopman (Nijmegen, Netherlands)
- 861 Characteristics of the interaction between different toxic aggregated species of alpha-synuclein and cell membrane
 A.T. Marvian, D. Morshedi, F. Aliakbari, H. Ghapani, M. Nasuti (Tehran, Islamic Republic of Iran)
- 862 Differential vulnerability to α -synuclein pathology among neuronal subpopulations
 E. Luna, D.M. Riddle, V.M.Y. Lee, K.C. Luk (Philadelphia, PA, USA)
- 863 Circadian dysfunction in Parkinson's disease: Effects on impaired gait initiation and locomotion
 L. Alibiglou, J. Stewart, G. Bachman, C. Cooper, L. Liu, S. Ancoli-Israel (Chicago, IL, USA)
- 864 Colonic microbiome in Korean patients with Parkinson's disease
 D. Lee, Y.N. Kwon, T.B. Ahn (Seoul, Korea)
- 865 Molecular landscape of Parkinson's disease reveals a key role for lipids and lipoproteins
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- 866 DJ-1 regulates intracellular signaling in a highly cell type specific manner
 F. Giesert, D.M. Vogt Weisenhorn, U. Hafen, A. Romanov, A. Kurz-Drexler, W. Wurst (Neuherberg, Germany)
- 867 Alterations in 14-3-3 protein phosphorylation as a biomarker for neurodegeneration
 T. Yacoubian, X. Chi, G. Cutter, M. McFerrin (Birmingham, AL, USA)
- 868 Withdrawn by Author
- 869 A novel single molecule imaging approach to detect individual protein oligomers in CSF from patients with Parkinson's disease (PD)
 S. Gandhi, M.H. Horrocks, S.F. Lee, N.W. Wood, D. Klenerman (London, United Kingdom)
- 870 Cognitive and depressive behavior changes in aged mice with heterozygous deletions of VMAT2 or of DAT
 K. Ma, J. Huang, L. Liu, H. Jiang, X. Xu, C. Han, Y. Shen, Y. Xia, S. Guo, L. Wang, N. Xiong, T. Wang (Wuhan, People's Republic of China)
- 871 Detailed proteomic analysis of early PD brain highlights altered expression of mitochondrial proteins as an important event in sporadic PD
 S. Gandhi, C.E. Murray, W.E. Heywood, J.L. Holton, K. Mills, T. Revesz (London, United Kingdom)
- 872 Exosomes-injection to reproduce a mouse model of Parkinson's disease: A preliminary report
 C. Han, J. Huang, K. Ma, Y. Shen, L. Liu, G. Zhang, X. Xu, J. Li, H. Jiang, S. Guo, Y. Xia, L. Wang, N. Xiong, T. Wang (Wuhan, People's Republic of China)
- 873 Striatal PDE10 expression in Parkinson's disease (PD) and healthy controls using [18F]MNI-659 PET imaging
 D.S. Russell, D.L. Jennings, O. Barret, G.D. Tamagnan, D. Alagille, J.P. Seibyl, K.L. Marek (New Haven, CT, USA)
- 874 Heterozygous PINK1 p.G411S mutation increases risk for Parkinson's disease (PD)
 W. Springer, A. Puschmann, F.C. Fiesel, M. Ando, T.R. Caulfield, K. Ogaki, M.G. Heckman, R. Hudec, E.D. James, G. Opala, J. Siuda, M. Boczarska-Jedynak, A. Friedman, D. Kozirowski, J.O. Aasly, T. Lynch, G.D. Mellick, M. Mohan, P.A. Silburn, Y. Sanotsky, C. Vilariño-Güell, M.J. Farrer, T. Dawson, Z.K. Wszolek, O.A. Ross (Jacksonville, FL, USA)
- 875 Mitochondrial Hsp90 inhibitor G-TTP triggers PINK1/parkin-dependent mitochondrial quality control
 F.C. Fiesel, J.D. Elle, H.R. Anneliese, H. Roman, S. Wolfdieter (Jacksonville, FL, USA)
- 876 Falls in Parkinson's disease: Beware the short, slow steps
 A. Lieberman, A. Deep, S. Shafer, T. Lockhart (Phoenix, AZ, USA)
- 877 Cortical impairment as marker of dementia risk in probable REM sleep behavior disorder in Parkinson's disease
 A.D. Santana-Vargas, H. Duran-Meza, J.D. Ramirez-Diossa, G.H. Terrazas Gonzalez, M. Lopez-Ruiz, G. Millan-Rosas, U. Jimenez-Correa (Mexico City, Mexico)
- 878 Stabilometry characteristics as objective Parkinson's disease progression biomarkers
 I.V. Miliukhina, T.V. Sergeev, E.V. Gracheva, A.V. Kudrevatykh, M.D. Didur (Saint-Petersburg, Russia)
- 879 Generation and characterization of midbrain organoids from iPSCs of familial Parkinson's disease
 E. Frattini, G. Monzio Compagnoni, S. Salani, P. Rinchetti, M. Nizzardo, M. Baccarin, N. Bresolin, G.P. Comi, S.P. Corti, A. Di Fonzo (Milan, Italy)
- 880 Cyclic glycine-proline increased in the cerebrospinal fluid of Parkinson's patients after supplementation of blackcurrant anthocyanins: Potential biomarker for treatment
 J. Guan, Y. Alamri, D. Fan, M. MacAskill, T. Anderson (Auckland, New Zealand)
- 881 In idiopathic Parkinson's disease: The effect of using L-dopa on peripheral nerves
 M.E. Temir, F. Genç, Y. Biçer Gömçeli, A. Yaman, A. Aybar, E. Karaçay (Antalya, Turkey)
- 882 Cortical role in the freezing of gait in Parkinson's disease
 M. Mihara, H. Otomune, H. Fujimoto, K. Konaka, Y. Watanabe, H. Mochizuki (Suita, Japan)
- 883 Association of Parkinson's disease severity and cortical and subcortical cognitive markers
 H. Duran-Meza, A.D. Santana-Vargas, J.D. Ramirez-Diossa, G.H. Terrazas Gonzalez, G. Millan-Rosas, U. Jimenez-Correa, M. Lopez-Ruiz (Mexico City, Mexico)



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- 884 Pathophysiological mechanisms of bone mass loss for osteoporosis prevalence in Parkinson's disease
L.A. Leandro, H.A.G. Teive (Curitiba, Brazil)
- 885 Glutathione status in Parkinson's disease
L.K. Mischley (Kenmore, WA, USA)
- 886 Intrastratial injection of ionomycin profoundly changes motor response to L-DOPA and its underlying molecular mechanisms
C. Han, S. Nie, G. Chen, K. Ma, N. Xiong, Z. Zhang, Y. Xu, T. Wang, S.M. Papa, X. Cao (Wuhan, People's Republic of China)
- 887 Lrrk2 alleles modify host response to microbial infections
B. Shutusanoski, I. Harmsen, M. Hakimi, Y.Y. Zhou, S. Sad, J.J. Tomlinson, E.G. Brown, M.G. Schlossmacher, CLINT Investigators (Ottawa, ON, Canada)
- 888 Increased cellular co-localization of tau fragment 1-368 and alpha-synuclein in two mouse model of Parkinson's disease
K. Ma, S. Nie, G. Chen, C. Han, X. Guo, Y. Xu, X. Cao (Wuhan, People's Republic of China)
- 889 Longitudinal cerebrospinal fluid biomarkers in early Parkinson's disease and healthy controls
B. Mollenhauer, C.J. Caspell-Garcia, C.S. Coffey, P. Taylor, L.M. Shaw, J.Q. Trojanowski, A. Singleton, M. Frasier, K. Marek, D.R. Galasko (Kassel, Germany)

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- 890 Apocyanin ameliorates post-stroke movement disorder in rats: Possible role of neurochemical and inflammatory alterations
M. Kapoor, R. Sandhir, B. Nehru (Chandigarh, India)
- 891 ESCRT-0 dysfunction compromises autophagic degradation of protein aggregates and facilitates ER stress-mediated neurodegeneration via apoptotic and necroptotic pathways
T. Hasegawa, R. Oshima, K. Tamai, N. Sugeno, A. Kikuchi, J. Kobayashi, S. Yoshida, A. Takeda, N. Tanaka, M. Aoki (Sendai, Japan)
- 892 Altered glutamate response and calcium dynamics in iPSC derived striatal neurons from XDP-patients
P. Capetian, N. Stanslowsky, E.M. Bernhardt, M. Naujock, K. Grütz, A. Domingo, P. Seibler, F. Wegner, C. Klein (Lübeck, Germany)
- 893 Relative hypoglycemia induces acute chorea followed by chronic parkinsonism in a diabetic patient on hemodialysis: A case with sequential clinico-radiological correlate
K.J. Lizarraga, D. Adams, L.C. Alexandre, C. Singer (Miami, FL, USA)
- 894 Induced pluripotent stem cell-derived cortical neurons as a disease model for X-linked dystonia-parkinsonism
K. Grütz, C. Krause, A. Domingo, L. V Lee, R. Rosales, R.D. Jamora, E. Cutionco dela Paz, A. Westenberger, C. Klein, P. Seibler (Lübeck, Germany)
- 895 Phosphorylation by GSK-3 β enhances binding of metal ion induced tau oligomers to neutral lipid surfaces
G.S. Nuebling, E. Plesch, T. Högen, S. Lorenzl, F. Kamp, A. Giese (Munich, Germany)
- 896 Gait initiation in response to emotion-inducing pictures in Parkinson's disease
L. Avanzino, G. Lagravinese, A. Ravaschio, E. Pelosin, G. Abbruzzese (Genoa, Italy)
- 897 Monitoring oxidative stress and progression to cell death: From secretome to blood diagnosis
S.I. Anjo, V.M. Mendes, M. Grãos, B. MAnadas (Cantanhede, Portugal)

- 898 Faithful SGCE imprinting in iPSC-derived cortical neurons: An endogenous model system of myoclonus-dystonia
K. Grütz, P. Seibler, A. Weißbach, K. Lohmann, F.A. Carlisle, D.J. Blake, A. Westenberger, C. Klein, A. Grünwald (Lübeck, Germany)

Drug-Induced Movement Disorders

- 899 Clinical and MRI-characteristics of drug-induced parkinsonism in Uzbekistan
A. Umarov, A. Prokhorova, G. Rakhimbaeva, K. Mirzaeva, N. Tuychibaeva (Tashkent, Uzbekistan)
- 900 Histochemical evaluation of the effect of vitamin E on cyanide-induced damage on the prefrontal cortex of Sprague Dawley rats
A.O. Adekeye, P.D. Shallie (Ado-Ekiti, Nigeria)
- 901 Risk of movement disorders with antipsychotic drugs in patients with schizophrenia or depressive disorders
M.V. Rey, L. Molina, B. Recinos, B. Paz, M. Rovelo, F.E. Rodriguez Elias, J. Calderon, A. Arellano, S. Pomata, S. Perez-Lloret, CA-APD Study Team (Buenos Aires, Argentina)
- 902 Propranolol therapy for tardive dyskinesia: A retrospective examination
S.A. Factor, K.A. Armstrong, J.M. Hatcher-Martin (Atlanta, GA, USA)
- 903 1 to 40 years later: Delayed effects of brain radiation presenting as parkinsonism
R. Mehanna, J. Jimenez-Shahed, I. Itin, R. Mehanna (Houston, TX, USA)
- 904 Withdrawn by Author
- 905 Age associated effects of levodopa administration on striatal acetylcholinesterase activity
M. Messripour, A. Mesripour (Isfahan, Islamic Republic of Iran)
- 906 Manganese-induced parkinsonism and motor neuron damage- Can there be a relationship?
I. Giorgishvili, N. Lobjanidze, N. Akiashvili, M. Janelidze, M. Beridze (Tbilisi, Georgia)
- 907 Chorea – Ballism drug induced in replacement treatment with thyroid hormones – Case presentation
M. Sabau (Oradea, Romania)
- 908 A comparative study of clinical profile of patients of drug induced parkinsonism with idiopathic Parkinson's disease
S. Kushwaha, R. Mistry, A. Anthony, S. Khurana (Delhi, India)
- 909 Drug-induced parkinsonism in Taiwan
J.J. Lin, K.C. Yueh, A.C. Chen (Nantou, Taiwan)
- 910 Incidental finding of drug-induced movement disorder
G. Avagyan, H. Manvelyan, A. Nazaryan (Yerevan, Armenia)
- 911 Three distinct cases of methamphetamine induced movement disorders
T.A. Clark, J. Kraakevik (Portland, OR, USA)
- 912 Valproate-associated parkinsonism – A critical review of the literature
F. Brugger, K.P. Bhatia, F.M.C. Besag (St. Gallen, Switzerland)
- 913 MEK inhibitors have antidyskinetic effects in hemiparkinsonian rats that are associated with critical neurochemical alterations in the striatum
G. Chen, S. Nie, K. Ma, C. Han, Y. Xu, Z. Zhang, S.M. Papa, X. Cao (Wuhan, People's Republic of China)



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- 914 Withdrawn by Author
- 915 Persistent drug-induced parkinsonism with normal dopamine transporter imaging
 J.W. Lee, J.Y. Hong, J.S. Oh, I. Lee, J.S. Kim, Y.H. Sohn, P.H. Lee (Wonju, Korea)
- 916 A randomized, double-blind, placebo-controlled trial of deutetrabenazine for the treatment of tardive dyskinesia (ARM-TD)
 H.H. Fernandez, S.A. Factor, R.A. Hauser, J. Jimenez-Shahed, W. Ondo, M.S. LeDoux, D. Shprecher, T. Simuni, D. Stamler, K.E. Anderson (Cleveland, OH, USA)
- 917 Ciprofloxacin as the cause of syndroma extrapiramidale
 D. Imamovic, N. Subasic, A. Nakicevic, E. Suljic (Sarajevo, Bosnia and Herzegovina)
- 918 A survey of movement disorders in a large sample of patients treated with antipsychotic medication
 B. Balint, H. Killaspy, T.R.E. Barnes, N. Freemantle, E. Joyce, D. Martino, K.P. Bhatia (London, United Kingdom)
- 919 Endoscopically-documented pharyngeal dystonia due to neuroleptic use without response to alcohol
 J.P. Squires, W.L. Severt, M.J. Pitman (New York, NY, USA)

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- 920 Lance-Adams syndrome with post-hypoxic myoclonus-physiotherapy intervention
 B. Cruz (Long Beach, CA, USA)
- 921 The phenotypic and genetic features of myoclonus-dystonia in six Saudi Arabian kindreds
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- 922 Withdrawn by Author
- 923 Withdrawn by Author
- 924 Beyond initial clinical phenotype of Madelung disease: Myoclonus, gait disorder and multisystem involvement led to genetic diagnosis
 R. López-Blanco, A. Rojo-Sebastián, M.H. Torregrosa-Martínez, M. Molina-Sánchez, A. Blázquez-Encinar, M.Á. Martín-Casanueva (Madrid, Spain)
- 925 Fahr's syndrome in a Filipino female with hearing loss and polycystic ovaries: A case report
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- 926 Post-anoxic myoclonus: Timing matters
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- 927 Myoclonus complicating chickenpox: A case report
 F. Imounan, N. Daoudi (Meknes, Morocco)
- 928 Hemifacial spasm - Therapeutic assessment of botulinum toxin
 H.A.G. Teive, J.P. Matisti, A.D. Kleinfelder, N.B. Galli (Curitiba, Brazil)
- 929 Alcohol-responsive action myoclonus of the leg in prostate cancer: A novel paraneoplastic syndrome
 P. Termsarasab, S.J. Frucht (New York, NY, USA)

- 930 How do we clinically distinguish subtypes of myoclonus? A retrospective study
 R. Zutt, J.W. Elting, H. van der Hoeven, F. Lange, M.A.J. Tijssen (Groningen, Netherlands)
- 931 Transient myoclonic state in the elderly: A new entity in the classification of myoclonus
 T. Hashimoto, T. Doden, H. Sato (Matsumoto, Japan)
- 932 Opsoclonus myoclonus ataxia syndrome in a seronegative patient with disseminated cryptococcosis: The first case report
 K. Sakdisornchai, J. Sringean, O. Jitkrisadukul, R. Bhidayasiri (Bangkok, Thailand)
- 933 Topiramate responsive adult-onset opsoclonus myoclonus ataxia syndrome
 Y. Degirmenci, H. Kececi (Duzce, Turkey)
- 934 Psychiatric profile in functional (psychogenic) jerky movement disorders
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- 935 Oculopalatal myoclonus after stroke
 B. Klysz, I. Sarzynska-Dlugosz, A. Czlonkowska, I. Kurkowska-Jastrzebska (Warsaw, Poland)
- 936 Ortostatic myoclonus: A report of four cases
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- 937 Symptomatic palatal and respiratory tremor with ataxia following fourth ventricle epidermoid cyst removal
 B.R. Barton, B. Barton (Chicago, IL, USA)
- 938 The spectrum of CNS hyperexcitability in gluten-related disorders
 M. Hadjivassiliou, G.D. Rao, P. Sarrigiannis (Sheffield, United Kingdom)
- 939 The interrater variability in clinical assessment of post-hypoxic myoclonus
 J.C. van Zijl, M. Beudel, J.W.J. Elting, B.M. de Jong, J. van der Naalt, W.M. van den Bergh, A.O. Rossetti, M.A.J. Tijssen, J. Horn (Groningen, Netherlands)
- 940 Persistent myoclonic dystonia due to SCL2A1 mutation
 P.H. McNamara, D. Olszewska, A. McCarthy, J. McKinley, T. McVeigh, T. Lynch (Dublin, Ireland)

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- 941 A peripheral pathway to restless legs syndrome? Clues from familial amyloid polyneuropathy
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- 942 Turkish version of the Johns Hopkins restless legs syndrome quality of life questionnaire (RLS-QoL): Validity and reliability study
 S. Güler, F.N. Turan (Edirne, Turkey)
- 943 Influence of high altitude on periodic leg movements during sleep in individuals with restless legs syndrome and healthy controls: A pilot study
 A. Stefani, A. Heidebreder, H. Hackner, M. Burtscher, B. Högl (Innsbruck, Austria)



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- 944 NREM parasomnias as a marker of cognitive impairment in Parkinson's disease
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- 945 Sleep related disorders in subtypes of patients with Parkinson's disease in the Tomsk region, Russia
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- 946 Specificity and sensitivity of F-waves parameters in diagnosis of RLS/WED
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- 947 Neurophysiological investigation of brainstem in idiopathic REM sleep behavior disorder (iRBD) through vestibular evoked myogenic potentials (VEMPs)
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- 948 Sleep motor activity in amyotrophic lateral sclerosis
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- 949 Prevalence of restless legs syndrome in an atypical Parkinson's disease population
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- 950 Augmentation and impulse control disorders in restless legs syndrome – Coexistence or association?
B. Heim, L. Zamarian, A. Heidebreder, A. Stefani, M.T. Pertl, E. Brandauer, K. Seppi, M. Delazer, W. Poewe, B. Högl, A. Djamshidian (Innsbruck, Austria)
- 951 Withdrawn by Author
- 952 Depression and apathy in restless legs syndrome
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- 953 Duodopa for the treatment of severe restless legs syndrome
J. Perez-Perez, B. Pascual-Sedano, A. Campolongo, J. Kulisevsky (Barcelona, Spain)
- 954 Systematic review and meta-analysis of randomized controlled trials to evaluate placebo response in restless legs syndrome
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- ### Spasticity
- 955 A homozygous loss-of-function mutation in DNAJA3 causes hereditary motor and sensory neuropathy with spastic paraplegia (HMSN type V)
T. Kawarai, R. Miyamoto, Y. Kuroda, M. Omoto, M. Ueyama, N. Murakami, T. Furukawa, R. Oki, A. Mori, Y. Osaki, C. Banzrai, H. Nodera, A. Orlacchio, A. Hashiguchi, Y. Higuchi, H. Takashima, T. Kanda, Y. Izumi, Y. Nagai, T. Mitsui, R. Kaji (Tokushima, Japan)
- 956 A phase 3, placebo-controlled study with an open-label extension: Sustained incobotulinumtoxinA efficacy in upper-limb post-stroke spasticity over 48 weeks
P. Kanovský, A. Brashear, E.P. Elovic, M.C. Munin, A. Hanschmann, R. Hiersemenzel, C. Marciniak (Olomouc, Czech Republic)
- 957 Safety and efficacy of escalating doses of incobotulinumtoxinA (400-800U): Increasing improvements in disability due to multifocal upper- and lower-limb spasticity
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- 958 SPasticity in PractiCE (SPACE) – An international, observational study of botulinum toxin type A in spasticity
J. Wissel, J. Harriss, O. Simon, K. Sternberg, N. Roche, C. Cantú-Brito, S. Khatkova, P. Säterö (Berlin, Germany)
- 959 Muscle selection patterns for injection of onabotulinumtoxinA in adult patients with post-stroke lower-limb spasticity influence outcome: Results from a double-blind, placebo-controlled phase 3 clinical trial
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- 960 Spastic gait and mechanical energy recovery in children with hereditary spastic paraplegia
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- 961 Hemi-stereotypies symptomatic to aneurysm: Differential diagnosis of tardive dyskinesia
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- 962 A pilot study of SD-809 (deutetrabenazine) in tics associated with Tourette syndrome
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- 963 Longitudinal follow-up of the association of tic disorders with poor academic performance
E. Cubo, C. Gonzalez-Deza, V. Ausin, V. Delgado, S. Saez, X.R. Garcia-Soto, S. Calvo, J. Cordero, J.M. Trejo, J. Macarron, K. Kompoliti (Burgos, Spain)
- 964 The temporal relationship between premonitory sensations and tics compared to obsessions
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- 965 Tick disorders in children and differential diagnosis with progressive diseases of the nervous system
D. Aminova, K. a (Tashkent, Uzbekistan)
- 966 Cognitive impairments in children with tic disorders and Tourette syndrome
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- 967 Children with idiopathic tics reveal additional features of hyperkinetic movement disorders
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- 968 Relationship of serum ferritin level and tic severity in children with Tourette syndrome
D. Ghosh, E.L. Burkman (Columbus, OH, USA)
- 969 Medical cannabis for the treatment of Tourette syndrome: A descriptive analysis of 24 patients
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- 970 The inflammatory burden of tic onset in a paediatric cohort: A preliminary study
 A. Capuano, F. Nicita, M. Angeloni, F. Vigeveno (Rome, Italy)
- 971 Modulation of thalamocortical network dynamics via deep brain stimulation in humans with Tourette syndrome
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- 972 Tics exacerbations in middle-aged and older adults with Tourette syndrome: A case series
 D. Robakis, D. Machado, E. Penney, E.D. Louis (New Haven, CT, USA)
- 973 Do different tic phenotypes have different responses to comprehensive behavioral intervention for tics (CBIT)?
 W. Deeb, L. Almeida, H. Simpson, I. Malaty, M. Okun (Gainesville, FL, USA)
- 974 Long-term responsive deep brain stimulation in Tourette syndrome
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- 975 Frontal dysfunction in Tourette syndrome: A PET-FDG study
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- 985 Neurodegenerative disorders with atypical course and cause, diagnostic contribution of genetics and magnetic resonance imaging, two case reports
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- 988 Tremor frequency by iPhone® applications: Correlation with EMG analysis
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- 990 Sleep in essential tremor patients: A polysomnographic study
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- 991 Is tremor related to celiac disease?
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- 993 Structural and functional signature of primary orthostatic tremor
 C. Gallea, T. Popa, E. Roze, S. Lehéricy, S. Meunier, M. Vidailhet (Paris, France)
- 994 Phenotypes in Essential Tremor: Gait analysis and imaging study
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- 995 Effect of L-DOPA on re-emergent tremor in Parkinson's disease: A neurophysiological assessment
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- 996 Are patients with familial ET distinct from those with sporadic ET? Insight from 250 patients
 M. Manjunath, A. Lenka, K. Jhunjunwala, K.S. Bhalsing, P.K. Pal (Bengaluru, India)
- 997 To new method of tremor assessment
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- 998 Insulin dependent diabetes and hand tremor
 S. Khachatryan, G. Avagyan, K. Harutyunyan, A. Voskanyan, I. Gabrielyan, H. Amirjanyan, H. Manvelyan (Echmiadzin, Armenia)
- 999 Increase L-dopa dosage for rest tremor or think about the essential tremor too?
 A. Voskanyan, G. Avagyan, E. Khachatryan, K. Harutyunyan, S. Khachatryan, H. Amirjanyan, H. Manvelyan (Yerevan, Armenia)
- 1000 Nystagmus in harmaline induced tremors in rats and attenuation with ethanol
 N. Biary, A. Al Asmari, M. Arshaduddin, M. Al Zawahmah (Riyadh, Saudi Arabia)
- 1001 Post-traumatic rubral tremor - A rare entity
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- 976 An open label trial to test the modulation of cerebellar motor pathways in primary orthostatic tremor using rTMS and fMRI
 C. Gallea, E. Roze, S. Lehéricy, M. Vidailhet, S. Meunier (Paris, France)
- 977 An optimized formulation of velocity distribution in digital spiral analysis to differentiate essential tremor and Parkinson's disease
 K.H. Chen, Y.J. Chen, P.C.L. Lin, B.S. Yang, C.H. Lin, R.M. Wu (Hsin-Chu, Taiwan)
- 978 Correlation between tremor severity of essential tremor and perpendicular displacement in digital spiral analysis
 K.H. Chen, Y.J. Chen, P.C. Lin, B.S. Yang, C.H. Lin, R.M. Wu (Hsin-Chu, Taiwan)
- 979 Tremor amplitude detected by three-dimensional optical device provides good correlation to clinical rating scale
 K.H. Chen, P.C. Lin, Y.J. Chen, B.S. Yang, C.H. Lin, R.M. Wu (Hsin-Chu, Taiwan)
- 980 Individualized botulinum toxin type A therapy of bilateral upper limb essential tremor by multi-sensor kinematic technology
 O. Samotus, H. Moradi, M. Jog (London, ON, Canada)
- 981 Essential tremor: Characterization according to their phenotypes and their association with Parkinsonian signs
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- 982 Digitizing tablet and Fahn-Tolosa-Marín tremor ratings have comparable minimum detectable change
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- 983 Orthostatic tremor: Is deep brain stimulation better than spinal cord stimulation?
 H.L. Chiang, Y. Tai, V.S.C. Fung, N. Mahant (Sydney, Australia)
- 984 Orthostatic tremor: Disease progression and disability
 N. Vijjaratnam, D. Siresena, E. Paul, K.L. Bertram, D.R. Williams (Melbourne, Australia)



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- 1002 Resetting tremor by single pulse transcranial magnetic stimulation at the motor cortex and the cerebellum in essential tremor and dystonic tremor
P. Panyakaew, H.J. Cho, P. Srivarnichapoom, M. Hallett (Bethesda, MD, USA)
- 1003 Incidence of waning tremor control in essential tremor patients with deep brain stimulation
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- 1004 Analysis of LINGO1 and LINGO2 genes in essential tremor and Parkinson's disease
N.Y. Abramychewa, M.S. Stepanova, E.Y. Fedotova, E.O. Ivanova, S.N. Illarioshkin (Moscow, Russia)
- 1005 Isolated finger tremor in Parkinson's disease and essential tremor
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- 1006 Re-emergent tremor in Parkinson's disease: Epidemiological and clinical features
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- 1007 Identification of a new biomarker in a mouse model of essential tremor using EEG
V. Duveau, B. Mandé, B. Pouyatos, Y. Roche, C. Roucard (La Tronche, France)
- 1008 Nystagmus in essential tremor
N. Biary, M. Al Zawamah, W. Khoja, A. Al Abdulsalam (Riyadh, Saudi Arabia)
- 1009 The visible leg tremor at standing is always orthostatic tremor?
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- 1010 Isolated eyebrow tremor as an initial presentation form of Parkinson's disease
E. Lopez Valdes, M. Catalán, R. Garcia-Ramos, P. Montero, I. Parees, F. Alonso (Madrid, Spain)
- 1011 Does VIM deep brain stimulation affect swallowing?
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- 1012 Timing control of gait in essential tremor patients vs. age-matched controls
A.K. Rao, E.D. Louis, A.K. Rao (New York, NY, USA)
- 1013 Regulation in speech motor control in ET patients treated with DBS: Kinematics of the lingual and the labial systems
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- 1014 MRI guided high-intensity focused ultrasound for the treatment of essential tremor and Parkinson's disease: Clinical outcome and radiological findings of unilateral thalamotomy
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- 1015 Towards a responsive deep brain stimulation for the treatment of essential tremor
E. Opri, J. Shute, R. Molina, M. Okun, A. Gunduz, K. Foote (Gainesville, FL, USA)
- 1016 ICF-based effects of VIM-DBS on communication in everyday life in patients with essential tremor
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- 1017 The effect of uni- and bilateral thalamic deep brain stimulation on speech in patients with essential tremor: Acoustics and intelligibility
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- 1018 Differentiating Parkinson's disease from advanced essential tremor using EMG
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- 1019 Effect of zonisamide on post-traumatic Holmes' tremor
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- 1020 Comparing tremor- and non-tremor effects of ethanol in patients with essential tremor
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- 1021 Quantitative assessment of DBS-induced gait disorder in patients with essential tremor
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- 1022 Primidone-related connective tissue disorders in essential tremor
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- 1023 Tremor-recording methods and related quantitative tremor parameters in Parkinson's disease
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- 1025 Effect of marijuana on Essential Tremor: A case report
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- 1026 Video-based tremor analysis via Kinect® System in comparison to accelerometric and electromyographical tremor detection
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- 1027 Involvement of cerebellothalamocortical pathway in essential tremor and dystonic tremor
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- 1029 Substantia nigra $\alpha 4\beta 2$ nicotinic cholinergic receptor expression correlates with tremor in Parkinson's disease
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- 1030 Eye movement abnormalities in essential tremor and other neurodegenerative diseases (Parkinson's disease, spinocerebellar ataxia, Huntington disease)
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- 1031 The scale for assessment and rating of ataxia in early onset ataxia; always a reliable biomarker?
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- 1033 Esophageal involvement in multiple system atrophy
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- 1034 Deep brain stimulation of the dentate nucleus improves ataxia and modulates cortical excitability
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- 1035 Evaluation of parkinsonism and striatal dopamine transporter loss in patients with spinocerebellar ataxia type 6
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- 1036 Modelling spinocerebellar ataxia 15 with iPS cell derived neurons
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- 1037 Sub-acute rapidly progressive cerebellar ataxia - A case of JC virus associated granule cell neuronopathy (GCN)
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- 1038 Impaired eye voice coordination in spinocerebellar degeneration while reading aloud
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- 1039 Natural history of saccadic abnormalities in spinocerebellar ataxia 2: Implications to designing future clinical trials
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- 1040 Relationship between sensory augmentation and exercise routine in the improvement in balance and gait in a patient with lithium-induced ataxia
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- 1041 Prodromal criteria of spinocerebellar type 2: Lessons for physiopathology, natural history and therapeutical trials
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- 1042 Withdrawn by Author
- 1043 The aetiology of idiopathic late onset cerebellar ataxia
R. Barbosa, M. Mendonça, T. Lampreia, P. Bugalho (Lisboa, Portugal)
- 1044 Comparison of mental practice and proprioceptive neuromuscular facilitation in sisters with cerebellar atrophy
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- 1045 Core set of measures of balance for people with multiple sclerosis and cerebellar ataxia
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- 1046 Movement disorders are the common signs as the first neurological deficit in cases with spinocerebellar ataxia type 2 (SCA2)
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- 1047 Sporadic cerebellar ataxia associated with hypogonadotropic hypogonadism and PNPLA6 gene mutation. Case report in a Brazilian patient
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- 1048 Depression and clinical progression in spinocerebellar ataxias
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- 1049 Peripheral insulin sensitivity and body composition alterations in early stage Machado Joseph disease
J.A. Saute, S.N. Gabriele, C.B. Haas, V.R. Torrez, A.W. Brochier, G.V. Furtado, T.C. Gheno, A.D. Russo, T.L. Monte, A. Schumacher-Schuh, R. D'Avila, K.C. Donius, R.M. Castilhos, D.O. Souza, M.L. Saraiva-Pereira, V.L. Torman, S.A. Camey, C.R.M. Rieder, L.V.C. Portela, L.B. Jardim (Porto Alegre, Brazil)
- 1050 Magnetic resonance imaging in spinocerebellar ataxias: A systematic review
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- 1051 Fiberoptic endoscopic evaluation of swallowing findings in patients with Machado-Joseph disease
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- 1052 Acute cerebellar degeneration as the first manifestation of Sjögren syndrome: A case report
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- 1056 Sustained effects of cerebellar transcranial direct current stimulation in patients with ataxia: A randomized, double blind, sham-controlled study
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- 1057 STUB1/CHIP mutations cause Gordon Holmes syndrome as part of widespread multisystemic neurodegeneration: Evidence from novel mutations
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- 1058 Preliminary findings of MR imaging of the entire spinal cord in Friedreich's ataxia
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- 1059 Anti-GAD antibody cerebellar ataxia mimicking multiple system atrophy
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- 1060 A cross-sectional study in spinocerebellar ataxia type 12 (SCA-12) patients from a tertiary care center in Eastern India
S. Chatterjee, R. Banerjee, B. Mondal, M.U. Kulsum, K. Chatterjee, S.S. Jha, P. Chatterjee, S. Choudhury, S.S. Anand, H. Kumar (Kolkata, India)



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- 1061 Fragile X-associated tremor/ataxia syndrome in two female patients
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- 1062 Can quantitative analysis of the “finger-to-nose test” discern between EOA and other conditions of coordination impairment?
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- 1063 Repeat size and X-inactivation in the clinical phenotype of fragile X premutation carrier sisters: A familial case series
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- 1064 Clinico-genetic correlation in Indian spinocerebellar ataxia (SCA1) patients
A. Takkar, I. Ahmed, S. Shakya, V. Suroliya, R. Singh, A. Sonkar, A.K. Srivastava, M. Faruq (New Delhi, India)
- 1065 Predominant motor neuron involvement in autosomal recessive SYNE1 ataxia
W. Nachbauer, A. Schossig, C. Fauth, W. Poewe, S. Boesch (Innsbruck, Austria)
- 1066 Co-occurrence of two triplet repeat associated SCA mutations: A dilemma in clinical diagnosis, prognosis and genetic counselling and clinical significance
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- 1067 Abnormal findings in polysomnographic records of patients with spinocerebellar ataxia type 2 (SCA2)
A. Zanatta, A.C.d.S. Crippa, F.M.B. Germiniani, H.A.G. Teive (Curitiba, Brazil)
- 1068 Cancer in Machado Joseph disease patients – Low frequency as a cause of death
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- 1069 Novel variants in the SACS gene in a first Central-Eastern European family with autosomal recessive spastic ataxia of Charlevoix-Saguenay (ARSACS)
M. Schinwelski, M. Krygier, J. Slawek, M. Zuk, M. Ryzdanicz, A. Walczak, P. Stawinski, A. Konkel, M. Sildatke-Bauer, R. Ploski, J. Limon (Gdansk, Poland)
- 1070 Withdrawn by Author
- 1071 Autosomal recessive ataxia due to ANO10 mutations; full and novel phenotypic data in an Irish pedigree
P. Bogdanova-Mihaylova, N. Austin, M.D. Alexander, L. Cassidy, S.M. Murphy, R.A. Walsh (Dublin, Ireland)
- 1072 CAG repeats number of ATXN7 in SCA7 patients and normal population in Japan
Y. Adachi, R. Shimoyama (Matsue, Japan)
- 1073 Withdrawn by Author
- 1074 Evaluating the effects of deep brain stimulation (DBS) in mice with spinocerebellar ataxia (SCA1)
V. Vedam-Mai, K. McFarland, Q. Zhang, H. Kim, R. Nathu, S. Kurtovic, K. Savery, T. Ashizawa, M.S. Okun (Gainesville, FL, USA)
- 1075 A largest case series study of spinocerebellar ataxia type 2(SCA2) from India: Do SCA2 clinical subtypes exist?
A.K. Srivastava, A.K. Sonakar, S. Shakya, V. Suroliya, A. Takkar, I. Ahmad, R.K. Singh, I. Singh, D. Vibha, G. Shukla, V. Goyal, K. Prasad, A. Garg, M. Faruq (New Delhi, India)
- 1076 Clinical and analytical validation of novel autosomal recessive ataxia mutations identified from whole exome sequencing
S. Shakya, R. Kumari, A.K. Srivastava, D. Dash, A. Takkar, I. Singh, A. Garg, M. Mukerji, M. Faruq (New Delhi, India)
- 1077 Prolonged cerebellar syndrome after Legionnaire’s disease
B.R. Barton (Chicago, IL, USA)
- 1078 A unique phenotype associated with anti-GAD antibodies
A.P. Mentreddi, S. Chitnis, P. Khemani (Dallas, TX, USA)
- 1079 Iron accumulation and volume loss in the extrapyramidal motor system in Friedreich ataxia: The IMAGE-FRDA study
I. Harding, M. Delatycki, L. Corben, P. Raniga, M. Stagnitti, E. Storey, N. Georgiou-Karistianis, G. Egan (Melbourne, Australia)
- 1080 European pediatric normative values for the scale for assessment and rating of ataxia (SARA)
T.F. Lawerman, R. Brandsma, R.J. Lunsing, J.G.M. Burgerhof, D.A. Sival, On behalf of the Childhood Ataxia and Cerebellar Study Group of the European Pediatric Neurology Society, N. Barisic, P. Baxter, E. Bertini, L. Blumkin, V. Brankovic, G.E. Calabro, C.E. Catsman-Berrevvoets, D. Craiu, B. Dan, A. Dica, T. Franciskovic, J. Gburek-Augustat, S. Grunt, H. Hartley, F. Kammoun, C. Kennedy, M.J. Kuiper, I. Lehman, A. Lustenberger, F. Mancini, M. Mirabelli-Badenier, E. Mulder-den Hartog, M. Steinlin, M. Synofzik, C.C. Triki, E.M. Valente, G. Vasco, A. Zekavica (Groningen, Netherlands)
- 1081 Hereditary spastic paraplegia caused by heterozygous AFG3L2 and SPG7 mutations
C.D. Stephen, J.D. Schmahmann (Boston, MA, USA)
- 1082 A novel causal mutation for spinocerebellar ataxia 19/22 (SCA19)
C.M. Testa, V. Norris, J. Hoder, V. Hagood, R. Lewandowski, G.N. Tseng (Richmond, VA, USA)
- 1083 Neurologic phenotypic variability in spinocerebellar ataxia type 2 (SCA2)
T.L. Monte, C.L. Lucas, S. Amanda, R. Estela, A. Marina, M.L.S. Pereira, J.L. Pedroso, O. Barsotini, F.R. Vargas, P. Fernanda, R. Castilho, L.B. Jardim (Porto Alegre, Brazil)
- 1084 Long-term impact of lead poisoning on neurologic function in children and adolescents
N.T. Boyd, M.J. Kuiper, R. Brandsma, T.F. Lawerman, R.J. Lunsing, F. Serrano, C. Olivera, D.A. Sival (Groningen, Netherlands)
- 1085 Spinocerebellar ataxia 17: First observation in Russia
S.A. Klyushnikov, D.A. Prikhodko, N.Y. Abramycheva, M.Y. Krasnov, S.N. Illarionov (Moscow, Russia)
- 1086 GAA expansion with clinic/urodynamic findings in Friedreich’s ataxia with LUTS
P.N.S. Almeida, A.F.A. Musegante, U. Barroso (Salvador, Brazil)
- 1087 The nucleocytoplasmic transport of ataxin-3 as pathogenic mechanism in spinocerebellar ataxia type 3
T. Schmidt, A. Sowa, I.M. Martins, M. Abedi, Z. Wang, J. Schmidt, H. Tricoire, O. Riess (Tübingen, Germany)
- 1088 Clinical and imaging characteristics of spinocerebellar ataxia type 14 defined in a German multi-center sample
T. Schmitz-Hübsch, S. Lux, A.U. Brandt, P. Bauer, E. Schlapakow, S. Greschus, H. Gärtner, M.E. Kirlangic, V. Gras, D. Timmann, M. Synofzik, N. Shah, L. Schöls, U. Kopp, T. Oberwahrenbrock, H. Zimmermann, C. Pfueller, E.M. Kadas, M. Rönnefarth, A. Grosch, M. Endres, T. Klockgether, K. Amunts, F. Paul, S. Doss, M. Minnerop (Berlin, Germany)



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- 1089 Biochemical evaluation in patients with suspected ataxia related to CoQ10 deficiency
 J.L.H. Pedroso, F.G. Ravagnani, M.H. Barros, L.R. Sanches, F.R. Picosse, T.O. Lopes, P.C. Aguiar, M. Chiaratti, C.H. Macabelli, J.H. Arita, M.R. Masruha, O.G. Barsottini, C.C. Ferreiro-Barros (São Paulo, Brazil)
- 1090 Early clinical features of paraneoplastic cerebellar degeneration: Diagnostic outcomes of adult onset cerebellar ataxia
 J. Zhang, Z. Xu, J.Y.H. Chai, L. Tan (Beijing, People's Republic of China)
- 1091 Cortical grey matter atrophy in the motor system in Friedreich ataxia: The IMAGE-FRDA study
 I. Harding, L. Selvadurai, L. Corben, M. Stagnitti, E. Storey, G. Egan, M. Delatycki, N. Georgiou-Karistianis (Melbourne, Australia)
- 1102 Magnetic resonance imaging and pyramidal impairment in Huntington disease
 A. Sanguinetti, S. Lescano, M. Cesarini, J. Etcheverry, E. Gatto (Buenos Aires, Argentina)
- 1103 Withdrawn by Author
- 1104 CAG repeat length and weight loss in pre-manifest Huntington's disease
 C.F. Kutz, L.J. Adams (Colorado Springs, CO, USA)
- 1105 A randomized double-blind placebo- and positive-controlled crossover study to evaluate the effects of single doses of SD-809 (deutetrabenazine) and tetrabenazine on the corrected QT interval
 D. Stampler, E. Offman, M. Bradbury, L. De Boer (La Jolla, CA, USA)

Choreas (Non-Huntington's Disease)

- 1092 Evidence of striatal dopaminergic dysfunction Sydenham's chorea in remission with (99m)Tc-TRODAT-1 SPECT
 R. Maciel, D. Maia, C.F. de Lima, F. Cardoso (Belo Horizonte, Brazil)
- 1093 Juvenile chorea: Diagnostic criterias, prediction of movement disorders
 M.D. Sanoeva, N.A. Mansurova, M. Avezova (Bukhara, Uzbekistan)
- 1094 Phenotypic insights into ADCY5-associated disease
 F.C.F. Chang, A. Westenberger, R.C. Dale, M. Smith, H.S. Pall, B. Perez-Duenas, P. Grattan-Smith, R.A. Ouvrier, N. Mahant, B.C. Hanna, M. Hunter, J.A. Lawson, C. Max, R. Sachdev, E. Meyer, D. Crimmins, D. Pryor, J.G.L. Morris, A. Munchau, D. Grozeva, K.J. Carss, L. Raymond, M.A. Kurian, C. Klein, V.S.C. Fung (Wentworthville, Australia)
- 1095 Chorea-acanthocytosis: The first described clinical case in Ukraine
 Y.O. Trufanov (Kyiv, Ukraine)
- 1096 Phenomenology and therapeutic strategies in a series of patients with chorea-acanthocytosis
 C. Estevez-Fraga, M. Matarazzo, R. Rigual, P. Garcia Ruiz, L. Vela, M. Kurtis, A. Minguez, R. Luquin, I.J. Posada Rodriguez, M.C. Rodriguez-Oroz, J. Garcia de Yébenes, J.C. Martínez-Castrillo, J.L. López-Sendón (Madrid, Spain)
- 1097 Persistent hemichorea and caudate atrophy in untreated diabetic striatopathy
 B. Krishnaiah, E. Lucassen, M.C. Stahl (Hershey, PA, USA)
- 1106 Beneficial effect of L-theanine against 3-nitropropionic acid induced neurotoxicity in rats: Possible role of neurotransmitters and nitric oxide
 P. Kumar, S. Jamwal (Moga, India)
- 1107 Combined imaging markers increase accuracy when predicting real life disease onset in Huntington's disease
 S.L. Mason, R. Daws, R.A. Barker, A.D. Hampshire (Cambridge, United Kingdom)
- 1108 Neuroprotective potential of L-theanine against excitotoxic neuronal death induced by quinolinic acid: Possible neurotransmitters and nitric oxide modulation mechanism
 S. Jamwal, P. Kumar (Moga, India)
- 1109 Tractography study of individuals with mutation for Huntington's disease in symptomatic and pre-symptomatic phases
 R.A. Saba, J. Yared, T. Doring, V. Borges, L.B. Barcelos, H.B. Ferraz (São Paulo, Brazil)
- 1110 Swallowing disorders characteristics and the relation to cognitive level, disease duration and disease severity in patients with Huntington's disease
 Y. Manor, D. Shpunt, N. Avniel, S. Assa, Y. Torner, A. Gad, A. Ezra, J. Knaani, A. Socher, Y. Oestriecher-Kedem, T. Gurevich (Tel Aviv, Israel)
- 1111 Suicide attempts and Huntington's disease: Perseveration, not just impulsivity
 O.C. Roman, J.G. Stovall, D.O. Claassen (Nashville, TN, USA)
- 1112 Early grey matter changes in structural covariance networks in Huntington's disease
 E.M. Coppen, J. van der Grond, A. Hafkemeijer, S.A.R.B. Rombouts, R.A.C. Roos (Leiden, Netherlands)
- 1113 Progression of motor subtypes in Huntington's disease: A six-year follow-up
 M. Jacobs, E.P. 't Hart, R.A.C. Roos (Leiden, Netherlands)
- 1114 Dysphagia in early stage Huntington's disease (HD) – Pilot observations from a multimodal imaging study
 I. Trender-Gerhard, E. Michou, A. Gerhard, D. Craufurd, S. Hamdy, K. Herholz (Manchester, United Kingdom)
- 1115 Abnormal intrinsic brain activity reveals neural correlates of impaired cognitive function in early stage of Huntington's disease (HD): A resting-state fMRI study
 W. Liu, J. Yang, K. Chen, C. Luo, J.M. Burgunder, Q. Gong, H. Shang (Chengdu, People's Republic of China)
- 1116 Cognitive impairment in Huntington's disease
 N. Kamble, N. Netravathi, K. Kumar, S. Jain, P.K. Pal (Bangalore, India)

Huntington's Disease

- 1098 CSF inflammatory and cell death biomarkers in Huntington's disease – An exploratory cross-sectional study
 F.B. Rodrigues, L. Byrne, S.J. Tabrizi, H. Zetterberg, E. Wild (London, United Kingdom)
- 1099 Huntington disease phenocopies or misdiagnosis: A black South African cohort
 F.K. Baine, A. Krause (Johannesburg, South Africa)
- 1100 Loss of extra-striatal phosphodiesterase 10A expression in early premanifest Huntington's disease gene carriers
 H. Wilson, F. Niccolini, S. Haider, T. Reis Marques, G. Pagano, C. Coello, S. Natesan, S. Kapur, E.A. Rabiner, R.N. Gunn, S.J. Tabrizi, M. Politis (London, United Kingdom)
- 1101 Communication and language skills in Huntington's disease
 Y. Manor, D. Shpunt, S. Naor, L. Frydman, A. Gad, A. Ezra, A. Migirov, J. Knaani, A. Socher, T. Gurevich (Tel-Aviv, Israel)



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- 1117 Withdrawn by Author
- 1118 Verbatim patient-reported outcomes and trails making test B (TMT-B) performance in the REACH2HD trial
J.L. Purks, A. Zeymo, N.M. Shara, K.E. Anderson, I. Shoulson (Washington, DC, USA)
- 1119 Cortico-striatal functional connectivity in the premanifest and manifest period of Huntingtons disease measured with high-field functional magnetic resonance imaging
M. Kronenbuerger, J. Hua, C.A. Ross (Baltimore, MD, USA)
- 1120 Striatal molecular alterations in Huntington's disease gene expansion carriers: A systematic review and meta-analysis of PET studies
F. Niccolini, G. Pagano, P. Fusar-Poli, A. Wood, L. Mrzljak, C. Sampaio, M. Politis (London, United Kingdom)
- 1121 Tau pathology in Huntington's disease: A brief in vivo PET-imaging report
K. Giehl, K. Reetz, I. Dogan, C. Werner, J.B. Schulz, A. Drzezga, T. van Eimeren (Köln, Germany)
- 1122 Dysregulations of GABAergic neurotransmission in Huntington's disease brain
Y.T. Hsu, Y.G. Chang, H.M. Chen, Y. Chern (Taichung, Taiwan)
- 1123 Cerebellar gray matter alterations in Huntington disease: A voxel-based morphometry study
P. Azevedo, R. Guimarães, L. Piovesana, C. Piccinin, M.C. Arci, L. Villany, L. Campos, G. Pinheiro, J. Zuiane, A. Amato Filho, F. Cendes, Í. Lopes-Cendes, A. D'Abreu (Campinas, Brazil)
- 1124 Program evaluation empowerment of people with Huntington's disease (HD) and their families: Using goal attainment scaling (GAS)
D. Albuquerque, N. Rojas, S. Tapia, P. Reyes, C. Silva, P. Chana-Cuevas (Santiago, Chile)
- 1125 The effects of gait and balance training on walking economy in early and mid stage Huntington's disease
J.L. Kubica, J. Szymura, E. Mirek, M. Filip, M. Wiecek, M. Maciejczyk, M. Rudzinska, U. Pustulka-Piwnik, J. Stozek, S. Pasiut (Krakow, Poland)
- 1126 Emotional facial EMG responses are affected in Huntington's disease
C.C. Kordsachia, I. Labuschagne, J. Stout (St. Kilda, Australia)
- 1127 Altered cerebello-thalamo-cortical pathway in Huntington's disease
J.F. Martín-Rodríguez, M. Gómez-Crespo, M.T. Cáceres-Redondo, L. Vargas-González, F.J. Palomar, P. Porcacchia, P. Álvarez de Toledo, J.M. Oropesa-Ruiz, F. Carrillo, I. Huertas-Fernández, S. Jesús, P. Mir (Seville, Spain)
- 1128 Structural connectivity networks in prodromal and clinical Huntington's disease
C. Sanchez-Castañeda, H. Baggio, U. Sabatini, F. Squitieri, C. Junque (Barcelona, Spain)
- 1129 Indirect comparison of tolerability of deutetrabenazine and tetrabenazine in the FIRST-HD and TETRA-HD trials
D.O. Claassen, B. Carroll, L.M. De Boer, E. Wu, R. Ayyagari, S. Gandhi, D. Stamler (Nashville, TN, USA)
- 1130 Temporal course of the UHDRS chorea score in Huntington disease
T.J. Felong, P. Auinger, S. Gandhi, V. Abler, K. Biglan, S. Papapetropoulos, C. Venuto, R. Dorsey (Rochester, NY, USA)
- 1131 Temporal course of the total motor score in Huntington disease
P. Auinger, T.J. Felong, S. Gandhi, V. Abler, K. Biglan, S. Papapetropoulos, C. Venuto, R. Dorsey (Rochester, NY, USA)
- 1132 Clinical presentation and genetic characteristics of Huntingtons disease in Croatia: Thirty years of experience
M. Relja, I. Jurjevic, K. Blazina, V. Miletic, N. Klepac (Zagreb, Croatia)
- 1133 Demographic and phenotypic comparison of Huntington's disease in Europe and North America: Data from REGISTRY and COHORT, two prospective observational cohort studies
M. Orth, J. Bronzova, C. Tritsch, R. Dorsay, J.M. Burgunder, A. Gemperli (Ulm, Germany)
- 1134 Maintenance of balance function in patients with HD treated with deutetrabenazine, as measured by Berg balance test (BBT) in First-HD
D.O. Claassen, D. Oakes, D. Stamler, V. Sung, C.M. Testa, S. Frank, On behalf of the First-HD HSG Investigators (Nashville, TN, USA)
- 1135 Fifteen years of clinical trials in Huntington's disease: Too many clinical trial failures
A.M. Travessa, F.B. Rodrigues, T.A. Mestre, C. Sampaio, J.J. Ferreira (Lisboa, Portugal)
- 1136 Fast and simple non-invasive screening tool for mitochondrial changes in Huntington's disease
P. Dušek, M. Rodinová, I. Lišková, E. Trefilová, Z. Ellederová, J. Klempír, J. Roth, H. Hansíková (Prague, Czech Republic)
- 1137 The assessment of quality of life in patients with early and moderately advanced Huntington disease
N. Szejko, L. Milanowski, A. Gogol, Z. Jamrozik, P. Janik (Warsaw, Poland)
- 1138 Enroll-HD: A global clinical research platform for Huntington's disease
T.A. Mestre, C. Fitzer-Attas, J. Giuliano, B. Landwehrmeyer, C. Sampaio (Ottawa, ON, Canada)
- 1139 Specific in-patient's rehabilitation improves postural and gait instability in Huntington's disease
L. Brabcová, J. Roth, O. Horáček, M. Kolárová, H. Bozková, J. Ruzs, P. Košková, K. Lisalová, F. Jancok, J. Klempír, E. Ruzicka, H. Brozová (Beroun, Czech Republic)
- 1140 Clinical and neuroimaging correlations in early manifest Huntington's disease patients: Default mode network properties according to resting-state functional MRI
Y.A. Seliverstov, E.V. Seliverstova, S.A. Klyushnikov, R.N. Kononov, S.N. Illarionovskiy (Moscow, Russia)
- 1141 Epidemiology and economic burden of falls and fractures in patients with Huntington's disease
D.O. Claassen, P. Donga, S. Rajagopalan, L.M. De Boer, B. Carroll, S. Gandhi (Nashville, TN, USA)
- 1142 Interleaved pro- and anti-saccade performance in Huntington's disease
I. Vaca-Palomares, J. Fernandez-Ruiz, B. Coe, D.P. Munoz (Kingston, ON, Canada)
- 1143 Predictors of quality of life in Huntington's disease. A longitudinal observational study
A. Brás, F. Júlio, M. Sousa, F. Blanco, C. Januário (Coimbra, Portugal)



Abstracts by Topic

- 1144 Neurophysiological evidence of posterior-cortical alterations in premanifest Huntington's: An event-related brain potentials study of face and face-like objects processing
 S. Martinez-Horta, J. Perez-Perez, A. Horta-Barba, R. Fernandez-Bobadilla, J. Pagonabarraga, J. Kulisevsky (Barcelona, Spain)
- 1145 Alternatives for reducing chorea in Huntington disease, a long-term trial (ARC-HD): Updated week 8 results for the switch cohort
 V. Sung, D. Stamler, D.O. Claassen (Birmingham, AL, USA)
- 1146 Evaluation of quality of life (QOL), patient- and clinician-reported outcomes with deutetrabenazine treatment of chorea in Huntington disease in first-HD
 C.M. Testa, D.O. Claassen, D. Oakes, D. Stamler, V. Sung, S. Frank, On behalf of the First-HD HSG Investigators (Richmond, VA, USA)
- 1147 Strategies for a high quality data in an observational longitudinal study: Enroll-HD experience
 N. Gonçalves, D. Abreu, R. Lobo, J. Giuliano, T. Mestre, J.J. Ferreira, C. Fitzer-Attas, B. Landwehrmeyer, C. Sampaio (Lisbon, Portugal)
- 1148 Evaluating swallowing function in patients with Huntington disease enrolled in the first-HD study
 S.A. Frank, D.O. Claassen, S. Janicki, D. Oakes, D. Stamler, V. Sung, C. Vaughn, C.M. Testa, On behalf of First-HD HSG Investigators (Boston, MA, USA)
- 1149 Clinical and behavioral features in carriers of intermediate length alleles of HTT gene. A case series of Mexican population
 M.A. Ramírez-García, D.J. Dávila-Ortiz de Montellano, P. Yescas-Gómez, A. Ochoa-Morales, C. Boll, M.E. Alonso-Vilatela (Mexico City, Mexico)
- 1150 A health cost analysis for Huntington disease in Peru
 G. Silva-Paredes, M. Cornejo-Olivas, M. Inca-Martinez, K. Espinoza-Huertas, A. Vishnevetsky, P. Mazzetti, R. Urbanos-Garrido (Lima, Peru)
- 1151 Psychosis in Huntington's disease
 J. Perez-Perez, S. Martinez-Horta, M. Carceller, J. Pagonabarraga, A. Horta, R. Fernandez-Bobadilla, J. Kulisevsky (Barcelona, Spain)
- 1152 THK-5351 tau-tracer uptake in patients with clinically diagnosed progressive supranuclear palsy
 S. Schönecker, M. Brendel, J. Havla, G. Höglinger, K. Bötzel, A. Danek, A. Rominger, J. Levin (Munich, Germany)
- 1153 Verbal fluency deficits in essential tremor patients: Underlying structural changes
 E.A. Pelzer, C. Nelles, D.J. Pedrosa, L. Burghaus, C. Eggers, C. Melzer, M. Tittgemeyer, L. Timmermann (Cologne, Germany)
- 1154 Brain network imaging findings in multiple system atrophy with cognitive decline
 K. Hara, H. Watanabe, E. Bagarinao, K. Kawabata, N. Yoneyama, R. Ohdake, K. Imai, M. Masuda, T. Yokoi, T. Tsuboi, M. Ito, N. Atsuta, M. Katsuno, G. Sobue (Nagoya, Japan)
- 1155 Assessment of subclinical cerebellar involvement in progressive supranuclear palsy using SUI based volumetric analysis
 A. Lenka, L. George, K.R. Jhunjhunwala, S.A. Pasha, S. Mangalore, J. Saini, R. Yadav, P.K. Pal (Bangalore, India)
- 1156 Three-dimensional cytoarchitecture of the basal ganglia: Clinical applications of a computational pipeline for histology to MRI registration
 E.J.L. Alho, M. Alegre, R.L. Deus, R.P. Reis, L.T. Grinberg, J.F. Pereira Jr, L. Zöllei, E. Amaro Jr, H. Heinsen, E.T. Fonoff (São Paulo, Brazil)
- 1157 Tau PET in Parkinson syndromes. A new diagnostic tool?
 J. Hammes, G.N. Bischof, K. Giehl, Ö. Onur, A. Drzezga, T. Klockgether, T. van Eimeren (Cologne, Germany)
- 1158 MRI diagnostics child cerebral palsy with symptomatic epilepsy
 D. Aminova (Tashkent, Uzbekistan)
- 1159 [18F]AV-1451 PET imaging of tau in progressive supranuclear palsy and Alzheimer's disease
 J.B. Rowe, P. Vázquez Rodríguez, Y.T. Hong, R.J. Borchert, S. Sami, W.R. Bevan-Jones, S.P. Jones, R. Arnold, A. Surendranathan, E. Mak, S. Li, T. Fryer, J. O'Brien, L. Passamonti (Cambridge, United Kingdom)
- 1160 Volumetry of the olfactory bulbs and tracts in the differential diagnosis of neurodegenerative parkinsonisms
 M. Menendez Gonzalez, E. Suárez-Sanmartin, C. García, M. Blázquez Estrada (Mieres, Spain)
- 1161 The value of multi-slice computed tomography angiography in diagnosis of intracranial circulation in patients with vascular parkinsonism
 M. Ataniyazov, G. Rakhimbaeva, K. Ataniyazova (Tashkent, Uzbekistan)
- 1162 Cerebellar GABA in essential tremor and dystonic tremor: A MR spectroscopy study
 P. Panyakaew, H.J. Cho, S. Horovitz, M. Hallett (Bethesda, MD, USA)
- 1163 Deficits in sensorimotor networks in functional movement disorders: A graph-theory based network analysis
 C.W. Maurer, K. LaFaver, S. Tinaz, M. Hallett, S.G. Horovitz (Bethesda, MD, USA)
- 1164 PET imaging of tau pathology in progressive supranuclear palsy
 S. Coakeley, S.S. Cho, P. Rusjan, A. Graff-Guerrero, R. Chen, A.E. Lang, L. Kalia, E. Slow, S. Houle, A.P. Strafella (Toronto, ON, Canada)
- 1165 Severe striatal and pallidal atrophy in early disease stages of X-linked dystonia-parkinsonism
 H. Hanßen, M. Heldmann, R.L. Rosales, A. Domingo, A. Münchau, T. Bäumer, D. Rasche, V. Tronnier, T.F. Münte, L.V. Lee, C. Klein, N. Brüggemann (Lübeck, Germany)
- 1166 99mTc-TRODAT-1 SPECT findings in a patient with sporadic Creutzfeldt-Jakob disease
 G. Fabiani, S.C.G. Scremin, H.A.G. Teive (Campina Grande do Sul, Brazil)
- 1167 Evaluation of the surface based measures to discriminate progressive supranuclear palsy from corticobasal syndrome
 N. Upadhyay, A. Suppa, M.C. Piattella, F.D. Stasio, C. Colonnese, C. Colosimo, A. Berardelli, P. Pantano (Rome, Italy)
- 1168 Effects of age and gender on brainstem MR-planimetry
 S. Mangesius, A. Hussl, E. Reiter, B. Pinter, F. Krismer, C. Scherfler, C. Müller, A. Djamshidian, M. Schocke, W. Poewe, K. Seppi (Innsbruck, Austria)
- 1169 Dorsolateral nigral hyperintensity on 3.0 tesla susceptibility-weighted imaging in idiopathic rapid eye movement sleep behaviour disorder
 R. De Marzi, K. Seppi, B. Högl, C. Müller, C. Scherfler, A. Stefani, A. Iranzo, E. Tolosa, J. Santamaria, E. Gizewski, M. Schocke, C. Kremser, W. Poewe (Innsbruck, Austria)

Neuroimaging (Non-PD)



Abstracts by Topic

- 1170 Frontal lobe white matter atrophy correlates with disability in spastic paraplegia type 11 (SPG11)
I. Faber, A.R.M. Martinez, T.T.J. Rezende, R.F. Casseb, C.M. Lourenço, W. Marques Jr, J.L. Pedrosa, O.G.P. Barsottini, I.T. Lopes-Cendes, M.C. França Jr (Campinas, Brazil)
- 1171 Hemifacial spasm: Objective computation of vertebrobasilar vascular sinuosity
L. Chan, E.C. Edmond, S.X.L. Sim, H. Li, E. Tan (Singapore)
- 1172 In vivo evaluation of tau pathologies in patient with progressive supranuclear palsy and healthy subjects with [11C]PBB3-PET
H. Endo, H. Shimada, Y. Kimura, M. Ichise, M. Ono, H. Shinotoh, F. Niwa, S. Kitamura, K. Takahata, S. Hirano, S. Koga, D.W. Dickson, N. Sahara, M. Yamada, M. Higuchi, T. Toda, T. Suhara (Chiba, Japan)
- 1173 Tractographic patterns of effective pallidal DBS in DYT-6 Dystonia: A case study
L. Huang, N. Vanegas-Arroyave, K.A. Zaghloul, M. Hallett, S.G. Horovitz, C. Lungu (Bethesda, MD, USA)
- 1174 Iron accumulation in a Wilson disease patient: Longitudinal 7T MRI and transcranial sonography study
P. Dusek, D. Skoloudik, J. Maskova, T. Huelnhagen, R. Bruha, D. Zahorakova, T. Niendorf, E. Ruzicka, S.A. Schneider, J. Wuerfel (Prague, Czech Republic)
- 1175 Shape and volume abnormalities relate to motor abilities in idiopathic rapid eye movement sleep behavior disorder
S. Rahayel, C. Bedetti, R.B. Postuma, J. Montplaisir, S. Brambati, J. Carrier, O. Monchi, J.F. Gagnon (Montreal, QC, Canada)
- 1176 Isolated micrographia following stroke
P. Montero Escribano, M.J. Catalán Alonso, F. Alonso French, E. López Valdés, R. García Ramos, I. Pareas Moreno (Madrid, Spain)
- 1177 Comparative study of the substantia nigra echogenicity and 123-I ioflupane SPECT in patients with REM behavior disorder
J. Mašková, P. Dušek, D. Školoudík, K. Kupka, K. Šonka, V. Ibarburu Lorenzo Y Losada, J. Kubinyi, E. Ruzicka (Praha 2, Czech Republic)
- 1178 Frequency of echogenic abnormality of the substantia nigra is increased in methamphetamine users
J.J. Rumpf, J. Albers, C. Fricke, D. Weise, J. Classen (Leipzig, Germany)
- 1179 Manual MRI morphometry in Parkinsonian syndromes
L. Möller, J. Kassubek, M. Südmeyer, R. Hilker, E. Hattingen, K. Egger, F. Amtage, G. Respondek, M. Stamelou, A. Schnitzler, W.H. Oertel, S. Knake, H.J. Huppertz, G.U. Höglinger (Marburg, Germany)
- 1180 Extensive bilateral basal ganglia and cerebellar calcification in Fahr's syndrome after thyroidectomy
T. Uyar, K. Paksoy, C. Çokluk (Rize, Turkey)
- 1181 Children with intractable temporal and extratemporal seizures: Correlation of the MR spectroscopy and EEG findings in the surgical planning
M.M. Arnaout, S.S. Desoky, I.A. Lebda, A.A. Bessar, M.I. Fathy, E.H. Zidan, H.A. Hassan (Zagazig, Egypt)
- 1182 Progressive ataxia and palatal tremor: A case report
G. Fabiani, J. Yared, H.A.G. Teive (Campina Grande do Sul, Brazil)
- 1183 Evaluating the natural history of prodromal PD in the PARS cohort
D. Jennings, A. Siderowf, M. Stern, K. Marek, PARS Study Investigators (New Haven, CT, USA)
- ### Neurophysiology (Non-PD)
- 1184 The pull test in healthy subjects: Quantitative, posturographic and electromyographic analysis
J.R. Pérez-Sánchez, B. De La Casa-Fages, A. Contreras, J.M. Velázquez, A. Muñoz-González, F. Grandas (Madrid, Spain)
- 1185 Exploring the brainstem functions in cervical dystonia
P. Tocco, M.C. Tozzi, S. Monaco, L. Bertolasi (Verona, Italy)
- 1186 Emotional modulation of the startle reflex in essential tremor: Evidence of altered cerebellar input into limbic circuitry?
J.A. Lafo, A.E. Mikos, B.M. Scott, M.S. Okun, D. Bowers (Gainesville, FL, USA)
- 1187 Single unit activity of globus pallidus during voluntary movements in patients with cervical dystonia
A.S. Sedov, A.A. Tomskiy, A.V. Dekopov, R.S. Medvednik, S.V. Zvorikina (Moscow, Russia)
- 1188 Globus pallidus interna oscillatory activity differentiates tics from voluntary movements and the Parkinsonian resting state
J. Jimenez-Shahed, I. Telkes, A. Viswanathan, N.F. Ince (Houston, TX, USA)
- 1189 Movement execution but not preparation modulates somatosensory temporal discrimination thresholds in healthy subjects
A. Conte, D. Belvisi, N. Manzo, F. Barone, M. Tartaglia, N. Upadhyay, M. Bologna, A. Berardelli (Rome, Italy)
- 1190 Stage dependent alteration of cortical excitability in patients with hepatic encephalopathy
S.J. Groiss, M. Butz, T. Baumgarten, N.D. Füllenbach, D. Häussinger, A. Schnitzler (Düsseldorf, Germany)
- 1191 The regulation of ASIC1a on dopamine release and its implication in the pathogenesis of Parkinson's disease
Y. Jing, L. Sha, L. Chunfeng, W. Fen (SuZhou, People's Republic of China)
- 1192 Single unit activity of medial thalamus during goal-directed motor and cognitive behavior in patients with cervical dystonia
U.N. Semenova, D.A. Devetiarov, R.S. Medvednik, A.S. Sedov (Moscow, Russia)
- 1193 Inferring the causal interplay of motor related brain areas in the aging brain: A dynamic causal modeling (DCM) approach
F. Jung, P. Löhner, F. Nettersheim, I. Weber, T.A. Dembek, C. Huber, E.A. Pelzer, M. Tittgemeyer, L. Timmermann (Cologne (Köln), Germany)
- 1194 TMS-EEG markers of inhibitory deficits in Huntington's disease
E. Casula, I. Mayer, S. Tabrizi, J. Rothwell, M. Orth (Rome, Italy)
- 1195 Automatic event-detection for the neurophysiological evaluation of voluntary and involuntary movements
D. Benninger, J. Rechenmann, N. Chao, J. del R. Millan, R. Chavarriga (Lausanne, Switzerland)
- 1196 Motor cortex neuroplasticity and learning following high-intensity interval exercise
J.P. Coxon, E. Stavrinou (Melbourne, Australia)
- 1197 Mirror movements in Moebius syndrome: Mirroring beyond movements
H.J.S. Cho, P. Panyakaew, M. Hallett (Bethesda, MD, USA)



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- 1198 Selective activation of excitatory cell groups in the medial medulla differentially affects spatial-temporal gait parameters
A. Worley, S. Luks, V. VanderHorst (Boston, MA, USA)
- 1199 Refined basal ganglia model accounting for GPi modulation of thalamic tonic and burst modes
M.S. Baron, D. Kumbhare (Richmond, VA, USA)
- 1200 PET examination of the monoamine transporter with 11C-beta-CIT
M. Tábuas-Pereira, F. Oliveira, A. Moreira, M. Sousa, F. Moreira, C. Januário, A. Abrunhosa, M. Castelo-Branco (Coimbra, Portugal)
- Parkinson's Disease: Neuroimaging and Neurophysiology**
- 1201 Relation between the clinical features and the standardized heart to mediastinum ratio in cardiac metaiodobenzylguanidine imaging in patients with Parkinson's disease: A multicenter cross-sectional study
T. Osada, Y. Morita, K. Ohta, S. Nogawa, K. Takahashi, K. Yamaguchi, D. Yasutomi, M. Seki, Y. Nihei, S. Iwasawa, N. Suzuki (Tokyo, Japan)
- 1202 Excessive daytime sleepiness is mediated by loss of caudate dopaminergic function in Parkinson's disease
T. Yousaf, G. Pagano, F. Niccolini, M. Politis (London, United Kingdom)
- 1203 Density of metabotropic glutamate receptors subtype 1 in de novo patients with Parkinson's disease using 11C-ITMM PET
M. Mishina, M. Suzuki, K. Ishii, M. Sakata, K. Wagetsuma, K. Ishibashi, J. Toyohara, M.R. Zhang, K. Kimura, K. Ishiwata (Kawasaki, Japan)
- 1204 May substantia nigra volume asymmetry be an indicator of motor asymmetry in Parkinson's disease? A retrospective analysis
N.F. Durmaz, M. Yorubulut, C.M. Akbostanci (Ankara, Turkey)
- 1205 Disruption of functional connectivity in Parkinson's disease patients presenting phonemic fluency impairment
K. Kawabata, H. Watanabe, E. Bagarinao, N. Yoneyama, K. Hara, R. Ohdake, K. Imai, M. Masuda, T. Yokoi, T. Tsuboi, M. Ito, N. Atsuta, M. Katsuno, G. Sobue (Nagoya, Japan)
- 1206 Resting-state functional connectivity of subthalamic nucleus in different phenotypes of Parkinson's disease
Z. Wang, H. Chen, H. Ma, L. Ma, T. Wu, T. Feng (Beijing, People's Republic of China)
- 1207 Pronounced beta oscillations are a characteristic of the cortico-basal ganglia loop of subacute and chronic animal models of Parkinson's disease
C. van Riesen, J.K. Haumesser, J. Kühn, A. Kühn, M.H. Beck (Berlin, Germany)
- 1208 Comparative analysis of clinical and neuroimaging features of parkinsonism and dementia of Alzheimer's type
D. Tolibov, G. Rakhimbaeva (Tashkent, Uzbekistan)
- 1209 Resting state functional connectivity in olfactory network in de novo Parkinson's disease
S. Marino, L. Bonanno, F. Caminiti, F. Corallo, V. Lo Buono, S. De Salvo, G. Di Lorenzo, P. Bramanti (Messina, Italy)
- 1210 A cognitive fMRI study of non-manifesting LRRK2 and GBA carriers
A. Thaler, N. Bregman, A. Mirelman, T. Gurevich, M. Gana-Weiss, A. Orr-Urtreger, T. Hendler, N. Giladi (Tel-Aviv, Israel)
- 1211 The association between structural brain connectivity with plasma APO-A1 levels in Parkinson's disease: Connectometry approach
F. Rahmani, M.H. Aarabi (Tehran, Islamic Republic of Iran)
- 1212 Cortical atrophy in cognitively impaired Parkinson's disease patients
M.M. Almuqbel, T.R. Melzer, D.J. Myall, M.R. MacAskill, L. Livingston, K. Wood, T.L. Pitcher, R.J. Keenan, J.C. Dalrymple-Alford, T.J. Anderson (Christchurch, New Zealand)
- 1213 The role of cathepsin L involved in the activation of microglia and Parkinson's disease
S. Xu, X. Yang, H. Zhang, Y. Qian, Q. Xiao (Shanghai, People's Republic of China)
- 1214 Transcranial sonography of the substantia nigra and its correlation with iron metabolism and c-reactive protein in Parkinson's disease
X. Yang, J. Liu, Y. Qian, S. Xu, Q. Xiao (Shanghai, People's Republic of China)
- 1215 DAT SPECT data of Parkinson's disease patients with and without REM Sleep Pathology: A report from the DeNoPa cohort
M.L. Muntean, D. Leucuta, B. Mollenhauer, C. Trenkwalder, F. Sixel-Döring (Göttingen, Germany)
- 1216 Functional connectivity underpinnings of fatigue in "drug-naïve" patients with Parkinson's disease
A. Giordano, R. De Micco, G. Caiazzo, A. Russo, M. Cirillo, F. Esposito, G. Tedeschi, A. Tessitore (Naples, Italy)
- 1217 Motor subtypes in Parkinson's disease are distinguished by alterations in morphology and white matter integrity
G. Vervoort, I. Leunissen, M. Firbank, E. Heremans, E. Nackaerts, W. Vandenberghe, A. Nieuwboer (Leuven, Belgium)
- 1218 Prognostic factors of motor symptoms in Parkinson's disease using neuromelanin imaging and the relationship with (123)I-FP-CIT-SPECT
A. Okuzumi, T. Hatano, K. Kamagata, M. Hori, S. Aoki, N. Hattori (Tokyo, Japan)
- 1219 Dynamic dopamine transporter images are helpful for diagnosing parkinsonism
K. Abe, K. Fukushima, T. Katuura, K. Kitajima, Y. Maeda, K. Hahikawa, H. Yoshikawa (Nishinomiya, Japan)
- 1220 Functional connectivity alterations in Parkinson's disease patients with impulsive control disorders
A. Campabadal, B. Segura, H.C. Baggio, M.J. Marti, F. Valdeoriola, Y. Compta, C. Uribe, A.I. Garcia-Diaz, A. Abos, C. Junque (Barcelona, Spain)
- 1221 Gray/white matter contrast loss correlates with clinical severity and visuospatial impairment in Parkinson's disease patients
C. Uribe, B. Segura, H.C. Baggio, M.J. Marti, F. Valdeoriola, Y. Compta, A.I. Garcia-Diaz, A. Campabadal, A. Abos, C. Junque (Barcelona, Spain)
- 1222 Correlation analysis for postural instability and autonomic dysfunction in patients with Parkinson's disease
S. You, S.H. Lim, H. Lee, H.A. Kim (Dagje, Korea)
- 1223 Altered brain activation in complex walking conditions in patients with Parkinson's disease
I. Maidan, K. Rosenberg-Katz, Y. Jacob, N. Giladi, J.E. Deutsch, A. Mirelman, J.M. Hausdorff (Tel Aviv, Israel)



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- 1224 The role of the frontal lobe in complex walking among healthy older adults and patients with Parkinson's disease: An fNIRS study
A. Mirelman, I. Maidan, F. Nieuwhof, H. Bernad-Elazari, M.F. Reelick, B.R. Bloem, N. Giladi, J.E. Deutsch, J.A.H.R. Claassen, J.M. Hausdorff (Tel Aviv, Israel)
- 1225 Visual hallucination and pattern of brain degeneration in Parkinson's disease
W.W. Lee, E.J. Yoon, J.Y. Lee, S.W. Park, Y.K. Kim (Seoul, Korea)
- 1226 Dopamine reduces Parkinson's tremor through increased thalamic inhibition
M.F. Dirx, H.E. den Ouden, E. Aarts, M. Timmer, B.R. Bloem, I. Toni, R.C. Helmich (Nijmegen, Netherlands)
- 1227 Neuromelanin in Parkinson's disease: A 3 T MRI study
S. Pietracupa, A. Martin-Bastida, N.L. Kaim, S. Schwarz, D. Auer, A. Berardelli, P. Piccini (Rome, Italy)
- 1228 Nigrostriatal degeneration and serum BDNF levels in patients with "de novo" untreated Parkinson's disease
G. Marti, N. Saez, M. Corominas, G. Cuberas, C. Lorenzo, O. De Fabregues, J. Alvarez-Sabin, M. Casas, J. Hernandez (Barcelona, Spain)
- 1229 Neural mechanisms underlying step initiation failure in patients with Parkinson's disease and freezing of gait
M. Gilat, M. Georgiades, J.M. Shine, K.A. Ehgoetz Martens, C.C. Walton, J.M. Hall, S.J.G. Lewis (Sydney, Australia)
- 1230 Progressive atrophy of parahippocampal gyrus correlates with Hoehn & Yahr stages of Parkinson's disease: A voxel based morphometric study
P.K. Pal, R.M. Naduthota, L. George, K. Jhunjhunwala, J. Saini, R.D. Bharath, A. Lenka, R. Yadav (Bangalore, India)
- 1231 Brain iron levels in Parkinson's disease by postmortem and MRI measurements: A systematic review and meta-analysis
J.Y. Wang, Q.Q. Zhuang, L.B. Zhu, H. Zhu, T. Li, X. Zhang, J.H. Zhu (Wenzhou, People's Republic of China)
- 1232 Impaired cerebellum to motor cortex associative plasticity in Parkinson's disease
M.K. Lu, C.M. Chen, J.R. Duann, C.H. Tsai (Taichung, Taiwan)
- 1233 Botulinum toxin treatment of freezing of gait in Parkinson's disease patients as reflected in functional magnetic resonance imaging of leg movement
M. Vašík, P. Hok, P. Hlušík, P. Kanovský, Z. Tüdös (Olomouc, Czech Republic)
- 1234 Freezing of gait in Parkinson's disease: A stopping deficit?
K. Smulders, D.S. Peterson, M. Mancini, J.G. Nutt, F.B. Horak, B.W. Fling (Portland, OR, USA)
- 1235 Parkinson's disease-linked mutation in DNAJC13 causes specific trafficking defect in endosomal pathway
S. Yoshida, T. Hasegawa, R. Oshima, J. Kobayashi, N. Sugeno, A. Kikuchi, A. Takeda, M. Aoki (Sendai, Japan)
- 1236 Altered resting-state functional interhemispheric connectivity in Parkinson's disease
X. Dan, S. Lin, A. Liu, Z. Wang, M.J. McKeown, P. Chan (Beijing, People's Republic of China)
- 1237 Neural substrates of excessive daytime sleepiness in early drug naïve Parkinson's disease: A resting state functional MRI study
M.C. Wen, S.Y.E. Ng, H.S.E. Heng, Y. Chao, L.L. Chan, E.K. Tan, L.C.S. Tan (Singapore)
- 1238 Research of vestibular evoked myogenic potentials (VEMP) in the diagnosis of postural instability in Parkinson's disease
O.A. Alenicova, S.A. Likhachev (Minsk, Belarus)
- 1239 Levodopa induced dyskinesia and nicotinic $\alpha 4\beta 2$ acetylcholin receptor density: A multi-tracer imaging study
J. Brumberg, S. Küsters, G. Marotta, M.M. Reich, F. Steigerwald, A. Buck, J. Volkmann, S. Samnick, I.U. Isaias (Würzburg, Germany)
- 1240 Diffusion tensor imaging in Parkinson's disease: Review and meta-analysis with clinical considerations and neuroimaging parameters
C. Atkinson-Clement, S. Pinto, A. Eusebio, O. Coulon (Aix-en-Provence, France)
- 1241 Exploring structural covariance networks of gray matter in Parkinson's disease
L.J. de Schipper, J. van der Grond, J. Marinus, J.J. van Hilten (Leiden, Netherlands)
- 1242 Visual vs. automated analysis of [123I]FP-CIT SPECT scans in patients with parkinsonism
E. Mäkinen, J. Joutsa, J. Johansson, M. Mäki, M. Seppänen, V. Kaasinen (Turku, Finland)
- 1243 Disrupted hubs in functional brain networks in subtype-specific Parkinson's disease
L. Ma, H. Chen, T. Feng (Beijing, People's Republic of China)
- 1244 Multimodal imaging assessment of nigrostriatal pathway in Parkinson's disease using 11C-PE2I PET and neuromelanin-sensitive MR
A. Martin-Bastida, N.P. Lao-Kaim, A.A. Roussakis, W. Li, M. Politis, N. Valle-Guzman, Z. Kefalopoulou, G. Paul, H. Widner, T. Foltynie, R. Barker, P. Piccini (London, United Kingdom)
- 1245 Comparison of DAT and DOPA PET tracer for assessing severity and progression in patients with Parkinson's disease
W. Li, N.P. Lao-Kaim, A.A. Roussakis, A. Martin-Bastida, C. Loane, N. Valle-Guzman, Z. Kefalopoulou, M. Politis, T. Foltynie, R.A. Barker, P. Piccini (London, United Kingdom)
- 1246 Substantia nigra hyperechogenicity in Parkinson's disease motor phenotypes
T. Toomsoo, A.H. Pool, I. Liepelt-Scarfone, L. Kadastik-Eerme, T. Asser, D. Berg, P. Taba (Tallinn, Estonia)
- 1247 Vestibular evoked myogenic potentials as biomarkers for non-motor symptoms of Parkinson's disease
A. Shalash, D. Hassan (Cairo, Egypt)
- 1248 Pain-motor integration in the primary motor cortex in Parkinson's disease
A. Suppa, C. Leone, F. Di Stasio, A. Biasiotto, L. Marsili, S. La Cesa, A. Di Santo, G. Fabbrini, G. Cruccu, A. Berardelli (Rome, Italy)
- 1249 Behavioral and neuroimaging effects of LSVT-BIG and conventional physiotherapy in Parkinson's disease
F. Schaible, F. Schwartz, T. v. Eimeren, C. Eggers (Köln, Germany)
- 1250 MRI signatures of the brain of Parkinson's disease and idiopathic REM sleep behavioral disorder subjects
P. Tuite, S. Mangia, P. Burton, A. Svatkova, I. Nestrasil, A. Sierra Lopez, K. Shmueli, L. Eberly, M. Howell, S. Michaeli (Minneapolis, MN, USA)
- 1251 Changes of brain structure and cognition in individuals with possible prodromal Parkinson's disease
M. Heldmann, J. Heeren, L. Rauch, C. Klein, T.F. Münte, M. Kasten, N. Brüggemann (Lübeck, Germany)



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- 1252 The role of striatal dopaminergic terminals in early de novo PD patients with speech impairment
S. Polychronis, G. Pagano, M. Politis (London, United Kingdom)
- 1253 Functional deficits during response inhibition improve after dopaminergic medication for Parkinson
C. Vriend, J.P. Trujillo, N.J.H.M. Gerrits, H.W. Berendse, Y.D. van der Werf, O.A. van den Heuvel (Amsterdam, Netherlands)
- 1254 Withdrawn by Author
- 1255 Diffusion tensor imaging of corticospinal tract, cingulum and corpus callosum in Parkinson's disease (PD) patients
R. Guimarães, B. Campos, L. Campos, L. Piovesana, P. Azevedo, A. D'Abreu, F. Cendes (Campinas, Brazil)
- 1256 Movement related beta oscillatory activity during self-paced wrist movement in the human subthalamic nucleus
P. Zhuang, R. Chen, M. Hallett, Q. Cui, Y. Zhang, J. Li, Y. Li (Beijing, People's Republic of China)
- 1257 Pallidal DBS and pallidotomy alter cortical synchronization in Parkinson's disease
S. Miciocinovic, C. De Hemptinne, A. Miller, J.L. Ostrem, P.A. Starr (San Francisco, CA, USA)
- 1258 Recruitment of single subthalamic neurons for kinematic control of hand and feet movements employs different strategies
A. Tankus, A. Mirelman, N. Giladi, I. Fried, J.M. Hausdorff (Tel-Aviv, Israel)
- 1259 Effectiveness of Levodopa responsiveness of Blink reflex recovery: An objective method to differentiate Parkinsonian syndromes
C. Gaddipati, M. Umaiorubahan, C.U. Velmurugendran, V. Shankar (Chennai, India)
- 1260 Increasing placebo response in Parkinson's disease through apomorphine pre-conditioning
E. Frisaldi, E. Carlino, L. Giudetti, A. Pampallona, M. Zibetti, M. Lanotte, L. Lopiano, F. Benedetti (Turin, Italy)
- 1261 Diffusion tensor imaging of the corticospinal tract differentiates Parkinson's disease (PD) patients from controls
R. Guimaraes, B. Campos, L. Campos, L. Piovesana, P. Azevedo, A. D'Abreu, F. Cendes (Campinas, Brazil)
- 1262 Diagnostic reliability of clinical symptoms in patients with incomplete manifestation of the triad of parkinsonism compared to 18F-DOPA PET-CT MRI imaging
C. Peralta, T. Soto Depetris, A. Perez, F. Biafore, J. Gili, A. Valda, D. Menna, M. Aguilar, H. Corradini, M. Bastianello (Caba, Argentina)
- 1263 Brain mechanisms underlying visual processing in Parkinson's disease
I. Rektorova, N. Elfmarkova, M. Gajdos, R. Marecek, S. Rapsak (Brno, Czech Republic)
- 1264 Cerebellar GABA-A receptor activity is inversely correlated with gait speed in Parkinson's disease
N.I. Bohnen, K.A. Frey, R.A. Koeppe, P.J.H. Scott, M.L.T.M. Muller (Ann Arbor, MI, USA)
- 1265 Combined effects of visual and auditory cues on gait initiation in Parkinson's disease
T. Hashimoto, H. Sato (Matsumoto, Japan)
- 1266 Comparison of DAT scan, cardiac MIBG scintigraphy, and cerebrospinal fluid 5HIAA levels in Parkinsonian syndrome
R. Sengoku, M. Yamazaki, D. Kaneda, Y. Nishina, A.M. Tokumaru, S. Murayama (Tokyo, Japan)
- 1267 Influence of lateral wedges on postural control in patient with Parkinson's disease
J. Park, J. Yoon, W. Jang, J.S. Kim, J. Youn, E.S. Oh (Busan, Korea)
- 1268 Impact of white matter hyperintensity on motor compensation in Parkinson's disease
J.J. Lee, Y. Lee, S.J. Chung, P.H. Lee, Y.H. Sohn (Seoul, Korea)
- 1269 Dopaminergic and metabolic network activities in onset-related subtypes of Parkinson's disease: A dual-tracer positron emission tomography study
F.T. Liu, J.J. Ge, J.J. Wu, Z.T. Ding, C.T. Zuo, J. Wang (Shanghai, People's Republic of China)
- 1270 Is the defective gait automaticity associated to deficiencies in implicit learning in patients with Parkinson's disease?
M.E.P. Piemonte, A.F. Helene, B. Monte, E.N. Guelfi, E. Okamoto, C. Vargas, J.A. Galves (São Paulo, Brazil)
- 1271 Cortical thinning associated with mild cognitive impairment in Parkinson's disease
S. Galantucci, F. Agosta, T. Stojkovic, I. Petrovic, E. Stefanova, E. Canu, M. Copetti, V.S. Kostic, M. Filippi (Milan, Italy)
- 1272 Inferring the coupling of motor related brain areas during paced finger tapping in Parkinson's patients
V. Seeger, F. Jung, L. Schneider, T.A. Dembek, P. Reker, N. Apetz, M. Tittgemeyer, L. Timmermann (Cologne, Germany)
- 1273 Characterization and quantitative analysis of prelemniscal radiations in Parkinson's disease
M.G. Garcia-Gomar, I. Vaca-Palomares, M. Esqueda, J. Soto, J.D. Tournier, L. Concha, F. Velasco (Queretaro, Mexico)
- 1274 Transcranial static magnetic field stimulation (tSMS) decreases motor cortex excitability in Parkinson's disease OFF but not ON medication
M. Dileone, M. Carrasco-López, J. Segundo-Rodríguez, L. Mordillo-Mateos, N. López-Aristegui, F. Alonso-Frech, M. Catalan-Alonso, J. Obeso, A. Oliviero, G. Foffani (Madrid, Spain)
- 1275 The effect of dopaminergic therapy on stimulus-response learning and decision-making in Parkinson's disease using fMRI
P.A. MacDonald, N.M. Hiebert, K.N. Seergobin, A.M. Owen (London, ON, Canada)
- 1276 Olfactory performance and resting state functional connectivity in non-demented drug naïve patients with Parkinson's disease
M. Sunwoo, J.H. Ham, J.Y. Hong, Y.H. Sohn, P.H. Lee (Seongnam, Korea)
- 1277 Frontal cortex grey matter integrity determines motor improvement after STN-DBS in patients with Parkinson's disease
M. Muthuraman, G. Deuschl, C. Riedel, J. Volkmann, S. Groppa (Mainz, Germany)
- 1278 The effect of an eight-week mindfulness training intervention on emotion related brain activation in people with Parkinson's disease
B.A. Pickut, W. Van Hecke, P. Cras, E. Kerckhofs, S. Vanneste, D. Crosiers, P. Marien, P.M. Parizel (Grand Rapids, MI, USA)



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- 1279 Evaluating quantitative EEG (QEEG) measures to differentiate between Parkinson's disease (PD) patients and healthy individuals
M. Chaturvedi, F. Hatz, U. Gschwandtner, V. Roth, P. Fuhr (Basel, Switzerland)
- 1280 The position of the conus medullaris and the prevalence of isolated lipoma of filum terminale in Parkinson's disease
H. Mori, K. Shindo (Kurashiki, Japan)
- 1281 Novel PET Tracers of alpha-synuclein for the diagnosis of Parkinson's disease
E. Tsika, A. Davranche, J. Molette, E. Gabellieri, S. Papin, S. Nampally, H. Kroth, D. Lowe, A. Pfeifer, A. Muhs (Lausanne, Switzerland)
- 1282 Magnetic resonance imaging of nigrosome-1 in the diagnosis of early Parkinson's: Initial results of the Parkinson's magnetic imaging repository (PaMIR)
S.T. Schwarz, Y. Xing, A. Martin Bastida, C. Lakmali Sugathapala, M. Silverdale, J. Mclean, R. Jampana, N. Bajaj, D. Burn, P. Piccini, D. Grosset, D.P. Auer (Nottingham, United Kingdom)
- 1283 How does preprocessing affect estimation of causal information transfer in the human brain?
I. Weber, E. Florin, F. Jung, M. von Papen, L. Timmermann (Cologne, Germany)
- 1284 The efficacy of quantitative 99mTc-TRODAT-1 SPECT in diagnosis of aged patients with Parkinson's disease
C.F. Lee, C.Y. Wei, G.U. Huang, I.J. Chen, B. Hsu (Changhua, Taiwan)
- 1285 Relationship between freezing and pedunculopontine nucleus' size in Parkinson's disease: Semi quantitative analysis based on MRI with modified FGATIR sequence
S. Chen, M. Tir, P. Monet, J.M. Constans, O. Godefroy, M. Lefranc, P. Krystkowiak (Amiens, France)
- 1286 Disrupted motor memory in Parkinson's disease
S. Voets, J.S. Brittain, M. Panouilleres, C. Miall, N. Jenkinson (Birmingham, United Kingdom)
- 1287 Freezing of gait (FOG) in PD: Is electroencephalography (EEG) a gateway to elucidating the pathophysiology?
T. Munteanu, E.J. Baird, C. Fearon, S.M. Waechter, C. McDonnell, J. Gallego, B. Quinlivan, I. Killane, J.S. Butler, T. Lynch, R.B. Reilly (Dublin, Ireland)
- 1288 Sensory and motor aspects of rhythmic entrainment in Parkinson's disease
E.S. te Woerd, R. Oostenveld, F.P. de Lange, P. Praamstra (Nijmegen, Netherlands)
- 1289 Dopaminergic medication affects choice bias in Parkinson's disease
A.J.M. van Nuland, R.C.G. Helmich, M. Dirkx, H. Zach, B.R. Bloem, I. Toni, R. Cools, H.E.M. den Ouden (Nijmegen, Netherlands)
- 1290 Increased cortical control of gait in patients with Parkinson's disease and freezing of gait
G.J. Revuelta, C. Chan, S. Jenkins, J. Jensen, L. Bonilha (Charleston, SC, USA)
- 1291 Modulation of local field potentials during gait in the STN of patients with Parkinson's disease
F. Hell, J.H. Mehrkens, A. Plate, K. Bötzel (München, Germany)
- 1292 Functional connectome organization is altered in PD patients with mild cognitive impairment
S. Galantucci, F. Agosta, I. Stankovic, S. Basaia, T. Stojkovic, E. Stefanova, E. Canu, A. Meani, V.S. Kostic, M. Filippi (Milan, Italy)
- 1293 Is it just a coincidence? Three new cases of Parkinson's disease associated with myasthenia gravis
G. Sciacca, A. Nicoletti, E. Reggio, G. Mostile, M. Zappia (Catania, Italy)
- 1294 Is the selection of stepping impaired in PD in ON state?
C. Stummer, E. Mallia, J. Rothwell, B.R. Bloem, V. Weerdesteyn (Nijmegen, Netherlands)
- 1295 Does dopamine affect the selection of stepping actions in PD?
E. Mallia, C. Stummer, J. Rothwell, B.R. Bloem, V. Weerdesteyn (London, United Kingdom)
- 1296 What predicts Parkinson's disease? Hyposmia, MIBG SPECT, DAT SPECT and the PD-specific metabolic pattern
S.K. Meles, D. Vadasz, R.J. Renken, K.M. Eggert, E. Sittig-Wiegand, C. Depboylu, V. Ries, G. Mayer, K. Reetz, S. Overeem, A. Pijpers, H. Höffken, M. Luster, K. Kesper, W. Oertel, K.L. Leenders (Groningen, Netherlands)
- 1297 DTI in Parkinson's disease: Asymmetric progression
L. Chan, K. Ng, C. Yeoh, H. Rumpel, E. Tan (Singapore)
- 1298 Onset-related subtypes of Parkinson's disease differ in the patterns of striatal functional connectivity: A resting-state functional MRI study
Y. Hou, J. Yang, C. Luo, R. Ou, W. Song, Q. Gong, H. Shang (Chengdu, People's Republic of China)
- 1299 Cortical phase amplitude coupling (PAC) identifies patterns in clinical states of Parkinson's disease (PD) using magnetoencephalography (MEG)
E. Peña, S.A. Mian, L. Rosedahl, F.A.I. Mohammed, T.M. Mohammad, M.D. Johnson, J.A. Bajwa (Minneapolis, MN, USA)
- 1300 Targeted over-expression with AAV-mediated human α -synuclein in a rat model of Parkinson's disease – Validation of novel fine motor functional effects
R. Pussinen, T. Ahtoniemi, T. Huhtala, O. Kontkanen, A. Nurmi (Kuopio, Finland)
- 1301 Suppression of dyskinesia in Parkinson's disease by electrical stimulation of dorsal subthalamic nucleus tissue
H.A.C. Wark, G.H. Duffley, C.R. Butson, L.E. Schrock (Salt Lake City, UT, USA)
- 1302 Tracking Parkinson's disease over 2-6 years with MRI
T.R. Melzer, D.J. Myall, M.R. MacAskill, L. Livingston, T.L. Pitcher, K. Wood, R.J. Keenan, J.C. Dalrymple-Alford, T.J. Anderson (Christchurch, New Zealand)
- 1303 Corpus callosum thickness and area in Parkinson's disease
I.O. Bledsoe, D. Merkitich, G. Stebbins, B. Bernard, J.G. Goldman (Chicago, IL, USA)
- 1304 Influence of different spike sorting algorithms on the detection of single unit spiking activity in the subthalamic nucleus of patients with Parkinson's disease
J. Sukiban, R. Pauli, T.A. Dembek, I. Weber, F. Jung, N. Voges, M. Denker, S. Gruen, L. Timmermann (Cologne, Germany)
- 1305 Negative emotional signals impair isometric force control in Parkinson's disease
R.L. Blakemore, M.R. MacAskill, R. Shoorangiz, T.J. Anderson (Christchurch, New Zealand)
- 1306 Metabolic brain changes related to specific cognitive impairment in non-demented Parkinson's disease patients
M. Trošt, S. Brezovar, C.C. Tang, D. Eidelberg, N. Zupancic Kriznar, M. Gregoric Kramberger, P. Tomše, Z. Pirtošek (Ljubljana, Slovenia)
- 1307 The feasibility of measuring fatigability in early-stage Parkinson's disease using functional MRI
Y. Xing, N. Bajaj, S.T. Schwarz, D.P. Auer (Nottingham, United Kingdom)



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- 1308 The relationship among clinical features, DAT scintigraphy and MIBG cardiac scintigraphy in patients with Parkinson's disease
J. Ebina, T. Sekiguchi, M. Takahashi, A. Inaba, S. Orimo (Tokyo, Japan)
- 1309 Ultra high field magnetic resonance imaging of nigrosome 1 is a biomarker of new onset and premotor Parkinson's disease
M.A. Brodsky, J.M. Pollock, J. Grinstead, D. Lahna, D. Pettersson, W.D. Rooney (Portland, OR, USA)
- 1310 Intraoperative localization of beta band and high-frequency oscillations within the subthalamic nucleus
B.C.M. van Wijk, A. Pogosyan, T. Foltynie, M.I. Hariz, P. Limousin, L. Zrinzo, P. Brown, V. Litvak (London, United Kingdom)
- 1311 The patient's perspective: The effect of dopamine on Parkinson symptoms
H. Zach, M.F. Dirx, J.W. Pasman, B.R. Bloem, R.C. Helmich (Vienna, Austria)
- 1312 Detecting brainstem changes in Parkinson's disease using quantitative MRI
C. Lambert, A. Lutti, B. Draganski, T. Foltynie (London, United Kingdom)
- 1313 Critical path for Parkinson's II: Global regulatory agencies support the use of dopamine transporter neuroimaging as an enrichment biomarker to enable clinical trials in early Parkinson's disease
D.T. Stephenson, S. Arneric, D. Babcock, P. Cole, T. Comery, M.F. Gordon, D. Grosset, D. Hill, S.Z. Imam, C.R. Jarecke, V. Kern, D. Matthews, R. Meibach, K. Romero, A. Roach, D. Russell, J. Seibyl, P. Sherwin, B.A. Sieber, L. Slicker, C. Sur, K. Marek (Tucson, AZ, USA)
- 1314 Improvement of saccade amplitude by the STN DBS and visual target eccentricity
A. Yugeta, Y. Terao, Y. Ugawa (Tokyo, Japan)
- 1315 Neuromelanin-MRI of substantia nigra subregions in Parkinson's disease
L. Borellini, G. Franco, P. Trujillo, P. Summers, A. Di Fonzo, D.O. Claassen, A. Costa (Milan, Italy)
- 1316 Spectral analysis of rapid eye movement (REM) sleep as a potential marker of neurodegenerative disease in REM sleep behavior disorder
J. Rodrigues Brazête, J.F. Gagnon, R.B. Postuma, P.A. Bourguoin, D. Petit, J. Montplaisir (Montreal, QC, Canada)
- 1317 Impact of chronic LD treatment on metabolism, blood flow and blood-brain barrier permeability in the 6-OHDA rat model
R.P. Lerner, Z. Bimpisidis, V. Jourdain, T. Chaly, M. Hellman, K. Graf, V. Dhawan, S. Dewey, A. Cenci, D. Eidelberg (Manhasset, NY, USA)
- 1318 Multi-modal imaging in Parkinson's disease patients with freezing of gait
J.M. Hall, C. O'Callaghan, J.M. Shine, M. Gilat, C.C. Walton, K.A. Ehgoetz Martens, A.A. Moustafa, S.J.G. Lewis (Milperra, Australia)
- 1319 Diffusion tensor metrics of thalamic degeneration and postural instability in Parkinson's disease
M. Petrou, C. Davatzikos, M. Muller, R. Koeppe, R. Albin, K. Frey, N. Bohnen (Ann Arbor, MI, USA)
- 1320 Dopamine and task-dependent evolution of oscillatory activity in the subthalamic nucleus (STN) and coupling between the STN local field potential and muscle activity in Parkinson's disease
U. Ramirez Pasos, R. Reese, F. Steigerwald, M. Reich, C. Matthies, I. Isaias, J. Volkmann (Würzburg, Germany)
- 1321 Cortical excitability in patients with Parkinson's disease on levodopa carbidopa intestinal gel therapy
S.D. Kim, S. Vucic, N. Mahant, M.C. Kiernan, V.S.C. Fung (Sydney, Australia)
- 1322 Impaired temporal coupling of action and perception in Parkinson's disease
E. Pretegianni, N. Vanegas-Arroyave, E. FitzGibbon, M. Hallett, L.M. Optican (Bethesda, MD, USA)
- 1323 Alterations in muscle synergies in early stage Parkinson's disease
J.F. Daneault, G. Vergara-Diaz, C. Adans-Dester, G. Ferreira-Carvalho, V.C.K. Cheung, P. Bonato (Charlestown, MA, USA)
- 1324 In vivo MRI detection of Parkinson's disease associated degeneration in the lateral ventral tier of substantia nigra pars compacta
D.E. Huddleston, J. Langley, J. Sedlacik, K. Boelmans, S.A. Factor, X. Hu (Atlanta, GA, USA)
- 1325 Lessons-experienced in the creation of a global public-private consortium with the goal of advancing treatments that hold most potential for delayed disease progression in Parkinson's disease – Critical path for Parkinson's (CPP)
V.D. Kern, D.T. Stephenson, K. Romero, E. Avilés, S.T. Broadbent, S.P. Arneric, L. Barbieri, S. Ford, A. Roach (Tucson, AZ, USA)
- 1326 Detection of primary olfactory cortex dysfunction in early-stage Parkinson's disease
J. Wang, T. Subramanian, Q.X. Yang (Hershey, PA, USA)
- 1327 Assessment of brainstem function with blink reflex variations in Parkinson's disease
D. Weise, C. Pargac, J.J. Rumpf, C. Fricke, J. Classen (Leipzig, Germany)
- 1328 Substantia nigra hyperechogenicity in Mexican patients with Parkinson's disease
C.Y. Rodriguez-Garza, A. Anaya-Escamilla, R. Pinales-Razo, I. Estrada-Bellmann, C.R. Camara-Lemarray (Monterrey, Mexico)
- 1329 A longitudinal study of functional deterioration of primary olfactory cortex in early-stage Parkinson's disease
J. Wang, Z. Mosher, T. Subramanian, Q.X. Yang (Hershey, PA, USA)
- 1330 Impact of datscan on clinical decision making: diagnosis and management of clinically uncertain Parkinsonian syndromes
J.R. Isaacson, N. Chhabria, S.H. Isaacson (Boca Raton, FL, USA)

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- 1331 Effects of zonisamide on dementia with Lewy bodies (DLB): A post-hoc analysis of phase 2 study for parkinsonism in DLB patients
M. Murata, M. Nakamura, H. Maruyama (Tokyo, Japan)
- 1332 Cognitive development in individuals with mild Parkinsonian signs
S. Lerche, K. Brockmann, I. Wurster, A. Pilotto, U. Sünkel, V. Herbst, B. Brix, A.K. von Thaler, F. Metzger, G. Eschweiler, W. Maetzler, D. Berg (Tübingen, Germany)



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- 1333 Correlation between neuro-behavioral symptoms, cognition and gait in patients with dementia with Lewy bodies (DLB)
B. Tousi, L. Mourany (Cleveland, OH, USA)
- 1334 Depressive disorders in Parkinson's disease and Alzheimer's disease
D. Tolibov, G. Rakhimbaeva (Tashkent, Uzbekistan)
- 1335 Presenting symptoms and cognitive profile in Lewy body dementia: A series of cases
B. Minafra, G.M.D. Toscano, M. Picascia, R. Zangaglia, N.G. Pozzi, M. Terzaghi, R. Manni, E. Sinforiani, C. Pacchetti (Pavia, Italy)
- 1336 Withdrawn by Author
- 1337 Heart rate variability to differentiate dementia with Lewy bodies from Alzheimer's disease in patients with mild cognitive impairment
J. Yoon, S.M. Lee, J.M. Hong (Suwon, Korea)
- 1338 The clinical significance of brain microbleed in Alzheimer's disease patients with Parkinsonian signs
J.Y. Ahn, H.T. Kim (Seoul, Korea)
- 1339 Optogenetic silencing of locus coeruleus activity in mice impairs cognitive flexibility in an attentional set-shifting task
K. Janitzky, M. Lippert, A. Engelhorn, J. Tegtmeyer, J. Goldschmidt, H.J. Heinze, F.W. Ohl (Magdeburg, Germany)
- 1340 The patterns of olfactory function in Parkinson's disease patients with mild cognitive impairment
J.W. Park, H.K. Yoon, M.H. Park, D.Y. Kwon (Ansan, Korea)
- 1341 Comparison of Test Your Memory (TYM) and Montreal Cognitive Assessment (MoCA) measures in Parkinson's disease
E.J. Henderson, H. Chu, D.M. Gaunt, A.L. Whone, Y. Ben-Shlomo, V. Lyell (Bristol, United Kingdom)
- 1342 Gender differences in DLB: frequency, clinical presentation and treatment
S. Garcia-Ptacek, M.G. Kramberger, D. Aarsland (Huddinge, Sweden)
- 1343 Diagnosis and management of dementia with Lewy bodies: Influence of concomitant cerebrovascular disease
A. Chimagomedova, E. Vasenina, O. Levin (Moscow, Russia)
- 1344 FYN expression is associated with regulatory region genetic variation
L.M. Bekris, J.A. Zahratka, Y. Shao, M. Shaw, K. Todd, M. Khrestian, J.B. Leverenz (Cleveland, OH, USA)
- 1345 MMSE and MoCA feasibility in Parkinson's disease and dementia with Lewy bodies: A multicenter 1-year follow-up study
R. Biundo, L. Weis, S. Bostantjopoulou, E. Stefanova, C. Falup-Pecurariu, M.G. Kramberger, G. Geurtsen, A. Antonini, D. Weintraub, D. Aarsland (Venice, Italy)
- 1346 The evaluation of metabolic differences by using 18F-FDG-PET/CT in demented and non demented Idiopathic Parkinson's disease patients
S. Altinayar, M. Bakir, Y. Demirtas, Y. Kaplan (Malatya, Turkey)
- 1347 Neuropsychology and magnetic resonance correlation in Parkinson's disease mild cognitive impairment: Case-control study
L.F.R. Vasconcellos, M. Adachi, D. Greca, M. Cruz, A.L. Malak, H. Charchat-Fichman, J.S. Pereira (Rio de Janeiro, Brazil)
- 1348 Parkinson's disease patients with onset in right side have a worse cognitive prognosis
T. Poliakova, I. Zerr, O. Levin (Belgorod, Russia)
- 1349 Utility of the Montreal cognitive assessment for screening of mild cognitive impairment and dementia associated with Parkinson's disease in a Colombian hospital
S.C. Cerquera Cleves, S.J. Romero Vanegas, F. Cruz Sanabria, C. Ruiz de Sánchez, F.F. Pretelt Burgos (Bogotá, Colombia)
- 1350 Study of striatal dopamine transporter function in Alzheimer's disease with parkinsonism
T. Yamamoto, A. Miyake, K. Ikeda, T. Furuya, T. Mitsufuji, Y. Ito, T. Sasaki, K. Takahashi, N. Tamura, I. Matsunari, A. Nobuo (Iruma-gun, Japan)
- 1351 Cognitive deficits in Parkinson's disease: A preliminary study of neuropsychological profiles
R.J. Giannaula, P.G. Sanz, J.C. Maiques, M.B. Seijas, M.J. González Aguilar, L. Grasso (Buenos Aires, Argentina)
- 1352 Cognitive profile of Filipino patients with X-linked dystonia parkinsonism
J.E.C. Bautista, R.D.G. Jamora, L.K. Ledesma, L.V. Lee, R.L. Rosales, C.C.E. Diesta, A. Domingo (Quezon City, Philippines)
- 1353 Modeling dementia with Lewy bodies using patient-derived neurons
D.H. Adamowicz, J. Mertens, D.P. Salmon, D.R. Galasko, S. Roy, F.H. Gage (La Jolla, CA, USA)
- 1354 Analysis of cognitive disorders of Parkinson's disease (PD) in the comparative aspect
S. Lukmonov, D. Tolibov, A. Sobirov, F. Yunusov, D. Jalilov, K. Abdukhalimova, A. Kalendarev (Tashkent, Uzbekistan)
- 1355 Memory compensation strategies in patients with Parkinson's disease
C.C. Walton, J.Y.Y. Szeto, L. Mowszowski, S.J.G. Lewis, S.L. Naismith (Sydney, Australia)
- 1356 Levodopa impairs learning in healthy young adults: Implications for Parkinson's disease
P.A. MacDonald, A. Vo, K.N. Seergobin (London, ON, Canada)
- 1357 Cognitive and behavioral problems in children and adolescents with myoclonus dystonia
M.A. Coenen, H. Eggink, H. van den Berg, J.M. Spikman, M.A. Tijssen (Groningen, Netherlands)
- 1358 Social cognition assessment in progressive supranuclear palsy: The cognitive interface with frontotemporal dementia
E.P.F. Resende, P. Caramelli, F.E.C. Cardoso, H.C. Guimarães, M. Hornberger, M. Bertoux, A.L. Teixeira, L. Cruz de Souza (Belo Horizonte, Brazil)
- 1359 Relationship of MDS-UPDRS non-motor symptoms to cognitive functioning in patients with Parkinson's disease
B.A. Bernard, D. Carns, G.T. Stebbins, J.G. Goldman, C.G. Goetz (Chicago, IL, USA)



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- 1360 Comparison of the utility of three cognitive scales for MDS Level-I diagnosis of mild cognitive impairment in Parkinson's disease: MoCA, PD-CRS and ACE-III
R. Fernandez-Bobadilla, J. Pagonabarraga, J.A. Matias-Guiu, S. Martínez-Horta, A. Horta-Barba, J. Marin-Lahoz, J. Perez-Perez, B. Pascual-Sedano, H. Bejr-Kasem, A. Campolongo, J. Kulisevsky (Barcelona, Spain)
- 1361 Neuropsychological assessment in a cohort of patients with Parkinson's disease
C. Juri, W. Uslar, H. Farias, M. Vasquez (Santiago, Chile)
- 1362 Accuracy of clinical diagnosis of dementia with Lewy bodies: A systematic review and meta-analysis
G. Rizzo, S. Arcuti, M. Copetti, M. Alessandria, R. Savica, A. Fontana, R. Liguori, G. Logrosino (Bologna, Italy)
- 1363 Prevalence of depression and dementia in Parkinson's disease
A. Kalendarev, F. Yunusov, G. Rakhimbaeva (Tashkent, Uzbekistan)
- Parkinson's Disease: Cognition**
- 1364 Neuron specific protein S100B and cognitive impairment in various forms parkinsonism
R.J. Matmurodov, K.M. Khalimova, N.S. Rashidova, U. Ergashev, O. Turgunhojayev (Tashkent, Uzbekistan)
- 1365 Impact of behavioral side effects on the management of Parkinson patients treated with dopamine agonists
M.E. Mohammad, J.A. Vizcarra, K. O'Donnell, S. Patel, X. Garcia, X.X. Yu, K. Vlastaris, K. Sutton, H.H. Fernandez (Cleveland, OH, USA)
- 1366 Synaptic biomarkers for cognitive decline in Lewy body dementias and Alzheimer's disease. A mass spectrometry approach
E. Berezcki, R.M.M. Branca, P.T. Francis, J.H. Baek, J. Lehtio, D. Aarsland (Huddinge, Sweden)
- 1367 Decline in drawing ability associated with frontal dysfunction after subthalamic nucleus deep brain stimulation in Parkinson's disease
S. Hirano, S. Furukawa, M. Asahina, T. Yamamoto, T. Uchiyama, Y. Yamanaka, Y. Higuchi, T. Horikoshi, T. Uno, N. Saeki, S. Kuwabara (Chiba, Japan)
- 1368 Screening of posterior cortical dysfunction in early Parkinson's disease with mild cognitive impairment as an approach to select patients at higher risk for developing dementia
H. Bejr-Kasem, J. Pagonabarraga, R. Fernandez-Bobadilla, J. Perez-Perez, J. Marin-Lahoz, B. Pascual-Sedano, S. Martínez-Horta, J. Kulisevsky (Barcelona, Spain)
- 1369 Catechol-o-methyltransferase Val158Met polymorphism influences prefrontal executive function in early Parkinson's disease
Y. Zhang, Y. Zhang, K. Nie, S. Feng, L. Wang, J. Zhao, Z. Huang, L. Wang (Guangzhou, People's Republic of China)
- 1370 Arterial spin labeling perfusion MRI compensate for other diagnostic tools in evaluation of Parkinson's disease with dementia
K. Abe, T. Hayashi, N. Akiyama, M. Yamamoto, M. Fujita (Nishinomiya, Japan)
- 1371 Predictive performance of EEG theta spectral power over developing dementia in Parkinson's disease
V.V. Cozac, M. Chaturvedi, U. Gschwandtner, F. Hatz, A. Meyer, K. Nowak, R. Sturzenegger, P. Fuhr (Basel, Switzerland)
- 1372 Does cognitive decline contribute to poorer quality of life in incident Parkinson's disease? A three year follow up
R.A. Lawson, A.J. Yarnall, G.W. Duncan, D.P. Breen, T.K. Khoo, C.H. Williams-Gray, R.A. Barker, D. Collerton, J.P. Taylor, D.J. Burn (Newcastle upon Tyne, United Kingdom)
- 1373 Interrelation between gait impairment with cognitive disturbances in patients with Parkinson's disease
K. Stepanchenko (Kharkiv, Ukraine)
- 1374 Neuropsychological subgroups in non-demented Parkinson's disease: A latent class analysis
L. Brennan, K. Devlin, S.X. Xie, D. Mechanic-Hamilton, B. Tran, H. Hurtig, A. Chen-Plotkin, L. Chahine, J.F. Morley, J.E. Duda, D.R. Roalf, N. Dahodwala, J. Rick, J.Q. Trojanowski, P.J. Moberg, D. Weintraub (Philadelphia, PA, USA)
- 1375 Validation of the Seoul-instrumental activity of daily living in the detection of dementia in Parkinson's disease
S.J. Kim, E.J. Chung (Busan, Korea)
- 1376 Impact of sociodemographic and clinical characteristics on cognition of individuals with Parkinson's disease
M.R. Olchik, A. Ayres, M. Ghisi, A.F.S. Schuh, C.R.M. Rieder (Porto Alegre, Brazil)
- 1377 Gait and cognition: Mapping the global and discrete relationships in ageing and neurodegenerative disease
R. Morris, S. Lord, J. Bunce, D. Burn, L. Rochester (Newcastle Upon Tyne, United Kingdom)
- 1378 Reliability of verbal and written trail test for individuals with Parkinson's disease: Is it a good cognitive test?
M.R. Olchik, M. Ghisi, A. Freiry, A.F.S. Schuh, C.R.M. Rieder (Porto Alegre, Brazil)
- 1379 Association or causation? Orthostatic hypotension and cognitive impairment in α -synucleinopathies: A systematic review
S.J. Udow, A.E. Lang, M. Masellis (Toronto, ON, Canada)
- 1380 Treatment and diagnosis with the use of neuropsychological scale in patients with posttraumatic subcortical Parkinsonian dementia
R.R. Umarov, N.G. Sokhibnazarov (Tashkent, Uzbekistan)
- 1381 The relationship between cognitive aspects (education status, executive function and verbal fluency) and motor aspects (balance and gait) in patients with Parkinson's disease
C.O. Souza, M.C. Voos, H.F. Chien, D.V. Francato, A.F. Barbosa, J.M. Greve, E.T. Fonoff, E.R. Barbosa (São Paulo, Brazil)
- 1382 Dopaminergic drug management in Parkinson's disease: Gait and language function show correlation during treatment
H. Murakami, A. Futamura, T. Kuroda, S. Ishigaki, M. Kezuka, K. Ono, M. Kawamura (Tokyo, Japan)
- 1383 Optic nerve integration as a visuospatial cognitive predictor in Parkinson's disease
J.J. Lee, Y. Lee, S.J. Chung, Y.H. Sohn, P.H. Lee (Seoul, Korea)
- 1384 Cerebrospinal fluid biomarkers in Parkinson's disease and associated cognitive impairment
M. Delgado-Alvarado, B. Gago, A. Gorostidi, H. Jiménez-Urbieta, J. Ruiz-Martínez, A. Bergaretxe-Yarza, J.F. Martí-Massó, P. Martínez-Lage, A. Izagirre, A. Oregi, L. Sepúlveda, M.C. Rodríguez-Oroz (San Sebastián, Spain)



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- 1385 Investigation of driving ability to drive safely in patients with Parkinson's disease by interview
R. Ando, C. Yamazaki, H. Iwaki, H. Yabe, N. Nishikawa, M. Nagai, K. Nakashima, M. Nomoto, Safe Driving Study Group of Japan (Tohon, Japan)
- 1386 Defective visual perception in patients with Parkinson's disease: The impairment of preattentive visual processing in the normal intellectual patients
Y. Higashi, T. Tabuchi, M. Tabata, E. Mori (Himeji, Japan)
- 1387 Speech prosody impairment predicts cognitive decline in Parkinson's disease
I. Rektorova, J. Mekyska, E. Janousova, M. Kostalova, M. Mrackova, I. Eliasova, D. Berankova, R. Marecek (Brno, Czech Republic)
- 1388 Cytokines in CSF and plasma as potential biomarkers for PD cognitive impairment
M. Delgado-Alvarado, B. Gago, A. Gorostidi, H. Jiménez-Urbieta, J. Ruiz-Martínez, A. Bergaretxe-Yarza, J.F. Martí-Massó, P. Martínez-Lage, A. Izagirre, A. Oregi, L. Sepúlveda, M.C. Rodríguez-Oroz (San Sebastián, Spain)
- 1389 Association between urine protein/creatinine ratio and cognitive dysfunction in Parkinson's disease
Y.S. Oh, J.S. Kim, K.S. Lee (Seoul, Korea)
- 1390 Piperine potentiates neuroprotective effect of curcumin in MPTP model of Parkinson's disease in rats: Impact on neurochemical modulation
S. Singh, P. Kumar (Moga, India)
- 1391 Rapid eye movement sleep behavior disorder symptoms correlate with domains of cognitive impairment in Parkinson's disease
J.R. Zhang, J. Chen, Z.J. Yang, H.J. Zhang, Y.T. Fu, Y. Shen, P.C. He, C.J. Mao, C.F. Liu (Suzhou, People's Republic of China)
- 1392 Genetic factors influencing frontostriatal dysfunction and the development of dementia in Parkinson's disease
I. Huertas Fernandez, S. Jesus, F.J. Garcia Gomez, J.A. Lojo, I. Bernal Bernal, M. Bonilla Toribio, J.F. Martin Rodriguez, D. Garcia Solis, P. Gomez Garre, P. Mir (Sevilla, Spain)
- 1393 The effects of deep brain stimulation for Parkinson's disease on cognition and perceived quality of life: Preliminary results from an Ecuadorian sample
M.B. Jurado Noboa, R. Santibañez Vásquez, J. Achi, M. Navarrete, C. Mawyin (Guayaquil, Ecuador)
- 1394 The effect of anodal transcranial direct current stimulation (tDCS) on sequential motor skill learning in persons with Parkinson's disease
E. Kerckhofs, N. Deroost (Brussels, Belgium)
- 1395 Circulatory levels of BDNF correlate with cognitive deficits in people with Parkinson's disease
H. Khalil, M.A. Alomari, O.F. Khabour, A. Al-Hieshan, J.A. Bajwa (Irbid, Jordan)
- 1396 Retrieval action verbs is impaired in Parkinson's disease patients using a sentence completion task
E. Herrera, R. Pérez, M. González-Nosti (Gijón, Spain)
- 1397 Neuro-cognitive domain related to conversion of Parkinson's disease dementia
S.M. Cheon, S.Y. Lee, J.W. Kim (Busan, Korea)
- 1398 Investigating the relationship between reaction time and cognition in Parkinson's disease
J. Cosgrove, C. Picardi, S.L. Smith, S. Jamieson, J.E. Alty (Leeds, United Kingdom)
- 1399 Withdrawn by Author
- 1400 A proposed Parkinson's disease neuropsychological battery (PNB)
L.L. van Wanrooij, J. Hoogland, J.G. Goldman, G. Stebbins, G.J. Geurtsen, D. Weintraub (Amsterdam, Netherlands)
- 1401 How does cognition affect reaching in Parkinson's disease?
J. Cosgrove, C. Picardi, S.L. Smith, S. Jamieson, J.E. Alty (Leeds, United Kingdom)
- 1402 Visual hallucinations may serve as a possible predictor for Parkinson's disease dementia
Y.P. Chang, Y.H. Yang, C.L. Lai, L.M. Liou (Kaohsiung, Taiwan)
- 1403 Assessment of humor in Parkinson's disease and the effect of deep brain stimulation
A. Greuel, J. Lewis, F. Maier, R. Dano, S. Heintz, W. Ruch, C. Eggers (Cologne, Germany)
- 1404 Effects of a 12-week exercise program on cognition in Parkinson's disease
J.C. Johnson, A.L. Svitak, M.T. Farrell, S.C. Mosch, F. Yu, E.D. Parker, L.R. Hanson (Saint Paul, MN, USA)
- 1405 Executive function and verbal fluency in patients with Parkinson's disease
A.F. Barbosa, M.C. Voos, C.O. Souza, J. Chen, H.F. Chien, D.V. Francato, E.R. Barbosa, L.L. Mansur (São Paulo, Brazil)
- 1406 Performance in Montreal cognitive assessment and functional independence in Parkinsonian with normal minimal state examination
R. Breder, M.A.A. Leite, B.L. Pessoa, C.O. Vilaça (Niterói, Brazil)
- 1407 Single-subject FDG PET patterns and cognitive dysfunctions in Parkinson's disease
A. Pilotto, E. Premi, S.P. Caminiti, L. Presotto, R. Turrone, A. Alberici, B. Paghera, B. Borroni, D. Perani, A. Padovani (Brescia, Italy)
- 1408 Dyskinesias-reduced-self-awareness and theory of mind in Parkinson's disease: A novel frame of interpretation
S. Palermo, M. Amanzio, M. Zibetti, L. Lopiano (Turin, Italy)
- 1409 Occurrence and pattern of cognitive deficits in prodromal Parkinson's disease
C. Pausch, J. Spiegel, F.A. Wollenweber, C. Bayer, U. Dillmann, K. Fassbender, S. Behnke (Homburg Saar, Germany)
- 1410 Analysis of factors associated with cognitive and functional performance in Parkinsonian with normal mini-mental state examination
R. Breder, M.A.A. Leite, M.C.A. Ribas, M. Orsini (Niterói, Brazil)
- 1411 Participation in cognitively-stimulating activities and computer use are associated with better cognitive performance in Parkinson's disease independent from nigrostriatal dopaminergic and cortical cholinergic degenerations
J.L.B. Bohnen, M.L.T.M. Muller, J.D.J. Haugen, N.I. Bohnen (Ann Arbor, MI, USA)
- 1412 Dopamine modulates learning conflicting action-valence associations in Parkinson's disease
N.C. van Wouwe, D.O. Claassen, J.S. Neimat, S.A. Wylie (Nashville, TN, USA)
- 1413 Sensitivity of people with Parkinson's to different intensities of emotions (SPiEs)
J. Wincenciak, D.J. Burn, L.S. Delicato (Newcastle upon Tyne, United Kingdom)



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- 1414 Temporal working memory deficit in Parkinson's disease
B. Degos, I. Ameqrane, S. Rivaud-Péchéux, P. Pouget, M. Missal (Paris, France)
- 1415 A technological solution for monitoring Parkinson's disease: A patient-based perspective on necessity, usability and acceptability
S. Couth, E. Poliakoff, J. Vega, C. Jay, S. Harper, R. Almutiry, T.F. Cootes, A.M. Ramsay, S.A. Kotz (Manchester, United Kingdom)
- 1416 Perception of time in music in Parkinson's disease - Processing of musical syntax compensates rhythmic deficits
D. Bellinger, E. Altenmüller, J. Volkman (Würzburg, Germany)
- 1417 Longterm outcome of cognition following subthalamic deep brain stimulation in Parkinson's disease
D. Gruber, C. Lisa, A. Kuehn, U. Kopp, G.H. Schneider, A. Kupsch (Beelitz-Heilstätten, Germany)
- 1418 Quantifiable changes in cortical visual processing in patients with Parkinson's disease but no cognitive impairment
R.S. Weil, B. Bahrami, D.S. Schwarzkopf, H. Burn, J.D. Warren, H.R. Morris (London, United Kingdom)
- 1419 Are limbic and cognitive effects on balance in Parkinson's disease equal?
K.A. Ehgoetz Martens, C.G. Ellard, Q.J. Almeida (Camperdown, Australia)
- 1420 Mild cognitive impairment in Parkinson's disease: Impact on caregiver outcomes
J.Y.Y. Szeto, M. Gilat, C.C. Walton, L. Mowszowski, S.L. Naismith, S.J.G. Lewis (Sydney, Australia)
- 1421 Association between cognitive status and mobility performance in dual task condition in patients with Parkinson's disease
S.M.A.A. Pompeu, T.B. Freitas, K.G. Silva, C. Torriani-Pasin, F. Doná, J.E. Pompeu (São Paulo, Brazil)
- 1422 Predictors of dementia in Parkinson's disease: A population-based cohort study
A. Keener, K. Paul, A. Folle, J. Bronstein, B. Ritz (Los Angeles, CA, USA)
- 1423 Response inhibition in Parkinson's disease
J. Kim, K. Zhang, M.A.I.U.A. Cruadhlaich, S. YorkWilliams, V. Menon, K.L. Poston (Stanford, CA, USA)
- 1424 Transcranial sonography and cognitive dysfunction in Parkinson's disease
S. Behnke, A. Pilotto, I. Liepelt-Scarfone, R. Yilmaz, C. Pausch, S. Dieterich, I. Posner, J. Spiegel, U. Dillmann, M. Unger, B. Schmidl, J. Bürmann, K. Fassbender, D. Berg (Homburg Saar, Germany)
- 1425 Monoaminergic biomarkers of cognitive decline in Parkinson's disease and Lewy body dementia
S. van der Zee, Y. Vermeiren, T. Aerts, D. van Dam, M.J. Gerritsen, J.M. Spikman, T. van Laar, P.P. de Deyn (Groningen, Netherlands)
- 1426 Unilateral subthalamotomy in Parkinson's disease: Cognitive and neuropsychiatric effects and correlation with lesion size
I. Obeso, E. Casabona, R. Rodríguez-Rojas, N. Pavón, R. Macías, M.L. Bringas, J.A. Obeso, M. Jahanshahi (Madrid, Spain)
- 1427 Cognitive and psychiatric outcome 3 years after bilateral deep brain stimulation of the globus pallidus pars interna versus subthalamic nucleus for Parkinson's disease
J.A. Boel, V.J.J. Odekerken, G.J. Geurtsen, B.A. Schmand, M. Fígee, R.J. de Haan, P. van den Munckhof, P.R. Schuurman, R.M.A. de Bie, The NSTAPS Study Group (Amsterdam, Netherlands)
- 1428 Plasma ceramides and glucosylceramides predict cognitive decline among cognitively normal Parkinson's disease patients
M.M. Mielke, C.E. Hagen, R. Savica, J.A. Syrjanen, X.M.T. Persson, C. Schulte, R. Dodel, M. Balzer-Geldsetzer, J.B. Schulz, K. Reetz, U. Wullner, A. Spottke, A. Storch, H.U. Wittchen, O. Riedel, E. Kalbe, S. Graber-Sultan, T. Gasser, D. Berg, I. Liepelt-Scarfone (Rochester, MN, USA)
- 1429 The role of neuroinflammation in the development of Parkinson's disease dementia
A. Kouli, R. Vuono, R.A. Barker, C.H. Williams-Gray (Cambridge, United Kingdom)
- 1430 Scores and dimensions to assess cognitive impairment in Parkinson's disease
I. Liepelt-Scarfone, S. Gräber, A. Pilotto, D. Blum, M. Fruhmann Berger, D. Berg (Tübingen, Germany)
- 1431 The effect of dopamine on global versus specific inhibitory control in Parkinson's disease
D. Kuebler, H. Schroll, R. Eva, A. Diepold, C. Meyer, A. Kuhn (Berlin, Germany)
- 1432 Staging of cognitive impairment: Validation of a novel cognitive score with [18F]FDG-PET
D. Blum, M. Reimold, W. Maetzler, C. la Fougère, G. Reischl, D. Berg, I. Liepelt-Scarfone (Tübingen, Germany)
- 1433 Grey matter atrophy associated with the progression of cognitive decline in Parkinson's disease (PD)
M. Chondrogiorgi, L.G. Astrakas, A.K. Zikou, M.I. Argyropoulou, S. Konitsiotis (Ioannina, Greece)
- 1434 Effects of gender, age and hyposmia on cognitive functions in healthy elderly individuals at risk for Parkinson's disease: Results from the TREND study
S. Heinzel, U. Suenkel, F.G. Metzger, E. Schaeffer, B. Roeben, R. Yilmaz, S. Lerche, K. Brockmann, A.K. von Thaler, I. Liepelt-Scarfone, G.W. Eschweiler, A.J. Fallgatter, W. Maetzler, D. Berg (Tübingen, Germany)
- 1435 Eye tracking-based measurement of cognitive functions in patients with neurodegenerative diseases
H. Schmitz-Peiffer, K. Linse, W. Rürger, M. Joos, M. Löhle, A. Storch, A. Hermann (Dresden, Germany)
- 1436 Mild cognitive impairment is linked with white matter degeneration in the cortico-subcortical tracts in patients with Parkinson's disease
A. Hanganu, J.C. Houde, V.S. Fonov, C. Degroot, B. Mejia-Constain, A.L. Lafontaine, V. Soland, S. Chouinard, L.D. Collins, M. Descoteaux, O. Monchi (Calgary, AB, Canada)
- 1437 Functional connectivity during resting state in Parkinson's disease patients with and without mild cognitive impairment
O. Monchi, A. Nagano-Saito, A. Hanganu, S. Jobert, B. Mejia-Constain, C. Degroot, A.L. Lafontaine, H. Chertkow, A. Tam, P. Orban, P. Bellec, O. Monchi (Calgary, AB, Canada)
- 1438 Characteristics of drop outs in a longitudinal study on individuals at risk for a neurodegenerative disorder
U. Suenkel, S. Heinzel, A.K. von Thaler, F. Metzger, G.W. Eschweiler, I. Liepelt-Scarfone, W. Maetzler, D. Berg (Tübingen, Germany)



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- 1439 Fall prediction in Parkinson's disease based on motor dual-tasking: Evidence from the prospective MODEP study
S. Heinzel, M. Maechtel, S.E. Hasmann, M.A. Hobert, T. Heger, D. Berg, W. Maetzler (Tübingen, Germany)
- 1440 Cognition and amyloid biomarker status in non-demented patients with Parkinson's disease patients (PD) with or without subjective cognitive decline (SCD)
I. Liepelt-Scarfone, F. Klumpp, W. Maetzler, S. Nussbaum, M. Timmers, G. Salvatore, M. Albers, K. Michaelis, Z. Tkaczynska, J. Streffer, D. Berg (Tübingen, Germany)
- 1441 Impulsive action tendencies in GPI DBS Parkinson's patients
D. Martinez-Ramirez, C.S. Little, J.P. Chapman, S. Carbanaru, J.C. Giugni, M.W. Vasquez, F. Chai, R. Walz, A. Sririam, K. Kanoff, S.A. Wylie, M.S. Okun (Gainesville, FL, USA)
- 1442 The effect of statin use on cognition in Parkinson's disease
B.L. Deck, J. Rick, S.X. Xie, A. Chen-Plotkin, J.E. Duda, J.F. Morley, L.M. Chahine, N. Dahodwala, R.S. Akhtar, J.Q. Trojanowski, D. Weintraub (Philadelphia, PA, USA)
- 1443 Baseline physical activity may influence exercise-induced changes in cognitive function in Parkinson's disease
R. Chow, C.R.A. Silveira, B.N. Intzandt, E. Beck, Q.J. Almeida (Waterloo, ON, Canada)
- 1444 Self-reported cognitive complaints and neuropsychological performance in idiopathic REM sleep behavior disorder
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- 1445 Effect of rivastigmine in Parkinson's disease dementia - A longitudinal observational study
S. Raha, L. Ebenezer (Bridgend, United Kingdom)
- 1446 Impairment of decision-making processes in patients with Parkinson's disease during a strategic game
A.C. Parr, B.C. Coe, G. Pari, D.P. Munoz (Kingston, ON, Canada)
- 1447 Apolipoprotein E genotypes in Brazilian patients with Parkinson's disease and their correlation with cognitive performance assessed by MoCA
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- 1448 How do cognitive profiles differ in patients with Parkinson's disease with cognitive decline in comparison to patients remaining cognitively stable? Preliminary results of a 3 years follow-up study
A. Meyer, U. Gschwandtner, V. Cozac, F. Hatz, P. Fuhr (Basel, Switzerland)
- 1449 Attention and dopamine: Increased distractibility in Parkinson's disease
C. Warden, S. YorkWilliams, N. Ahn, D. Everling, K.L. Poston (Stanford, CA, USA)
- 1450 Does repetitive transcranial magnetic stimulation (rTMS) affect cognitive function in Parkinson's disease by modulating high-frequency brain oscillations: A magnetoencephalography (MEG) study
I. Buard, J. Shattuck, B.M. Kluger (Aurora, CO, USA)
- 1451 Use of dementia rating scale-II (DRS-II) total score in PD deep brain stimulation (DBS) candidacy determination
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- 1452 Consolidation of learning and memory in Parkinson's disease
M.E. Sharp, K. Duncan, K. Foerde, R. Kahane, D. Shohamy (New York City, NY, USA)
- 1453 Treatment with the use of the PD-specific scales for patients suffering from subcortical Parkinsonian dementia
N.G. Sokhibnazarov, F.K. Shermukhamedova (Tashkent, Uzbekistan)
- 1454 Cognitive complaint in Parkinson's disease patients with normal cognition
R.F. Purri, L. Brennan, J. Rick, L. Chahine, N. Dahodwala, A. Chen-Plotkin, J.E. Duda, J.F. Morley, R.S. Akhtar, J.Q. Trojanowski, D. Weintraub (Philadelphia, PA, USA)
- 1455 Impaired cube copy on the MOCA indicates worse performance in several cognitive domains in Parkinson's disease
C. Gasca-Salas, M. Cohn, J.A. Pineda, J.A. Obeso (Madrid, Spain)
- 1456 Construct validity of Moca test in a sample of patients with Parkinson's disease in Bogotá and Cali - Colombia
B.E. Muñoz, O. Bernal, A. Castillo, J.L. Orozco (Cali, Colombia)
- 1457 The alterations in behavioral memory for prolongation disease duration in patients with Parkinson's disease
M. Saruwatari, Y. Kobayashi, A. Kumon, K. Hasegawa (Sagamihara, Japan)
- 1458 Apraxia in Parkinson's disease
M. Tábuas-Pereira, P. Correia, F. Moreira, A. Morgadinho, C. Januário (Coimbra, Portugal)
- 1459 Imitation of hand movements in Parkinson's disease: A comparison with visual cueing
J. Bek, E. Gowen, S. Vogt, T. Crawford, E. Stack, J. Dick, E. Poliakoff (Manchester, United Kingdom)
- 1460 The cognitive profile of idiopathic REM sleep behavior disorder
L. Bernier-Lalonger, F. Escudier, P.A. Bourgooin, R.B. Postuma, J. Montplaisir, J.F. Gagnon (Montreal, QC, Canada)

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- 1461 Cognitive and behavioral side effects in patients treated with droxidopa for neurogenic orthostatic hypotension
K.E. McDonnell, C.A. Shibao, I. Biagginoi, D. Robertson, D.O. Claassen (Nashville, TN, USA)
- 1462 Effectiveness of duodenal levodopa/carbidopa infusion gel (LCIG) therapy on the neuropsychiatric disturbances of advanced Parkinson's disease (EDIS study)
M.J. Catalan, P. Montero, J. Herreros, J.M. Arbelo, P. Martinez-Martin (Madrid, Spain)
- 1463 Illusional perception in Parkinson's disease
C. Ding, C. Palmer, J. Hohwy, G. Youssef, B. Paton, N. Tsuchiya, J. Stout, D. Thyagarajan (Clayton, Australia)
- 1464 Bradykinesia, low monthly income and current employment are associated with depression in patients with Parkinson's disease: Results of a study from Sri Lanka
M.R. Withana, T.B. Herath, C. Rodrigo, C. Gamage, R. Gamage (Colombo, Sri Lanka)
- 1465 Neuroanatomical correlates of apathy in non-demented and non-depressed Parkinson's disease
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- 1466 Prevalence of impulse control disorders among adult Filipino patients with idiopathic Parkinson's disease seen at a tertiary center in Manila
 J.K.P. de Guzman, A.D. Yap, C.L. Go (Manila, Philippines)
- 1467 EARLYSTIM: STN-DBS alleviates behavioural side effects of dopamine replacement therapy when compared to best medical treatment
 E. Lhommée, W. Lars, C. Virginie, K. Witt, F. Maier, L. Tonder, L. Timmermann, T. Hälbig, F. Pineau, F. Durif, T. Witjas, J.L. Houeto, P. Krack (Grenoble, France)
- 1468 Anhedonia and its correlation with clinical aspects in Parkinson's disease
 H. Nagayama (Tokyo, Japan)
- 1469 Dementia in Parkinson's disease: Is male gender a risk factor?
 E. Cereda, R. Cilia, C. Klersy, C. Siri, A. Colombo, B. Pozzi, E. Reali, A.L. Zecchinelli, C.B. Mariani, S. Tesei, M. Canesi, G. Sacilotto, N. Meucci, M. Zini, I.U. Isaias, M. Barichella, E. Cassani, S. Glodwurm, G. Pezzoli (Pavia, Italy)
- 1470 Predicting incident impulse control disorder behaviour in Parkinson's disease patients using a clinical-genetic model
 J. Kraemmer, K. Smith, D. Weintraub, V. Guillemot, M.A. Nalls, F. Cormier, I. Moszer, A. Brice, A.B. Singleton, J.C. Corvol (Paris, France)
- 1471 Cognitive function and self-reported depressive symptoms in a population-based cohort to study non-motor-symptoms of Parkinson's disease
 E.J. Vollstedt, K. Hüchelheim, S. Tunc, J. Hampf, C. Kritzinger, M. Kasten, C. Klein (Luebeck, Germany)
- 1472 Personality and addictive behaviours in prodromal and early Parkinson's disease
 F. BaigBM, M. Lawton, M. Rolinski, C. Ruffmann, J. Klein, K. Nithi, D. Okai, Y. Ben-Shlomo, M.T.M. Hu (Oxford, United Kingdom)
- 1473 Anxiety and cognition are associated with dopaminergic dysfunction in de novo Parkinson's disease
 M. Picillo, G. Santangelo, R. Erro, A. Cozzolino, M. Amboni, C. Vitale, P. Barone, M.T. Pellecchia (Baronissi, Italy)
- 1474 Parkinson's disease associated psychosis: Prevalence and risk factors
 A. Dutt, H. Kumar, M. Mukherjee, M.U. Kulsum, C. Sengupta (Kolkata, India)
- 1475 The role of depression in suicidal ideation in a sample of patients with Parkinson's disease
 M.M. Dumitru (Iasi, Romania)
- 1476 Relation between personality trait and depression in Parkinson's disease
 A. Kumon, Y. Kobayashi, M. Saruwatari, N. Kawashima, K. Hasegawa (Sagamihara, Japan)
- 1477 Facial expressivity in Parkinson's disease (PD) via an examination of smiling behavior: Preliminary findings
 D.L. McCabe, A.D. Bono, R.J. Stafford, A.I. Dumer, K.A. Scorpio, J.L. Spielman, R. Bind, L.O. Ramig, J.C. Borod (New York, NY, USA)
- 1478 Fractionating apathy – Effort, reward and impulsivity mechanisms in Parkinson's and Huntington's disease
 C. O'Callaghan, S. Mason, C. Williams-Gray, R. Barker, B. Sahakian, T. Robbins (Cambridge, United Kingdom)
- 1479 Neuropsychological correlates of impulse control disorders and punding in Parkinson's disease
 G. Santangelo, F. Falco, M. Vicidomini, R. Allocca, P. Barone, C. Vitale (Caserta, Italy)
- 1480 Reward insensitivity differentiates apathy from depression in Parkinson's disease
 K. Muhammed, M. Ben Yehuda, D. Drew, S. Manohar, T. Chong, G. Tofaris, M. Bogdanovic, G. Lennox, M. Hu, M. Husain (Oxford, United Kingdom)
- 1481 Visual hallucinations and executive dysfunction in Charles Bonnet syndrome: Preliminary findings from SHAPED
 D.H. Ffytche, F. D'Antonio, R. Pinto, D. Collerton, J.P. Taylor, D.J. Burn, R. Barker, D. Aarsland, R. Howard (London, United Kingdom)
- 1482 Profile of depressive symptoms in Parkinson's disease patients and a population-based elderly cohort
 K. Hüchelheim, E.J. Vollstedt, S. Tunc, J. Hampf, J. Graf, V. Tadic, C. Klein, M. Kasten (Lübeck, Germany)
- 1483 Subthalamic neurons encode reward hypersensitivity and loss hyposensitivity in Parkinson's patients with impulse control disorders
 P.J. Rossi, A. Gunduz, M.S. Okun (Gainesville, FL, USA)
- 1484 Impulse control disorder in early Parkinson's disease: Follow-up study
 V. Markovic, I. Stankovic, I. Petrovic, T. Stojkovic, M. Jecmenica-Lukic, A. Tomic, V. Kostic (Belgrade, Serbia)
- 1485 Technology use and impulse control disorders (ICDs) in patients with Parkinson's disease (PD)
 E.A. Byrd, C.M. Tanner, C.A. Racine, N.B. Galifianakis (San Francisco, CA, USA)
- 1486 Phenotypic spectrum and longitudinal outcome of Parkinson's disease patients with psychosis
 M.S. Nanjunda Swamy, M.M. Abbas, S.T. Govindappa, P. Basu, R. Ramanathan, U.B. Muthane (Bangalore, India)
- 1487 Impulse control disorder in Parkinson's disease is not related to lower cognitive performance
 J. Marin-Lahoz, R. Fernandez-Bobadilla, J. Pagonabarraga, S. Martinez-Horta, B. Pascual-Sedano, J. Perez-Perez, H. Bejr-Kasem, A. Gironell, J. Kulisevsky (Barcelona, Spain)
- 1488 Neuropsychiatric, personality and non-motor correlates of impulse control disorders in recent onset Parkinson's disease
 D.M.A. Swallow, M.A. Lawton, K.A. Grosset, N. Malek, N. Bajaj, R.A. Barker, Y. Ben-Shlomo, D.J. Burn, T. Foltynie, J. Hardy, H.R. Morris, N. Williams, N.W. Wood, D.G. Grosset, PRoBaND Collaborators (Glasgow, United Kingdom)
- 1489 Volition and action control in Parkinson's disease patients with impulsive-compulsive behaviour disorders
 L. Ricciardi, P. Haggard, L. de Boer, C. Sorbera, M.P. Stenner, F. Morgante, M.J. Edwards (London, United Kingdom)
- 1490 Feasibility and effectiveness of a low-threshold psychoeducative group-intervention for depression in Parkinson's disease
 K. Linse, M. Fauser, C. Ossig, A. Hermann, A. Storch (Dresden, Germany)
- 1491 The cerebral structural and functional signatures of impulse control disorder in Parkinson's disease
 F. Imperiale, F. Agosta, E. Canu, V. Spica, M. Jecmenica, M. Copetti, V.S. Kostic, M. Filippi (Milan, Italy)
- 1492 Screening for neuropsychiatric symptoms in Parkinson's disease
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- 1493 Coping styles and their influence on outcomes in Parkinson's disease
K.M. Sundvick, F. Kassam, N. Dispirito, E. Book, S. Cresswell (Vancouver, BC, Canada)
- 1494 Viewer responses to a virtual reality simulation of Parkinson's disease psychosis
J.G. Goldman, G.T. Stebbins, D. Fredericks, M. Upchurch (Chicago, IL, USA)
- 1495 Prevalence of depression in Parkinson's disease patients
A.M. Weldehana (Addis Ababa, Ethiopia)
- 1496 Psychiatric manifestations in the initial motor stage of Parkinson's disease
I. Stankovic, E. Stefanova, A. Tomic, M. Jecmenica Lukic, V. Markovic, N. Kresojevic, I. Petrovic, M. Svetel, V.S. Kostic (Belgrade, Serbia)
- 1497 Neuroleptic medication is associated with a worse health status in the years prior to treatment, but have the potential for normalization
P. Schmidt, F. Cubillos, T. Simuni, C. Marras, T. Davis, E.C. Nelson, M.S. Okun (Miami, FL, USA)
- 1498 Disease-related variables effect on depression and anxiety level in Parkinson's patients
T. Uyar, D. Sarikaya Varlik, A. Ercan, O.C. Cenker, I. Gungor Dogan (Rize, Turkey)
- 1499 Affective theory of mind in Parkinson's disease
A.M. Hammad, S. Ghozy, S.I. El-Jaafary (Cairo, Egypt)
- 1500 Anxiety and parkinsonism signs in idiopathic REM sleep behavior disorder
F. Escudier, R.B. Postuma, P.A. Bourgoquin, J. Montplaisir, J.F. Gagnon (Montreal, QC, Canada)
- 1501 Factors related to psychotic symptoms in patients with Parkinson's disease
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- 1502 The interactive walkway: Towards assessing gait-environment interactions in a clinical setting
D.J. Geerse, M. Roerdink, B. Coolen, J. Marinus, J.J. van Hilten (Leiden, Netherlands)
- 1503 Is Apple Watch a new hope for patients with Parkinson's disease?
H. Ohtsubo, H. Iwaki, R. Andou, T. Tsujii, H. Babe, N. Nishikawa, M. Nagai, M. Nomoto (Tohon, Japan)
- 1504 The spectrum of abnormal movements and predictors of outcome in anti-NMDA receptor encephalitis in Thai patients
K. Suksuchano, M. Apiwattanakul (Bangkok, Thailand)
- 1505 Motor function restoration during REM sleep behavioral disorder in Parkinson's disease: A video-polysomnography study
P. Bugalho, T. Lampreia, R. Miguel, M. Mendonça, A. Caetano, R. Barbosa (Lisbon, Portugal)
- 1506 Head drop in patient with Parkinson's disease as an alert of upcoming myasthenic crisis
V. Vuletic (Zagreb, Croatia)
- 1507 Risk factors of wearing-off phenomenon in Parkinson's disease in Japan
J. Fukae, S. Ouma, K.I. Kashihara, N. Hattori, Y. Tsuboi (Fukuoka, Japan)
- 1508 When and why patients with Parkinson's disease become bed ridden
K. Kashihara, M. Kitayama, T. Hamaguchi (Okayama, Japan)
- 1509 The relationship between cognitive task and postural stability in the early stages of Parkinson's disease
M. Demirkiran, M. Erdem (Adana, Turkey)
- 1510 Impulsive-compulsive behaviors in patients with Parkinson's disease and demographically-comparable group of healthy controls
M.A. Nikitina, I.A. Zhukova, V.M. Alifirova, N.G. Zhukova, O.P. Izhboldina, J.S. Mironova, M.A. Titova, N.G. Brazovskaya, S.E. Sukhanov (Tomsk, Russia)
- 1511 How do we make mistakes diagnosing movement disorders?
J. Rosales, N. Larripa, C.A. Del Carpio, S.A. Rodriguez-Quiroga, L. Assante, J. Cassen, T. Arakaki, N.S. Garretto (Caba, Argentina)
- 1512 Dropped head syndrome in parkinsonism: Two treatable etiologies not to miss
P. Termsarasab, S.J. Frucht (New York, NY, USA)
- 1513 The clinical characteristics of Lewy body disease showed autonomic failures preceding motor signs
A. Miyake, T. Yamamoto, K. Ikeda, T. Furuya, M. Takashi, Y. Ito, Y. Nakazato, N. Tamura, N. Araki (Irumagun Moroyama Town, Japan)
- 1514 A case of misdiagnosed Parkinson's disease (PD)
I. Gabrielyan, K. Harutyunyan, G. Avagyan, H. Amirjanyan, A. Voskanyan, S. Khachaturyan, H. Hambardzumyan, A. Nazaryan, H. Manvelyan (Yerevan, Armenia)
- 1515 Standardized assessment of camptocormia in idiopathic Parkinson's disease
T. Schmidt, G. Ebersbach, G. Doreen (Beelitz-Heilstätten, Germany)
- 1516 Ambulatory assessment of tremor
M. Horne, S. O'Connor, P. Churchward, T. Perera, M. Braybrook (Parkville, Australia)
- 1517 Assessment of cognitive-motor interference during an upper extremity motor task in Parkinson's disease
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- 1518 Long term prognosis of functional motor disorders, a case-control follow-up study
J. Gelauff, L. Ludwig, A. Carson, M. Tijssen, J. Stone (Groningen, Netherlands)
- 1519 Coin rotation as strongest predictor of buttoning in Parkinson's: A multicenter study demonstrating the everyday impact of limb-kinetic apraxia
T. Foki, T. Vanbellingen, C. Lungu, W. Pirker, S. Bohlhalter, T. Nyffeler, J. Kraemmer, D. Haubenberger, F.P.S. Fischmeister, E. Auff, M. Hallett, R. Beisteiner (Vienna, Austria)
- 1520 A new tool to stage Parkinson's disease PDCS (Parkinson's disease composite scale): A pilot study on behalf of the European Parkinson's disease association (EPDA)
F. Stocchi, P. Martinez-Martin, F.G. Radicati (Rome, Italy)
- 1521 Evaluating bradykinesia: How many finger taps are needed?
E. Ruzicka, R. Krupicka, K. Zarubova, J. Ruz, R. Jech, D. Stanek, Z. Szabo (Praha, Czech Republic)



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- 1522 Choreoathetosis associated with cervical dystonia as clinical presentation of thyrotoxicosis: A rare condition
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- 1523 Comparative study patients with different clinical forms of Parkinson's disease
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- 1524 Overlapping corticobasal syndromes: The many faces of the Armstrong criteria
 A. Pilotto, W. Maetzler, M. Synofzik, E. Schaeffer, C. Schulte, M.A. Hobert, K. Srulijes, T. Gasser, D. Berg (Tübingen, Germany)
- 1525 GAITrite comparison between Parkinson's disease stages
 W. Deeb, D. Martinez-Ramirez, J. Giugni, M. Okun, C. Hass (Gainesville, FL, USA)
- 1526 Correlation between self-perceived balance confidence, postural control, gait and quality of life of individuals with Parkinson's disease
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- 1527 The relationship between impulse control disorders and dyskinesia in Parkinson's disease: The ALTHEA study
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- 1528 Utility of the Mayo sleep questionnaire in predicting final autopsy diagnosis of alpha-synucleinopathy
 D. Shprecher, J. Hentz, C. Adler, B. Dugger, H. Shill, E. Driver-Dunkley, S. Mehta, M. Sabbagh, C. Belden, R. Savica, L. Sue, T. Beach (Sun City, AZ, USA)
- 1529 The practicalities of freezing of gait assessment methods
 C. Stummer, E. Mallia, B. Debû, B.R. Bloem, M.U. Ferraye (Nijmegen, Netherlands)
- 1530 The movement disorder associated with NMDAR-antibody encephalitis: An expert-rater video study
 J.A. Varley, K.P. Bhatia, R.C. Dale, V. Fung, T. Granata, M.A.J. Tijssen, A. Lang, J.P. Lin, M. Lim, T. Lynch, N. Nardocci, K.D. Sethi, S.R. Irani (Oxford, United Kingdom)
- 1531 Self-perception of daily performance in relation to motor performance in advanced Parkinson's disease – Case studies
 J. Jansa, B. Piks, D. Flisar, M. Gregoric Kramberger, Z. Pirtosek (Ljubljana, Slovenia)
- 1532 The improvement of a tardive dyskinesia movements by inline skating
 S.C.B. Casagrande, R.G. Cury, A.C.d.L. Pardini, D.B. Coelho, C.d.O. Souza, T.G. de Oliveira, M.G.d.S. Ghilardi, E.R. Barbosa, E.T. Fonoff (São Paulo, Brazil)
- 1533 Attention to action: Common to both conversion (psychogenic) and Parkinsonian (neurogenic) motor speech disorders
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- 1534 Objective, unobtrusive assessment of bradykinesia in Parkinson's disease
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- 1535 Comparative analysis of upper limb motor function and articulation disorder in Parkinson's disease
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- 1536 Instrumented quantitative study of movement and gait in Parkinson's disease clinical subtypes
 P.C. Gordon, J.B. Ferraz, L.M. Medeiros, L.F.R. Oliveira, D.K. Amado, A.M. Lima Neto, M.S.G. Rocha (São Paulo, Brazil)
- 1537 Dopaminergic and non-dopaminergic effects on instrumented timed up and go test in patients with Parkinson's disease
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- 1538 Movement disorders in diabetes – Report of two cases
 H. Sienkiewicz-Jarosz, G. Witkowski, M. Restel, D. Ryglewicz (Warszawa, Poland)
- 1539 Blinded video assessment of subtle Parkinsonian signs in PREDICT-PD participants
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- 1540 Balance in patients with newly diagnosed Parkinson's disease – A three year follow-up of a cohort in Northern Sweden
 C. Johansson, E. Johansson, G.M. Johansson, B. Lindström, L. Forsgren (Sävar, Sweden)
- 1541 Developmental movement patterns resemble movement disorder features in healthy babies and toddlers
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- 1542 iPad-based preassessment questionnaires are feasible in a Parkinson's service
 B. Mohamed, E.L. Lane, E.C. Thomas, M. Landwehr, C.W. Ngu, J. Butler, K. Williams, M. Wardle (Cardiff, United Kingdom)
- 1543 Transient hemiballismus in a fast jet pilot
 T. Coysh, D.P. Breen, P. Hodgkinson (Stevenage, United Kingdom)
- 1544 Symptom progression in a large cohort of Parkinson's disease cases in a clinical practice setting
 K. Markopoulou, A. Premkumar, B. Schoneburg, S. Walters, R. Frigerio, M. Szela, D.M. Maraganore (Glenview, IL, USA)
- 1545 Handwriting in Parkinson's disease: Systematic review and preliminary study
 C. Simonet, A.J. Noyce, H. Ling, A.J. Lees, T.T. Warner (Segovia, Spain)
- 1546 Diagnostic accuracy of common bedside ataxia examination tests
 R. Thompson, P. Woolman, D.E. Bhatti, A. Hellman, J.M. Bertoni, D. Torres-Russotto (Omaha, NE, USA)
- 1547 Compensation strategies for gait in Parkinson's disease
 S.C. Lidstone, A. Fasano, M. Hallett, A. Nieuwboer, E. Ruzicka, B.A. Bloem (Toronto, ON, Canada)
- 1548 Simultaneous symptomatic onset of Parkinson's disease and myasthenia gravis
 P. Kumar, T.M. Biller, A.M. Kurzweil, K. Kiprovski, J.E. Fleisher (New York, NY, USA)
- 1549 Effects of dual task on upper extremity function and postural control in patients with Parkinson's disease
 S.M.A.A. Pompeu, B.R.B. Moraes, J.E. Pompeu (São Paulo, Brazil)
- 1550 Clinical and instrumental gait analysis study of fear of falling in Parkinson's disease patients
 P.C. Gordon, J.B. Ferraz, L.M. Medeiros, L.F.R. Oliveira, D.K. Amado, A.M. Lima Neto, M.S.G. Rocha (São Paulo, Brazil)
- 1551 Freezing of gait in extrapontine myelinolysis
 Y.N. Kwon, D. Lee, T.B. Ahn (Jindo-gun, Korea)



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- 1552 Improving clinical detection of balance deficits in individuals with Parkinson's disease with and without freezing of gait and the effects of dopaminergic replacement therapy
K.A. Ehgoetz Martens, C.G. Ellard, Q.J. Almeida (Camperdown, Australia)
- 1553 Pisa syndrome in a drug-naive Parkinson's disease patient
P. Solla, A. Cannas, M.M. Mascia, M. Mancino, D. Picciau, R. Farris, G. Orofino, L. Cugusi, L. Polizzi, F. Marrosu (Monserrato (Cagliari), Italy)
- 1554 Freezing of gait is associated with more fear of falling avoidance behavior and less participation in daily physical activity
M.R. Landers, B. Poston, J. Nash, J. Longhurst (Las Vegas, NV, USA)

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- 1555 Disability is an independent predictor of falls and recurrent falls in people with Parkinson's disease without a history of falls: A one-year prospective study
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- 1556 A comparison of self-report and performance-based balance measures to predict recurrent falls in people with Parkinson's disease: A cohort study
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- 1557 Predictors of recurrent falls in people with Parkinson's disease and development of a predictive tool
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- 1558 Pantotenate kinase associated neurodegeneration (PKAN): Proposal for a clinical rating scale
A. Darling, C. Garrido, S. Aguilera, M. Tomas-Vila, I. Gaston, M. Madruga, L. González-Gutiérrez, J. Ramos-Lizana, M. Pujol, K. Tustin, J.P. Lin, L. Martorell, C. Tello, V. Lupo, C. Espinos, L. Stefanis, L. Sanz, F. Gutiérrez, P.J. Garcia, L. Vela, T. Temudo, R. Pons, M.J. Martí, B. Pérez-Dueñas (Barcelona, Spain)
- 1559 Changes in motor symptoms of Parkinson's disease: 2-year follow-up of 735 cases
P. Martinez-Martin, C. Rodriguez-Blazquez, A. Rizos, K.R. Chaudhuri, NILS, EUROPAR and MDS Non-Motor PD Study Groups (Madrid, Spain)
- 1560 Multicenter report of clinical use of a non-motor symptom questionnaire for craniocervical dystonia: The DNMS quest
L. Klingelhoefer, M. Kaiser, D. Martino, L. Perkins, M. Wienecke, A. Sauerbier, R. Untucht, D. Trivedi, K. Mammadova, T. Chiwera, A. Rizos, P. Martinez-Martin, H. Reichmann, K.R. Chaudhuri (Dresden, Germany)
- 1561 Differences in MDS-UPDRS scores based on Hoehn and Yahr stage and disease duration: Results of a large international multicenter study of 3206 patients (the QUALPD study)
M. Skorvanek, P. Martinez-Martin, N. Kovacs, I. Zezula, M. Rodriguez-Violante, J.C. Corvol, P. Taba, K. Seppi, O. Levin, A. Schrag, T. Foltynie, M. Alvarez-Sanchez, T. Arakaki, Z. Aschermann, I. Aviles-Olmos, E. Benchetrit, C. Benoit, A. Bergareche-Yarza, A. Cervantes-Arriaga, A. Chade, F. Cormier, V. Datieva, D.A. Gallagher, N. Garretto, Z. Gdovinova, G. Gershanik, M. Grofik, V. Han, J. Huang, L. Kadastik-Eerme, M.M. Kurtis, G. Mangone, J.C. Martinez-Castrillo, A. Mendoza-Rodriguez, M. Minar, H.P. Moore, M. Muldmaa, C. Mueller, B. Pinter, W. Poewe, K. Rallmann, E. Reiter, C. Rodriguez-Blazquez, C. Singer, B.C. Tilley, P. Valkovic, C.G. Goetz, G.T. Stebbins (Kosice, Slovakia (Slovak Republic))

- 1562 Computer uses and difficulties in Parkinson's disease
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- 1563 Diagnostic performance of the Spanish version of the 19-items wearing-off questionnaire in Mexican patients with PD
D. Cruz-Fino, A. Alvarado-Bolaños, M. Rodríguez-Violante, A. Cervantes-Arriaga (Mexico City, Mexico)
- 1564 Gender and age-based differential item functioning (DIF) analysis of MDS-UPDRS
C.G. Goetz, L. Wang, G.T. Stebbins, B.C. Tilley, S. Luo (Chicago, IL, USA)
- 1565 A step forward to the future: UPDRS kinematic measures for telemedicine
G. Albani, C. Azzaro, F. Parisi, C. Ferraris, M. Giuberti, L. Contin, D. Pianu, L. Pradotto, V. Cimolin, N. Cau, M. Galli, R. Nerino, G. Ferrari, A. Mauro (Piancavallo, Italy)
- 1566 Patient reported outcomes in Parkinson's disease (PRO-PD) rating scale validation
L.K. Mischley (Kenmore, WA, USA)
- 1567 Validation of the Hebrew version of the International Parkinson and Movement Disorder Society—unified Parkinson's disease rating scale (MDS-UPDRS)
J. Zitsler, A. Bar David, H. Shabtai, A. Ezra, M. Brozgol, C. Peretz, A. Rozenberg, T. Herman, G.T. Stebbins, C.G. Goetz, B.C. Tilley, S.T. Luo, L. Wang, N. Giladi, T. Gurevich (Tel Aviv, Israel)
- 1568 Empowering Parkinson's patients to declare pain: A multicenter report of the use of the first Parkinson's pain questionnaire (King's PD pain quest)
A.M. Rizos, P. Martinez-Martin, S. Pal, R. Sophia, C. Carroll, D. Martino, C. Falup-Pecurariu, B. Kessel, T. Andrews, D. Paviour, A. Sauerbier, A. Martin, M. Parry, L. Perkins, D. Trivedi, T. Chiwera, P. Odin, A. Antonini, K. Ray Chaudhuri, On behalf of EUROPAR, The IPMDS Non-Motor PD Study Group (London, United Kingdom)
- 1569 The International Parkinson and Movement Disorder Society - non-motor rating scale (MDS-NMS): Results from the cognitive pre-testing and phases 1 and 2 of an international validation
K. Ray Chaudhuri, D. Weintraub, A. Schrag, P. Martinez-Martin, On behalf of EUROPAR, The MDS Non-Motor PD Study Group (London, United Kingdom)
- 1570 Validity and reliability of the Turkish version of the scales for outcomes in Parkinson's disease-autonomic questionnaire (SCOPE-AUT)
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- 1571 Independent validation of the quality of life in essential tremor questionnaire (QUEST)
N. Kovács, A. Makkos, M. Kovács, J. Janzsky (Pécs, Hungary)
- 1572 Are clinical certainty ratings helpful in the diagnosis of Parkinson's disease?
H.V. Gupta, S.H. Mehta, J.G. Hentz, H.A. Shill, E. Driver-Dunckley, M.N. Sabbagh, C.M. Belden, B.N. Dugger, T.G. Beach, G.E. Serrano, L.I. Sue, C.H. Adler (Scottsdale, AZ, USA)
- 1573 Development of a tool for assessment of embarrassment due to dystonia
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- 1574 Reliability of a newly developed protocol for fiberoptic endoscopic evaluation of swallowing in Parkinson's patients (PARK-FEES)
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- 1575 Comparison of change in the UPDRS versus MDS-UPDRS in a population of Parkinson's disease (PD) patients treated with deep brain stimulation (DBS)
 S.S. Wang, N.B. Galifianakis, M. San Luciano, P.S. Larson, P.A. Starr, N. Ziman, J.L. Ostrem (San Francisco, CA, USA)
- 1576 The dopamine agonist withdrawal syndrome rating scale (DAWS-RS): Initial development of a new non-motor scale
 L.S. Croll, K.M. Montgomery, C.V. Kulick, M.J. Nirenberg (New York, NY, USA)
- 1589 The high prevalence of pain among patients with X linked dystonia parkinsonism
 P.J.B. Acuna, C.L. Go (Boston, MA, USA)
- 1590 Early retirement and loss of income among X linked dystonia parkinsonism (XDP / DYT3) patients in Capiz, Roxas City Philippines
 P.J.B. Acuna, C.L. Go (Boston, MA, USA)
- 1591 Validation of a screening questionnaire for X-linked dystonia parkinsonism (XDP): The first phase of the population based prevalence study of XDP in Panay
 J.D.B. Diestro, P.M.D. Pasco, L.V. Lee (Manila, Philippines)
- 1592 Dosing of abobotulinumtoxinA and muscle selection in patients with simple patterns of cervical dystonia
 V.P. Misra, R. Trosch, S. Om, P. Maisonobe (London, United Kingdom)
- 1593 Highlighting the spectrum of practice in the routine management of cervical dystonia with botulinum neurotoxin-A: Baseline injection practice data from MetaCD
 R. Trosch, V.P. Misra, S. Om, P. Maisonobe (Farmington Hills, MI, USA)
- 1594 How satisfied are cervical dystonia patients with their botulinum toxin treatment? Findings from an international observational study
 V.P. Misra, C. Colosimo, D. Charles, T.M. Chung, P. Maisonobe, S. Om (London, United Kingdom)
- 1595 AbobotulinumtoxinA for cervical dystonia: International treatment patterns
 T.M. Chung, C. Colosimo, V.P. Misra, D. Charles, P. Maisonobe, S. Om (São Paulo, Brazil)
- 1596 DBS outcomes in a mixed cohort of dystonia: A single center experience
 O. Saeed, I. Haq, S.B. Tatter, A.W. Laxton, T. Wilson, M. Siddiqui (Winston Salem, NC, USA)
- 1597 Efficacy and safety of abobotulinumtoxinA in craniocervical dystonia and hemifacial spasm
 A. Jesic, D. Stefanovic, N. Delibasic, J. Radanov, M. Cvijanovic (Victoria, Seychelles)
- 1598 Phenomenology of idiopathic adult-onset truncal dystonia
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- 1599 Multicentre retrospective chart review of patients treated with incobotulinumtoxinA to evaluate sustained efficacy and tolerability in converted and de-novo conditions
 M.S. Jog, R.M. Jog, A. Tewari, D. Hobson, D. Stewart, D. King (London, ON, Canada)
- 1600 Cervical dystonia and quality of life
 S. Tomic, I. Petkovic, T. Pucic, S. Juric, S. Butkovic Soldo (Osijek, Croatia)
- 1601 DYT16/PRKRA founder mutation causes childhood-onset generalized dystonia in a family from southern Italy
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- 1602 Endoscopic-guided injection of botulinum toxin into the longus capitis muscle and into the obliquus superior part of the longus colli muscle in dystonic antecaput
 G. Reichel, A. Stenner, H. von Sanden, L. Herrmann, C. Feja, S. Löffler (Zwickau, Germany)
- 1603 Pre-pulse inhibition of blink reflex in cervical dystonia
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- 1577 Diaphragmatic dystonia in a patient that presents with Meige syndrome and disordered breathing
 N. Licking, B. Farro (Portland, OR, USA)
- 1578 Brain networks revealed by resting state functional MRI in familial and sporadic primary dystonia
 K. Fujita, A. Vo, D. Eidelberg (Manhasset, NY, USA)
- 1579 Striatal and pedunculopontine nucleus diffusion tensor imaging in cervical dystonia
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- 1580 Impaired processing of visuo-spatial information in cervical dystonia patients
 C.J. Amlang, C. Hubsch-Bonneaud, S. Rivaud-Pechoux, S. Mehdi, A. El Helou, Y. Trotter, J.B. Durand, P. Pouget, M. Vidailhet (Berlin, Germany)
- 1581 Yearly four months' disability gap in cervical dystonia due to run-out botulinum toxin effect
 K.K. Martikainen, S. Kinos, R.J. Marttila (Turku, Finland)
- 1582 An update on genotype-phenotype correlation in X-linked dystonia-parkinsonism (XDP/DYT3)
 M.E. Dy, C.M. De Gusmao, M.E. Talkowski, T.J. Multhaupt-Buell, L.R. Paul, C. Bragg, N. Sharma (Boston, MA, USA)
- 1583 Dystonia-deafness syndrome caused by beta -actin gene mutation and the effect of pallidal deep brain stimulation
 H. Eggink, M.E. van Egmond, M.C. Schönherr, C.C. Verschuuren-Bemelmans, T.J. de Koning, M.J.C. van Dijk, M.A.J. Tijssen (Groningen, Netherlands)
- 1584 Temporal discrimination threshold and the menstrual cycle
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- 1585 Long-term effects of a short inpatient rehabilitation course and peer support in dystonia
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- 1586 Unilateral pallidotomy for cervical dystonia
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- 1587 A functional magnetic imaging study of the response in the superior colliculus to looming stimuli in cervical dystonia patients and their relatives
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- 1588 Cerebellar learning and its modifiability by alcohol in myoclonus-dystonia
 A. Weissbach, E. Werner, T. Bäumer, D. Timmann, N. Brüggemann, V. Tadic, C. Klein, A. Münchau (Lübeck, Germany)



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- 1604 Sensory tricks in cervical dystonia
A. Gündüz, A.D. Elmali, G.S. Koçak, N. Uzun Adatepe, F. Karaali-Savrun, M. Kiziltan (Istanbul, Turkey)
- 1605 Investigation of the influence of the parieto-premotor network on the motor cortex in writer's cramp using transcranial magnetic stimulation
J.E. Park, P. Mathew, M. Villegas, P. Srivaniachapoom, M. Hallett (Bethesda, MD, USA)
- 1606 Psychiatric co-morbidity is highly prevalent in idiopathic cervical dystonia and significantly influences health-related quality of life: Results of a controlled study
M. Smit, A. Kuiper, V. Han, V.C.R. Jiawan, G. Douma, B. van Harten, J.M.T.H. Oen, M.E. Pouwels, H.J.G. Dieks, A.L. Bartels, M.A.J. Tijssen (Groningen, Netherlands)
- 1607 Sensory tricks in primary blepharospasm and cervical dystonia
S. Pandey, G. Soni, N. Sarma (New Delhi, India)
- 1608 Categories of psychogenic movement disorders to functional blepharospasm
J. Gazulla (Zaragoza, Spain)
- 1609 Disruption of cerebellar connectivity in cervical dystonia
P. Filip, B. Martin (Brno, Czech Republic)
- 1610 The prevalence of non- motor symptoms in dystonia
P.M. de Carvalho Aguiar, F.P. da Silva-Junior, S.M. Azevedo Silva, E.R. Barbosa, V. Borges, M.S.G. Rocha, J.C.P. Limongi, H.B. Ferraz (São Paulo, Brazil)
- 1611 Do predictors of good response to deep brain stimulation in primary cervical movement disorders exist?
E. Sanrey, V. Gonzalez, L. Cif, F. Cyprien, E. Borgeais, J. Perez, M. Ros, P. Coubes (Montpellier, France)
- 1612 An atypical case of adult-onset, levodopa-responsive, paroxysmal dystonia
V.N. Holiday (Portland, OR, USA)
- 1613 Apraclonidine in blepharospasm
J. Jankovic, D. Vijayakumar, S. Wijemanne (Houston, TX, USA)
- 1614 Experience of pallidal deep brain stimulation (DBS) in dystonia at a tertiary care centre in India
D. Srinivas, R. Yadav, K. Jhunjhunwala, P. Pal (Bangalore, India)
- 1615 Botulinum toxin A injections changes sensorimotor network activations in cervical dystonia to state more related to physiological condition
M. Nevrlý, P. Hlustik, P. Otruba, P. Hok, Z. Tudos, P. Kanovsky (Olomouc, Czech Republic)
- 1616 AbobotulinumtoxinA for cervical dystonia: A meta-analysis of injection practices across 5 countries
R. Trosch, V.P. Misra, P. Maisonobe, S. Om (Farmington Hills, MI, USA)
- 1617 International differences in the baseline characteristics and clinical management of cervical dystonia patients presenting for botulinum toxin treatment in routine practice
D. Charles, T.M. Chung, V.P. Misra, C. Colosimo, S. Om, P. Maisonobe (Nashville, TN, USA)
- 1618 Sensory gating and inhibition in dystonia
E. Antelmi, R. Erro, L. Rocchi, R. Liguori, M. Tinazzi, J. Rothwell, K. Bhatia (Bologna, Italy)
- 1619 Improvement of post-stroke fixed dystonia of upper and lower limb following DBS of internal capsule: Report of two cases
G. Messina, V. Levi, R. Cordella, I. Dones, A. Franzini (Milan, Italy)
- 1620 DYT2 dystonia - Too rare to be found?
V. Dobricic, N. Kresojevic, A. Marjanovic, A. Tomic, M. Svetel, I. Novakovic, V. Kostic (Belgrade, Serbia)
- 1621 Digitally captured Archimedes spiral indices correlate with clinical assessment of dystonia severity
J.B. Ratliff, A. Mirallave, R. Ortega, A. Glickman, Q. Yu, D. Raymond, S. Bressman, S. Pullman, R. Saunders-Pullman (New York, NY, USA)
- 1622 Exome sequencing reveals homozygous mutations in SACS, ATCAY, and MCOLN1 in three Pakistani families with complex dystonia
H. Manzoor, N. Brüggemann, F. Hinrichs, H.M.J. Hussain, M. Wajid, T. Bäumer, A. Münchau, S. Naz, K. Lohmann (Lahore, Pakistan)
- 1623 Seated balance is impaired in patients with idiopathic cervical dystonia
J. De Pauw, R. Mercelis, A. Hallemans, G. Van Gils, S. Truijien, P. Cras, W. De Hertogh (Antwerp, Belgium)
- 1624 Impaired response times to luminance stimuli in dystonia patients indicate disordered superior colliculus processing
L. Williams, J.S. Butler, B. Quinlivan, A. Molloy, E. McGovern, I. Beiser, M. Thirkettle, S. O'Riordan, P. Redgrave, R. Reilly, M. Hutchinson (Dublin, Ireland)
- 1625 A dynamic causal model of the superior colliculus: Inhibitory activity increases with the temporal discrimination threshold
B. Quinlivan, R. Moran, E. McGovern, S. Narasimham, I. Beiser, L. Williams, O. Killian, R. Beck, S. O'Riordan, J.S. Butler, M. Hutchinson, R.B. Reilly (Dublin, Ireland)
- 1626 Investigation of head tremor in cervical dystonia: Novel application of virtual reality head mounted display, the oculus rift
I.M. Beiser, B. Quinlivan, E. McGovern, L.J. Williams, S. Narasimham, O. Killian, R. Beck, G. Colvert, S. O'Riordan, J.S. Butler, R.B. Reilly, M. Hutchinson (Dublin, Ireland)
- 1627 Mental simulation of whole-body movements in patients with isolated cervical dystonia
M. Esposito, C. Vitale, F. Falco, S. Corvino, R. Allocca, S. Peluso, G. Santangelo, M. Conson (Naples, Italy)
- 1628 Dystonia, tremor, and dystonic tremor
A.R. Rosen, A.G. Shaikh, H.A. Jinnah (Atlanta, GA, USA)
- 1629 Abnormal motor sequence representation in dystonia
M.J. Jaynes, J.W. Mink (Rochester, NY, USA)
- 1630 Predictors of onabotulinumtoxinA treatment response in patients with cervical dystonia
J. Jankovic, S. Marc, A. Aubrey (Houston, TX, USA)
- 1631 Frequency and types of dystonia in Wilson's disease patients
K. Dziezyc, T. Litwin, G. Chabik, A. Czlonkowska (Warsaw, Poland)
- 1632 Association analysis of NALCN polymorphisms rs1338041 and rs61973742 in a Chinese population with isolated cervical dystonia
Q. Zhou, J. Yang, B. Cao, Y. Chen, Q. Wei, R. Ou, W. Song, B. Zhao, Y. Wu, H. Shang (Chengdu, People's Republic of China)



Abstracts by Topic

- 1633 Negative dystonia of the palate: Mutation in the THAP1 (DYT6) gene found in a 42 years old patient
S. Grimaldi, E. Boutin, D. Robert, A. Lagier, D. Korchia, H. Soma, J.P. Azulay (Marseille, France)
- 1634 Orientation of attention affects onset of head saccades: A novel representation of the Posner cueing effect
I.M. Beiser, B. Quinlivan, E. McGovern, L.J. Williams, S. Narasimham, O. Killian, R. Beck, S. O'Riordan, J.S. Butler, R.B. Reilly, M. Hutchinson (Dublin, Ireland)
- 1635 Neck proprioception is impaired in patients with idiopathic cervical dystonia
J. De Pauw, R. Mercelis, A. Hallemans, S. Michiels, S. Truijten, P. Cras, W. De Hertogh (Antwerp, Belgium)
- 1636 Perception of the visual vertical is not impaired in patients with idiopathic cervical dystonia
J. De Pauw, R. Mercelis, W. Saeys, S. Truijten, P. Cras, W. De Hertogh (Antwerp, Belgium)
- 1637 Altered inter-hemispheric functional coordination in primary blepharospasm
J. Yang, C. Luo, W. Song, Q. Wei, R. Ou, Y. Hou, Q. Gong, H. Shang (Chengdu, People's Republic of China)
- 1638 Video assessment of writer's cramp
J.E. Park, B. Karp (Bethesda, MD, USA)
- 1639 Motor-related brain changes associated with acute administration of trihexyphenidyl in patients with cervical dystonia
R.G. Burciu, E. Ofori, P. Shukla, J.W. Chung, J. DeSimone, C.W. Hess, N.R. McFarland, A. Wagle Shukla, M.S. Okun, D.E. Vaillancourt (Gainesville, FL, USA)
- 1640 Gaze evoked blepharospasm
P.P. Urban (Hamburg, Germany)
- 1641 Clinical characteristics and natural history of oromandibular dystonia
L. Scorr, S. Factor, H. Jinnah (Atlanta, GA, USA)
- 1642 Parkinsonian symptoms in patients with cervical dystonia treated with bilateral pallidal deep brain stimulation: A controlled study
D. Georgiev, P. Mahlknecht, F. Brugger, S. Vinke, A. Zacharia, T. Grover, L. Zrinzo, M. Hariz, K.P. Bhatia, M. Jahanshahi, E. Tripoliti, G.M. Hariz, T. Foltynie, P. Limousin (Ljubljana, Slovenia)
- 1643 Epidemiological investigation of yips among Golfers in Japan
Y. Gon, M. Mihara, S. Kawamura, K. Nakata, D. Kabata, A. Shintani, H. Mochizuki (Suita, Japan)
- 1644 Quantitative measurements of deficit type and severity in focal embouchure dystonia
A.E. Morris, S.D. Anderson, J.W. Mink (Rochester, NY, USA)
- 1645 Electromyographic and kinematic patterns in runner's dystonia
O.F. Ahmad, P. Ghosh, C. Lungu, B. Karp, C. Stanley, K. Alter (Bethesda, MD, USA)
- 1646 Clinical effects of pallidal stimulation in dystonia are quantitatively related to intracortical inhibition
A. Fecíková, V. Cejka, V. Capek, F. Ruzicka, V. Bocek, D. Štastná, I. Štetkárová, D. Urgošík, R. Jech (Praha, Czech Republic)
- 1647 In-vivo free-water imaging and functional connectivity in a knock-in mouse model of DYT1 dystonia
J.C. DeSimone, M. Febo, P. Shukla, E. Ofori, L.M. Colon-Perez, Y. Li, D.E. Vaillancourt (Gainesville, FL, USA)
- 1648 Assessing vestibular function in individuals with cervical dystonia and the effects of botulinum toxin treatment
K.L. Andrzejewski, A. Owens, M.T. Bull, K.M. Biglan, S. Kanchana, J.W. Mink, R. Barbano (Rochester, NY, USA)
- 1649 Differences in processing proprioceptive input from the neck muscles may explain the benefit from sensory tricks in patients with idiopathic cervical dystonia
F. Brugger, A. Peters, D. Georgiev, G. Kägi, B. Balint, K.P. Bhatia, B.L. Day (St. Gallen, Switzerland)
- 1650 Striatal postsynaptic dysfunction in X-linked dystonia-parkinsonism is associated with disease progression
N. Brüggemann, R.L. Rosales, J.L. Waugh, A.J. Blood, A. Domingo, M. Heldmann, R.D. Jamora, A. Münchau, L.V. Lee, I. Buchmann, C. Klein (Lübeck, Germany)
- 1651 Multi-parameter imaging in hemidystonia responsive to GPi deep brain stimulation
C. Sidiropoulos, S. Bowyer, A. Zillgitt, P.A. LeWitt, H. Bagher-Ebadian, E. Davoodi-Bojd, J.M. Schwalb, H. Soltanian-Zadeh (West Bloomfield, MI, USA)
- 1652 Chewing-induced blepharospasm in Parkinson's disease
E. Sasse, L.F. Vasconcellos, M. Spitz (Rio de Janeiro, Brazil)
- 1653 Real-time ultrasound for automated analysis and visualization of neck muscles in cervical dystonia
C. Kobylecki, M.A. Silverdale, R. Cunningham, P. Harding, I.D. Loram (Salford, United Kingdom)
- 1654 The sense of agency is altered in cervical dystonia
C. Delorme, E. Roze, D. Grabli, J.M. Mayer, B. Degos, M. Vidailhet, Y. Worbe (Paris, France)
- 1655 Temporal dynamics of pallidal low-frequency oscillations in dystonia
D.A.I. Pina-Fuentes, J.C. van Zijl, J.W. Elting, G. Drost, J.M. van Dijk, M.A. Tijssen, M. Beudel (Groningen, Netherlands)
- 1656 Therapeutic potential of compounds preferring specific GABAA receptor subunits for the treatment of dystonia?
F. Richter, C. Bode, C. Spröte, A. Bauer, A. Richter (Leipzig, Germany)
- 1657 Combined pallidal and thalamic stimulation for multifocal primary dystonia with prominent writers' cramp
A. Wloch, M. Abdallat, G. Lütjens, C. Schrader, J.K. Krauss (Hannover, Germany)
- 1658 Development of hyperkinesias after long term pallidal stimulation for dystonia
A. Wloch, G. Lütjens, C. Schrader, M. Manu, C. Blahak, J.K. Krauss (Hannover, Germany)
- 1659 Psychiatric disorders and personality traits in patients with functional dystonia
A. Tomic, M. Svetel, I. Petrovic, N. Dragasevic Miskovic, D. Pesic, M. Mitkovic, A. Potrebic, N. Kresojevic, V.S. Kostic (Belgrade, Serbia)
- 1660 Clinical profile of patients with writer's cramp
H.S. Kaleagasi, O. Dogu (Mersin, Turkey)
- 1661 The effectiveness of deep brain stimulation on dystonia: A meta-analysis
A.K.D. Antonio, E.A. Barcelon, P.M.D. Pasco (Manila, Philippines)



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- 1662 Distinguishing pseudo-dystonia from dystonia: A case series
L.E. Katus, S.J. Frucht (New York, NY, USA)
- 1663 Pallidal deep brain stimulation improves dystonia in Woodhouse-Sakati syndrome
J.Y. Chen, J.L. Ostrem, B. Lee, P. Starr, A. Viehoveer (San Francisco, CA, USA)
- 1664 Triad-conditioning transcranial magnetic stimulation in focal hand dystonia
T. Popa, R. Hunt, O. Ahmad, K. Mente, R. Paine, M. Hallett (Bethesda, MD, USA)
- 1665 Structural organization of the brain connectome in patients with psychogenic dystonia
S. Basaia, F. Agosta, A. Tomic, E. Sarasso, M. Svetel, S. Galantucci, V.S. Kostic, M. Filippi (Milano, Italy)
- 1666 Investigating the plastic effects of rapid paired associative stimulation in dystonia
V.F.M. Ramos, P. Srivaniachapoom, S. Pandey, A. Holmes, S. Kukke, R. Paine, N. Thiruganasambandam, N. Dang, M. Hallett (Bethesda, MD, USA)
- 1667 The anatomical basis of genetic dystonia: A multimodal MRI study
E. Sarasso, F. Agosta, A. Tomic, S. Basaia, N. Dragasevic, M. Svetel, M. Copetti, V.S. Kostic, M. Filippi (Milan, Italy)
- 1668 Symptoms of dystonia in a mouse with mutation in Lamb1
K.J. Sweadner, Y.B. Liu, A. Tewari, J. Salameh, A. Brashear, L.J. Ozelius, K. Khodakhah (Boston, MA, USA)
- 1669 Deep brain stimulation in three patients with dystonia and severe cerebellar atrophy
V. Gonzalez, L. Cif, E. Sanrey, E. Nerrant, F. Cyprien, M. Ros, E. Chanseng, T. Roujeau, P. Coubes (Montpellier, France)
- 1670 Epidemiological and clinical profile of essential blepharospasm and its response to treatment with TBA over a 11-year period
J.R.R. Manoel, U.C. Júnior, D.P. Nones, F.M.B. Germiniani, H.A.G. Teive (Curitiba, Brazil)
- 1671 Synergistic effects of physical therapy and botulinum toxin in primary cervical dystonia
W. Hu, V. Rundle-Gonzalez, S.J. Kulkarni, L. Almeida, M. Okun, A. Wagle Shukla (Gainesville, FL, USA)
- 1672 Effects of cerebellar theta-burst stimulation on arm and neck movement kinematics in patients with focal dystonia
M. Bologna, G. Paparella, A. Fabbrini, G. Leodori, L. Rocchi, M. Hallett, A. Berardelli (Pozzilli, Italy)
- 1673 Dystonia after peripheral nerve injury in DYT1 transgenic rats
S. Knorr, K. Grundmann-Hauser, J. Volkmann, C.W. Ip (Wuerzburg, Germany)
- 1674 Robust sensorimotor deficits in a knock-in mouse model of primary torsion dystonia
F. Richter, J. Gerstenberger, A. Bauer, C. Helmschrodt, A. Richter (Leipzig, Germany)
- 1675 Validation of the XDP-MDSP rating scale for the evaluation of patients with X-linked dystonia-parkinsonism (XDP)
P.D. Pasco, L.V. Lee, R.G. Jamora, C.E. Diesta, A.R. Ng, R.A. Teleg, C.L. Go, R.L. Rosales, H.H. Fernandez (Manila, Philippines)
- 1676 Pallidal low frequency activity correlates with dystonic symptoms in patients with cervical dystonia
W.J. Neumann, J. Huebl, C. Brücke, C. Slentz, G.H. Schneider, A.A. Kühn (Berlin, Germany)
- 1677 The writer's cramp and its connections with sensory deficits
F.C. Paquet, A. Kreisler, A. Bartolo (Fouquières-Lès-Lens, France)
- 1678 Improvement of levodopa induced foot dystonia with 60 Hz frequency subthalamic- deep brain stimulation
J.P. Battista, R.A. Ramdhani (New York, NY, USA)
- 1679 Sensorimotor gray matter changes in professional brass players with and without Embouchure dystonia
T.A. Mantel, C. Dresel, E. Altenmüller, A. Jochim, G. Gora-Stahlberg, C. Zimmer, B. Haslinger (Munich, Germany)
- 1680 Finger tapping-related brain activation and impact of cerebellar theta-burst stimulation in cervical dystonia patients
T.M. Odoerfer, G.A. Homola, J. Volkmann, D. Zeller (Wuerzburg, Germany)
- 1681 Pilot study on the long lasting effectiveness of an integrated tailored sensory-motor rehabilitation program associated with BoNTA in cervical dystonia
A. Castagna, M. Ramella, A. Crippa, L. Sciumè, G. Giacobbi, C. Corrini, D. Anastasi, A. Montesano (Milano, Italy)
- 1682 Painful legs and moving toes (PLMT) treatment with topic capsaicin: A case report
F.S. Tensini, T.S. Tensini, H.A.G. Teive (Curitiba, Brazil)
- 1683 Structural and connectivity changes after botulinum neurotoxin therapy in blepharospasm and hemifacial spasm
C.V. Chirumamilla, G. Deuschl, K.E. Zeuner, M. Muthuraman, S. Groppa (Mainz, Germany)
- 1684 Subtle sensory abnormalities in patients with segmental and cervical dystonia detected by quantitative sensory testing
L. Paracka, F. Wegner, C. Blahak, M. Abdallat, M. Karst, D. Dressler, J.K. Krauss (Hannover, Germany)
- 1685 Atypical presentation of psychogenic movement disorder with jaw-opening dystonia: Two cases reports
W.T. Yoon (Seoul, Korea)
- 1686 Direct comparisons for botulinum neurotoxins in movement disorders
R. Maggio, S. Lalli, A. Albanese (Rozzano, Italy)
- 1687 Mind the gap: Temporal discrimination and cervical dystonia
A. Sadnicka, C. Daum, C. Cordivari, K.P. Bhatia, J.C. Rothwell, S. Manohar, M.J. Edwards (London, United Kingdom)
- 1688 Features of the quality of life and related disorders in patients with focal dystonia
Z.A. Akbarkhodjaeva, G.S. Rakhimbaeva (Tashkent, Uzbekistan)
- 1689 Long-term effects of pallidal DBS in patients with primary dystonia
P. Krause, S. Völzmann, A. Kupsch, G.H. Schneider, A. Kühn (Berlin, Germany)
- 1690 White matter connectome in patients with genetic dystonia
S. Basaia, F. Agosta, A. Tomic, E. Sarasso, N. Kresojevic, S. Galantucci, M. Svetel, V. Kostic, M. Filippi (Milano, Italy)



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- 1691 Structural and functional brain network alterations in psychogenic dystonia
E. Sarasso, F. Agosta, A. Tomic, S. Basaia, M. Svetel, G. Mandic-Stojmenovic, M. Copetti, V.S. Kostic, M. Filippi (Milan, Italy)
- 1692 Cervical dystonia preceding Parkinson's disease – Continuum - coincidence or epiphenomenon–Report of 3 cases
J. Walch, G. Kägi (St. Gallen, Switzerland)
- 1693 Non-motor symptoms evaluation in idiopathic cervical dystonia
N. Novaretti, V. Tumas (Ribeirão Preto, Brazil)
- 1694 Clinical outcomes of pallidal and subthalamic nucleus deep brain stimulation in isolated cranial and cranio-cervical dystonia
N.S. Luthra, K.A. Dodenhoff, M. San Luciano, M.M. Volz, S.L. Heath, P.A. Starr, J.L. Ostrem (San Francisco, CA, USA)
- 1695 Functional characterization of the upstream start codon in the GCH1 gene
L.C. Jones, E. Davila, L.K. Goode, P.G. Bhide, I. Armata (Tallahassee, FL, USA)
- 1696 Parietal hand pseudodystonia: Significant functional gains with ultrasound-guided botulinum toxin treatments
P. Pita Lobo, C. Costa (Amadora, Portugal)
- 1697 Improvement of foot progression in cervical dystonia using osteopathic manipulative medicine
J.D. Mancini, Z. Oliff, A. LaRosa, S. Mody, R. Abu-Sbaih, A. Leder (Old Westbury, NY, USA)
- 1698 Cervical dystonia associated to Wallenberg syndrome
I. Pareas, M. Romeral, D. Mayo, D. Toledo, M.E. Garcia, J. Matias-Guiu, A. Marcos, J. Porta-Etessam (Madrid, Spain)
- 1699 Heterozygous TUBB4A knock-out impairs mitochondrial motility in human neuronal model of DYT4
V. Krajka, F. Vulinovic, P. Seibler, K. Lohmann, C. Klein, A. Rakovic (Luebeck, Germany)
- 1700 Assessment of need for treatment with botulinum toxin type A in cervical dystonia patients
C.L. Vaughan, G.T. Stebbins, C.L. Comella (Charleston, SC, USA)
- 1701 Clinical and molecular features of DYT1 primary dystonia in a Peruvian population
M. Inca-Martinez, K. Milla-Neyra, C.C. Cosentino, N. Mori, V. Marca, M. Flores, E. Guevara-Silva, Y. Nuñez-Coronado, C.M. Vasquez, L. Torres-Ramirez, P. Mazzetti, M. Cornejo-Olivas (Lima, Peru)
- 1702 Pseudodystonic upper limb secondary to thalamic lesions: Usefulness of ultrasound-guided botulinum toxin treatment
C. Costa, P. Pita Lobo (Amadora, Portugal)
- 1703 Motor variability and learning indices in DYT1 dystonia
A. Sadnicka, A. Stevenson, J.C. Rothwell, K.P. Bhatia, J. Galea, M.J. Edwards (London, United Kingdom)
- 1704 Probable REM sleep behaviour disorder and detrusor overactivity in primary cervical dystonia- A case report
S.L. Bhadrans, M.G.J. Jacob, S. Kripal (Thrissur, India)
- 1705 Axial prominent, delayed onset dystonia in cerebral palsy: Highlights on a distinct phenotype with favorable outcome following deep brain stimulation
L. Cif, V. Gonzalez Martinez, E. Sanrey, E. Nerrant, M. Ros, F. Cyprien, E. Chan Seng, T. Roujeau, P. Coubes (Montpellier, France)
- 1706 Syndrome of dystonia-parkinsonism is a complication of cyclosporine A treatment and may be irreversible
P. Miklavcic, S. Avcin, J. Jazbec, T. Vipotnik Vesnaver, B. Todorova, M. Trost, M. Kojovic (Ljubljana, Slovenia)
- 1707 The clinical benefit of pallidal stimulation in dystonia is related to the electrode position in the medio-lateral direction
R. Jech, A. Feciková, D. Štastná, T. Serranová, D. Urgošik, F. Ruzicka (Prague, Czech Republic)
- 1708 Botulinum neurotoxin type A versus anticholinergics for cervical dystonia in adults – 2016 Cochrane movement disorders group systematic review update
F.B. Rodrigues, G.S. Duarte, R.E. Marques, M. Castêlão, J.J. Ferreira, P. Moore, J. Costa (Lisboa, Portugal)
- 1709 Botulinum neurotoxin type A versus placebo for hemifacial spasm in adults – 2016 Cochrane movement disorders group systematic review update
M. Castêlão, F.B. Rodrigues, R.E. Marques, G.S. Duarte, J.J. Ferreira, P. Moore, J. Costa (Lisboa, Portugal)
- 1710 Botulinum neurotoxins type A versus B for cervical dystonia in adults – 2016 Cochrane movement disorders group systematic review update
M. Castêlão, G.S. Duarte, F.B. Rodrigues, R.E. Marques, J.J. Ferreira, P. Moore, J. Costa (Lisboa, Portugal)
- 1711 Botulinum toxin type A therapy for blepharospasm – Update of a Cochrane systematic review and meta-analysis
R.E. Marques, G.S. Duarte, F.B. Rodrigues, M. Castêlão, J.J. Ferreira, P. Moore, J. Costa (Lisboa, Portugal)
- 1712 Botulinum toxin type B therapy for cervical dystonia – 2015 update of a Cochrane systematic review and meta-analysis
R.E. Marques, G.S. Duarte, F.B. Rodrigues, M. Castêlão, J.J. Ferreira, P. Moore, J. Costa (Lisboa, Portugal)
- 1713 Effect of botulinum toxin on the non-motor symptoms of dystonia
E. Shakweh, R. Pearce, N. Pavese (London, United Kingdom)
- 1714 Long-term comparative outcomes of functional neurosurgical procedures for treatment of secondary hemidystonia
W.O. Contreras Lopez, A.R.C. Azevedo, M.G. Guilardi, M. San Martin Sepulveda, R.C.R. Martinez, M.J. Teixeira, E.T. Fonoff (São Paulo, Brazil)

Pediatric Movement Disorder

- 1715 Are we speaking the same language? A pilot study to evaluate the agreement in clinical phenotyping of children with cerebral palsy
H. Eggink, D. Kremer, O.F. Brouwer, M.F. Contarino, M.E. van Egmond, A. Elema, K. Folmer, J.F. van Hoorn, L.A. van de Pol, V. Roelfsema, M.A.J. Tijssen (Groningen, Netherlands)
- 1716 Tourette syndrome and attention deficit hyperactivity disorders
K. Aminov (Tashkent, Uzbekistan)



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- 1717 Acute movement disorders in Tunisian childhood
H. Benhouma, H. Klaa, A. Nasri, I. Kraoua, I. Turki (Tunis, Tunisia)
- 1718 Dystonia, myoclonus, and tremor without epilepsy associated with a mutation in STXBP1
L.S. Tochen, C. Applegate, H.S. Singer (Baltimore, MD, USA)
- 1719 MRI abnormalities and EEG patterns of symptomatic epilepsy in children with cerebral palsy
K. Aminov (Tashkent, Uzbekistan)
- 1720 ADCY5 screening in paediatric-onset hyperkinetic movement disorders: Report of three new Italian families
M. Carecchio, N.E. Mencacci, G. Zorzi, F. Zibordi, C. Fusco, A. Iodice, L. Veneziano, C. Barzaghi, L. 'RBibo, N. Wood, B. Garavaglia, N. Nardocci (Milan, Italy)
- 1721 Long-term results of pallidal deep brain stimulation in a cohort of eight children with isolated dystonia assessed by blinded video rating
P. Krause, K. Lauritsch, A. Lipp, A. Horn, B. Weschke, A. Kupsch, K. Kiening, G.H. Schneider, A. Kühn (Berlin, Germany)
- 1722 Psychogenic gait disorders in children – Report of 2 cases
S. Lorenzl, M. Kranz (Hausham, Germany)
- 1723 Incidence and etiologies of pediatric asterixis
B.R. Aravamuthan, J.L. Waugh (Boston, MA, USA)
- 1724 Results of the German registry of pediatric deep brain stimulation in patients with childhood-onset dyskinetic movement disorders (GEPESTIM)
A. Koy, W. Milena, K.A.M. Pauls, A.A. Kühn, P. Krause, J. Hübl, G.H. Schneider, G. Deuschl, R. Erasmí, D. Falk, J.K. Krauss, G. Lütjens, A. Schnitzler, L. Wojtecki, J. Vesper, R. Korinthenberg, V.A. Coenen, V. Visser-Vandewalle, M. Hellmich, L. Timmermann (Cologne, Germany)
- 1725 Novel mutations identified in dopamine transporter deficiency syndrome
J. Ng, J. Zhen, K. Erreger, N.C. Oien, S. Mohammed, J.P. Linn, J. Muntadas, I. Denzler, A. García Cazorla, R. Artuch, S. Pope, S.J.R. Heales, A. Galli, M.E.A. Reith, M.A. Kurian (London, United Kingdom)
- 1726 Clinical course and treatment of 6 children with GNAO1 mutations causing a severe, life-threatening chorea
A. Robichaux-Viehoever, A. Ananth, Y.M. Kim, A. Hanson-Kahn, R. Cox, G. Enns, J. Strober, M. Willing, B. Schlaggar, J. Bernstein, Y. Wu (San Francisco, CA, USA)
- 1727 Alternating hemiplegia of childhood: Movement disorders and epilepsy due to mutations in ATP1A3
A.P. Kleinert-Altamirano, M.O. Fiesco-Roa, K. Brockmann, E. Liebermann-Hernández, C. Marques-Lourenco (Tuxtla Gutiérrez, Mexico)
- 1728 Localization of basal ganglia and thalamic damage in dyskinetic cerebral palsy
B.R. Aravamuthan, J.L. Waugh (Boston, MA, USA)
- 1729 Spectrum of acute movement disorders in a pediatric movement disorder clinic; Malaysian experience
T.A. Tajudin (Johor, Malaysia)
- 1731 Nursing diagnoses and interventions in rehabilitation related to antiParkinsonian pharmacotherapy
M.H.S. Tosin, B.G.R.B. Oliveira, T.R. Garcia (Rio de Janeiro, Brazil)
- 1732 Gender-dependent behavioral and biochemical differences in the A53T genetic mouse model of Parkinson's disease
G. Costa, M.J. Sisalli, L. Contu, A. Scorziello, M. Morelli (Cagliari, Italy)
- 1733 Profile of urgent care visits in movement disorders
J.T. Lazarus, V.D. Sharma, L. Scorr, S. Factor (Atlanta, GA, USA)
- 1734 The serum response factor SRF protect dopamine (DA) neurons in Parkinson's disease partially by mediate autophagy through a beclin 1-dependent pathway
X. Cheng (Suzhou, People's Republic of China)
- 1735 Frequency of falls in nursing homes for neurodegenerative diseases
C. Godinho, J.M. Domingos, A.S. Pereira, M. Duarte, J.J. Ferreira (Lisboa, Portugal)
- 1736 Gait and anthropometric characteristics of patients with Parkinson's disease seen in a Nigerian tertiary hospital
A.O. Ogundele, M.O. Olaogun, M.A. Komolafe (Ile-Ife, Nigeria)
- 1737 Evaluation of respiratory and depression levels of patients with Parkinson's disease
E.E. Okuyucu, O. Canbay, E. Dogru, I. Huzmeli, N. Katayifci, F. Duman, N.C. Korkmaz, B. Yucekaya, E. Seker (Hatay, Turkey)
- 1738 Home care program for patients with Parkinson's disease - A Singapore experience
H.L. Ng, W. Li, S. Abdul Karim, K.Y. Tay, W.L. Au, L.C.S. Tan (Singapore)
- 1739 Relationship of muscular strength with cardiovascular function in Parkinson's disease
M.A. Alomari, H. Khalil, O.F. Khabour, E. Dersieh, J.A. Bajwa (Irbid, Jordan)
- 1740 A case with posttraumatic functional shoulder dyskinesia
S. Tezcan, M. Demirci, M.C. Akbostanci (Ankara, Turkey)
- 1741 Assessment of oral hygiene status before and after the use of powered tooth brush in patients with Parkinson's diseases
F. Pullishery, F.M. Kuyyadi (Malappuram, India)
- 1742 Risk factors associated with postural changes in Parkinson's disease
A. Khlebtovsky, O. Keret, Y. Rodity, G. Tsvetov, I. Slutzcki-Shraga, F. Benninger, R. Djalchetti (Petach Tikva, Israel)
- 1743 Physical therapy, a third wheel in the management of Parkinson's disease
M.V. Alvarez, M. Rodriguez (San Antonio, TX, USA)
- 1744 Withdrawn by Author
- 1745 Systems biological approach to Parkinson's disease- Uncovering effects of PD on the synapse
K.F. Heil, O. Sorokina, J.D. Armstrong, J. Hellgren Kotaleski (Edinburgh, United Kingdom)
- 1746 Progressive encephalomyelitis with rigidity and myoclonus (PERM) in an intellectually disabled patient initially misdiagnosed as neuroleptic malignant syndrome (NMS)
Z. Xu, K. Prasad, T. Yeo (Singapore)
- 1747 The effect of daytime working for development of sleep apnea in office workers
D.M. Sultonov, U.N. Vokhidov (Tashkent, Uzbekistan)

Other

- 1730 Beliefs and knowledge on Parkinson's disease (PD) among people with PD, the public and traditional healers in Western Cape, South Africa
J. Mokaya, J. Carr (Tygerberg, South Africa)



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- 1748 Characterization of European longitudinal cohort studies in Parkinson's disease - Report of the JPND working group BioLoC-PD
S. Lerche, I. Liepelt-Scarfone, G. Alves, P. Barone, S. Behnke, Y. Ben-Shlomo, H. Berendse, D. Burn, R. Dodel, D. Grosset, M. Hu, M. Kasten, R. Krüger, W. Maetzler, B. Mollenhauer, W. Oertel, U. Walter, K. Wirdefeldt, D. Berg (Tübingen, Germany)
- 1749 Self-perception of vocal handicap in Parkinson's disease
A.K. Silbergleit, J. Wall, L. Schultz, J. Peacock, P.A. LeWitt (West Bloomfield, MI, USA)
- 1750 Creutzfeldt-Jakob disease presenting predominantly with movement disorder: A case report
A.A. Sann, M.M. Zaw, T.L. Choie (Yangon, Myanmar)
- 1751 Testing for the "whack-a-mole" sign in the movement disorders clinic
J.E. Park, C. Maurer, M. Villegas, M. Hallett (Bethesda, MD, USA)
- 1752 Predicting risk of sarcopenia in people with Parkinson's disease
A.P.C. Loureiro, B. Yamaguchi, I.L.P. Villegas, M.P. Ferreira, V.L. Israel (Curitiba, Brazil)
- 1753 Interdisciplinary allied health care in a southern Brazil service
V.L. Israel, B. Yamaguchi, V.L. Israel (Curitiba, Brazil)
- 1754 Aquatic physical therapy: Functional motor skills in people with Parkinson's disease
V.L. Israel, B. Yamaguchi, V.L. Israel (Curitiba, Brazil)
- 1755 Role of the nurse coordinator within a unit for treatment of neuro-surgical behaviours and abnormal movements
E. Borgeais, C. Fournera, I. Creff, P. Coubes (Montpellier, France)
- 1756 Sarcopenia and dynapenia in patients with parkinsonism
E. Cassani, E. Cereda, G. Pinelli, L. Iorio, A. Valentino, C. Pusani, V. Ferri, C. Bolliri, M. Pasqua, G. Frazzitta, M. Barichella, G. Pezzoli (Milano, Italy)
- 1757 Has iCare PD started in Singapore?
S.H.X. Liew, C. Cyq, N. Jcf, K. Sym, R.C.L. Ong (Singapore)
- 1758 Comparing quality of PD care in a comprehensive clinic to specialist care
S.A. Factor, L.P. Prizer, F.C. Goldstein, L.M. Trotti, A. Hermida, C. Vaughan (Atlanta, GA, USA)
- 1759 Finding an optimal lead trajectory for a better stimulated volume in movement disorder therapy
J. Perez, L. Cif, V. Gonzalez, E. Sanrey, F. Cyprien, P. Coubes (Montpellier, France)
- 1760 Deep brain stimulation of the locomotor mesencephalic region in rats with lesioned sensorimotor cortex: A model of functional motor recovery after stroke
F. Fluri, M.K. Schuhmann, C. Kleinschnitz, J. Volkmann (Würzburg, Germany)
- 1761 Physiological and biomechanical responses of people with Parkinson's during Zumba Gold®: Effects of dance styles and number of sessions
A. Delextrat, J. Bateman, P. Esser, N. Targen, H. Dawes, M.A. Delextrat (Oxford, United Kingdom)
- 1762 The communicative effectiveness survey-revised (CESR): An objective measure of communicative participation for people with Parkinson's disease
N.J. Donovan (Baton Rouge, LA, USA)
- 1763 Effectiveness of Lee Silverman voice treatment big on improving gait and quality of life in Parkinson's disease patients after STN-DBS
V.V.P. Kagita, N.N. Mohd, A.K. Puligopu, R.M. Kandadai, M.A. Kanikannan, S. Jabeen, R. Borgohain (Hyderabad, India)
- 1764 A cross-linguistic approach to speech intelligibility in people with PD
Y. Kim, Y. Choi (Baton Rouge, LA, USA)
- 1765 Therapeutic effect of onabotulinumtoxinA (BoNT/A) in hemifacial spasm and trigeminal neuralgia post Ramsay Hunt Syndrome type II
R. López-Castellanos, R. López-Contreras (San Salvador, El Salvador)
- 1766 TNF compromises lysosome acidification and reduces α -synuclein degradation via autophagy in dopaminergic cells
X. Cheng, M. Wang (Suzhou, People's Republic of China)
- 1767 Colonic α -synuclein: A potential diagnostic biomarker in Parkinson's disease
C. Ruffmann, I. Poggiolini, N. Bengoa-Vergniory, F. Baig, M. Rolinski, J. Klein, M.T. Hu, R. Wade-Martins, J. Alegre-Abarrategui, L. Parkkinen (Oxford, United Kingdom)
- 1768 CSF level of chromogranin A in amyotrophic lateral sclerosis
M. Kaiserova, P. Otruba, K. Mensikova, Z. Grambalova, H. Prikrýlova Vranova, J. Mares, D. Stejskal, P. Kanovsky (Olomouc, Czech Republic)
- 1769 Osmotic demyelination syndrome with dystonia and parkinsonism responsive to dopaminergic therapy
L.E. Katus, S.J. Frucht (New York, NY, USA)
- 1770 Factors affecting the cardiac sympathetic denervation in autopsy confirmed dementia with Lewy bodies
M. Takahashi, T. Uchihara, M. Yoshida, K. Wakabayashi, A. Kakita, H. Takahashi, S. Toru, T. Kobayashi, S. Orimo (Tokyo, Japan)
- 1771 Coupling between visual information and body sway in people with Parkinson's disease
C.F. Cruz, L.A.O.A. Nóbrega, E. Okamoto, M.E.P. Piemonte, J.A. Barela (São Paulo, Brazil)
- 1772 The effect of improved nutritional status on psychiatric features and quality of life in Parkinson's disease patients
N. Ongun, C. Erdogan, E. Degirmenci, L.S. Bir (Denizli, Turkey)
- 1773 Long-latency somatosensory evoked potentials of the subthalamic nucleus
C. Trenado, S. Elben, L. Friggemann, S. Gruhn, S. Groiss, J. Vesper, A. Schnitzler, L. Wojtecki (Düsseldorf, Germany)
- 1774 Prevalence of orthostatic hypotension after a low subacute levodopa dose in patients with parkinsonism
G. Calandra-Buonaura, L. Sambati, I. Gessaroli, A. Turrini, R. Terlizzi, G. Giannini, P. Guaraldi, P. Cortelli (Bologna, Italy)
- 1775 EEG Spectral power changes prior to non-epileptic seizures: A pilot study
A.M. Meppelink, I. Pares, M. Beudel, S. Little, M. Edwards (Groningen, Netherlands)
- 1776 Loss of heart rate variability in ALS: Time and frequency domain assessment
P. Congiu, G. Milioli, G. Borghero, G. Gioi, F. Marrosu, M. Puligheddu, A.L. Goldberger, S. Mariani (Monserrato, Italy)



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- 1777 Exploring hospitalizations and visits to the emergency room of patients with Parkinson's disease: A ten years' follow-up
M.T. Montojo, Y. Macias, M. Álvarez, C. Martín, L. Borrega, L. Vela (Alcorcón, Spain)
- 1778 The differentiated treatment of Parkinson's disease in patients with concomitant diabetes mellitus(DM) type 2
F.S. Akhmedova, M.K.U. Tukhtamishv (Tashkent, Uzbekistan)
- 1779 Development of a nanoherbaceutical containing natural L-DOPA from mucuna pruriens for the prevention and treatment of Parkinson's disease in 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine induced animal model
P.C. Bhatt, V. Kumar (New Delhi, India)
- 1780 The role of proprioceptive deficits as a mechanism of gait impairments in postural instability and gait disorder Parkinson's disease subtype
M.P. Pereira, P.H.S. Pelicioni, Q.J. Almeida, L.T.B. Gobbi (Leuven, Belgium)
- 1781 Withdrawn by Author
- 1782 Duration of levodopa treatment and prevalence of osteoporosis in patients with Parkinson's disease
S.H. Guptha (Peterborough, United Kingdom)
- 1783 Withdrawn by Author
- 1784 Predictive validity of statistical models of Parkinson's disease progression
A. Mendes, A. Gonçalves, N. Vila-Chã, M. Calejo, I. Moreira, J. Fernandes, J. Damásio, A. Bastos-Lima, S. Cavaco (Porto, Portugal)
- 1785 Effects of movement rate and amplitude on repetitive finger motion in people with Parkinson's disease and freezing of gait
M.P. Pereira, S. Vercruyse, E. Heremans, A. Nieuwboer (Leuven, Belgium)
- 1786 European physiotherapy guideline for Parkinson's disease: Information for neurologists
D.L.M. Radder, M.J. Faber, N.M. de Vries, B.R. Bloem, S.H.J. Keus (Nijmegen, Netherlands)
- 1787 A comparison of standards of care in Parkinson's disease between a general neurology clinic and a specialist movement disorders clinic based on the UK NICE guidelines
S.M. Yap, M.O. Dablouk, S. O'Sullivan (Dublin, Ireland)
- 1788 A heterozygous splicing mutation c.823-10G>T at the intron9/exon 10 of the MAPT gene in an Irish family with FTDP- 17
E.M. Fallon, D.A. Olszewska, C. McGuigan, I. Delon, F. Brett, B. Lawlor, M. Hutchinson, M. Hutton, T. Lynch (Dublin, Ireland)
- 1789 Ocular flutter in alcohol withdrawal syndrome
K.P. Frei, M. Dastjerdi, F.B. Pedouim, L.H. Sovory, K. Dashtipour (Loma Linda, CA, USA)
- 1790 ECG-based cardiopulmonary coupling for sleep stability assessment in patients with amyotrophic lateral sclerosis
S. Mariani, P. Congiu, G. Milioli, G. Gioi, G. Borghero, F. Marrosu, R.J. Thomas, A.L. Goldberger, M. Puligheddu (Boston, MA, USA)
- 1791 Stiff person syndrome
P. Dosekova, G. Krastev, J. Haring, R. Lackovic (Trnava, Slovakia (Slovak Republic))
- 1792 A community organizing approach to identify and address the barriers to healthcare for XDP patients in Panay Island, Philippines
G.M. Solinap, A.C. Aguil, P.B. Acuna, L.V. Lee, N. Sharma (Charlestown, MA, USA)
- 1793 A rapid chemical-genetic screen utilising impaired movement phenotypes in caenorhabditis elegans
K. Schmeisser, Y.F. Ghassemi, C. Maios, A. Parker (Montreal, QC, Canada)
- 1794 Relationship between balance, trunk impairment and hand function in Parkinson's disease
B. Donmez Colakoglu, F. Soke, A. Genc, P. Keskinoglu (Izmir, Turkey)
- 1795 A new test for the measuring hand functions in Parkinson's disease: Psychometric evaluation of the squares test
E. Goz, F. Soke, A. Genc, B. Donmez Colakoglu, P. Keskinoglu (Izmir, Turkey)
- 1796 Effect of dopamine and L-3,4 - dihydroxyphenylalanine in treatment of experimental parkinsonism
M.U. Kulmanova (Tashkent, Uzbekistan)
- 1797 The role of active rehabilitation measures, for maintaining the quality of life of patients after stroke with movement disorders in the general practice conditions
G. Sadullaeva (Tashkent, Uzbekistan)
- 1798 Successful treatment of movement disorders after resection of midbrain cavernous malformations: Report of two cases
A. Smolanka, V. Smolanka, K. Karpinska, M. Dovahnych, T. Havryliv (Uzhhorod, Ukraine)
- 1799 Participant feedback in the PREDICT-PD study
C.W. Osborne, J. Bestwick, G. Giovannoni, A.J. Lees, A. Schrag, A. Noyce (London, United Kingdom)
- 1800 Fall status and stepping response: Individuals with PD are differently influenced by side-affected
B.N. Intzandt, E. Beck, M.P. Pereira, Q.J. Almeida (Waterloo, ON, Canada)
- 1801 Reliability of the sensory organization test to predict falls in individuals with Parkinson's disease
T.E. Apoznanski, S. Yao, M.K. Jung, J. DiFrancisco-Donoghue (Old Westbury, NY, USA)
- 1802 A case of hemifacial spasm with a right-sided pontine meningioma that resolved with PICA loop vascular decompression surgery
E.M. Feinstein, S.J. Frucht (New York, NY, USA)
- 1803 Parkinsonism due to hypermanganism in the background of cirrhosis and recovery by CaNaEDTA
B. Elibol, H. Onder, G.Y. Cakmakli, E.S. Topcuoglu (Ankara, Turkey)
- 1804 Differences in physicians' understanding of biologic and biosimilar medicines in the USA and Europe
A.L. Molinari, H.L. Gewanter, M. Reilly, D. Charles (Washington, DC, USA)
- 1805 The role of acoustic salience in acoustic cueing and sound-based motor rehabilitation
B.G. Schultz, S.A. Kotz (Maastricht, Netherlands)
- 1806 Physiotherapy can reduce the decline in functioning according to ICF framework in patients in early stage of Parkinson's disease evolution
E.T.N. Guelfi, E. Okamoto, F.B. Tarallo, J.C. Elmauer, R.R. Fermio, V.F. Giangiardini, P. Yuki, E.P. Piemonte (São Paulo, Brazil)



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- 1807 Safety of nelotanserin in a randomized placebo-controlled phase 2 study
 W. Wen, L. Friedhoff, K. Kishnani, S. Ramaswamy, S. Piscitelli, M. Sanchez, W. Shanahan (New York, NY, USA)
- 1808 Effect of nelotanserin on objective sleep parameters in a phase 2 study in patients with insomnia
 W. Wen, L. Friedhoff, K. Kishnani, S. Ramaswamy, M. Sanchez, W. Shanahan (New York, NY, USA)
- 1809 Adult onset Niemann-Pick type C: 24 month follow-up on miglustat
 B. Elibol, F. Ozkinay, H. Onder (Ankara, Turkey)
- 1810 STRONG VOICE: Design of a multisite, open-label, longitudinal registry for patients with neurogenic dysphonia/dysphagia treated with vocal fold augmentation
 K.D. Sethi, A. Verma, C.A. Rosen, C.H. Adler, C.J. Bassich, T.L. Carroll, M.D. Stacy (Raleigh, NC, USA)
- 1811 Glial cells and iron accumulation in the brain of the Zitter rat
 T. Kadowaki, H. Lassmann, S. Ueda, C. Schuh, K. Hirata (Mibu, Japan)
- 1812 Improving the experience of diagnosis in Parkinson's disease
 C. Carroll, B. Blight, V. Evans, N. Hawkes, J. Davis (Plymouth, United Kingdom)
- 1813 Beyond 30 years of Parkinson's disease: A comprehensive characterization of long-surviving patients
 A. Romagnolo, M.G. Rizzone, F. Dematteis, M. Zibetti, A. Merola, L. Rizzi, E. Montanaro, C.A. Artusi, M. Lanotte, L. Lopiano (Turin, Italy)
- 1814 Biochemical features of lipids spectrum in blood in patients with Parkinson's disease
 Z.A. Akbarkhodjaeva, F. Saidvaliev (Tashkent, Uzbekistan)
- 1815 How accurate is the prediction of driving ability in a Parkinson's clinic setting?
 C. Thomas, R. Amin, B. Mohamed (Cardiff, United Kingdom)
- 1816 Examining the clinical profile of nelotanserin, a novel agent in development for Lewy body dementia
 W. Wen, K. Kishnani, S. Ramaswamy, S. Piscitelli (New York, NY, USA)
- 1817 Psychogenic non-epileptic seizures among patients with temporal lobe and other epilepsies: Phenomenology and EEG correlates
 B.D. Wissel, A.K. Dwivedi, T.E. Gaston, F.J. Rodriguez-Porcel, D. Al Jaafari, J.L. Hopp, A. Krumholz, Y. Wang, S.M.A. van der Salm, D.M. Andrade, F. Borlot, B.D. Moseley, J.L. Cavitt, S. Williams, J. Stone, W.C. LaFrance Jr, J.P. Szafarski, A.J. Espay (Cincinnati, OH, USA)
- 1818 Incidence of fragility fractures in people with parkinsonism [PwP] - A 5 year retrospective observational study
 S. Aithal, C. Thomas, S. Raha, H. Shukla, L. Ebenezer, R. Sequeria, B. Mohamed (Caerphilly, United Kingdom)
- 1819 Parkinson's disease (PD) quality improvement measures (QIM) and outcomes study
 J. Martello, L. Shulman, M. Armstrong, S. Reich (Baltimore, MD, USA)
- 1820 "Words untold"
 P.M. Iyer, B. McGuinness, J. Scott, S. Manning, A. Chalisseri, D. Olszewska, M. Farrell, T. Lynch (Dublin, Ireland)
- 1821 Conjugal Parkinson's disease – Real or chance?
 B. Balint, R. Erro, F. Brugger, A. Batla, E. Antelmi, C. Ganos, K.P. Bhatia (London, United Kingdom)
- 1822 Stiff person syndrome: Case series
 E. Sasse, G. Amorelli, M. Spitz, C.S.B. Germano, L.F. Vasconcellos (Rio De Janeiro, Brazil)
- 1823 Withdrawn by Author
- 1824 Is physiotherapy an effective for treatment of Parkinson's disease?!
 R. Agzamov, S. Tursunov, G. Rakhimbaeva, F. Yunusov, D. Lutfullaeva, J. Olimov, A. Kalendarev, K. Abdukhalimova, R. Mirzaev (Tashkent, Uzbekistan)

Neuropharmacology

- 1825 Efficacy and safety of tetrabenazine in hyperkinetic movements disorders- An observational study
 R. Miguel, M. Mendonça, R. Barbosa, F. Ladeira, T. Lampreia, J. Vale, P. Bugalho (Lisbon, Portugal)
- 1826 Combinative therapy of memantine and galantamine hydrobromide as a tool of choice for the treatment of vascular parkinsonism with early appearance of dementia symptoms
 A. Turakhanov, S. Dadajonov, R. Sadikov, R. Khodjaev, S. Nurov (Tashkent, Uzbekistan)
- 1827 The neurosteroid dehydroepiandrosterone sulfate (DHEAS) reverses the dopaminergic deficiencies in mild hepatic encephalopathy: A possible therapeutic issue for the management of parkinsonism in cirrhotic patients
 O. El Hiba, H. Gamrani (Marrakesh, Morocco)
- 1828 Curcumin supplementation improves motor dysfunction in lipopolysaccharide induced Parkinson's disease model: Possible biochemical, neurochemical and immunohistochemical alterations in rats
 N. Sharma, B. Nehru (Chandigarh, India)
- 1829 Sensorimotor impairments and the excitability of spinal cord in lead intoxicated rat during development and a potent restorative effect of curcumin
 H. Benammi, O. El Hiba, H. Gamrani (Marrakesh, Morocco)
- 1830 Role of the atypical vesicular glutamate transporter VGLUT3 in I-DOPA-induced dyskinesia
 G. Gangarossa, M. Guzman, V. Prado, M. Prado, S. Daumas, S. El Mestikawy, E. Valjent (Paris, France)
- 1831 Withdrawn by Author
- 1832 AMP kinase regulates ligand-gated K-ATP channels in substantia nigra dopamine neurons
 S.W. Johnson, Y. Wu, A.C. Munhall, K.Z. Shen (Portland, OR, USA)
- 1833 Priapism and hypersexuality associated with rotigotine in an elderly Parkinsonian patient: A case report
 A. Cannas, M. Meloni, M.M. Mascia, P. Solla, G. Orofino, R. Farris, D. Ciaccio, E. Binaghi, F. Marrosu (Nuoro, Italy)
- 1834 Amelioration of αLPHA-synuclein aggregation and motor behavior deficits by apocyanin in intranigral lipopolysaccharide induced animal model of Parkinson's disease
 B. Nehru, N. Sharma (Chandigarh, India)



Abstracts by Topic

- 1835 Neuroprotection effect of an endogenous amine, 1MeTIQ against disturbances in dopamine release induced by the neurotoxin, 6-OHDA: In vivo microdialysis study
A. Wasik, I. Romanska, L. Antkiewicz-Michaluk (Krakow, Poland)
- 1836 Neuroprotective and antidepressant-like effects of the endogenous amines from tetrahydroisoquinoline group TIQ and 1MeTIQ in the animal model of depressive disorder: Behavioral and neurochemical studies in the rat
L.R. Antkiewicz-Michaluk (Krakow, Poland)
- 1837 Hydrogen sulfide functions as a neuromodulator to regulate striatal neurotransmission in a mouse model of Parkinson's disease
L. Zhang, M. Wang, J. Zhu, Y. Pan, J. Dong (Nanjing, People's Republic of China)
- 1838 AntiParkinsonian effects of AG-0029 in the 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP)-treated macaque model of Parkinson's disease
E.Y. Pioli, W.K.D. Ko, Q. Li, A. Crossman, E. Bezard, S. Hogg (Manchester, United Kingdom)
- 1839 Cognitive effects of AG-0029 in the chronic low-dose (CLD) 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP)-treated macaque model of Parkinson's disease
E.Y. Pioli, S.M.J. Camus, J. Yang, Q. Li, A. Crossman, E. Bezard, S. Hogg (Manchester, United Kingdom)
- 1840 Cognitive effects of pramipexole in the chronic low-dose (CLD) 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP)-treated macaque model of Parkinson's disease
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- 1841 Dopaminergic medicines are alternative drugs for treatment of motor disorders in ischemic stroke
A. Azimov, R. Sadykov, G. Rakhimbaeva, S. Dadajonov, O. Azizova (Tashkent, Uzbekistan)
- 1842 Autophagic modulation by rosuvastatin prevent rotenone induced neurotoxicity as an in vitro model of Parkinson's disease
W. Jang (Gangneung, Korea)
- 1843 Targeting PDE7 by the small molecule S14: A potential disease-modifying Parkinson's disease therapy ready to start clinical trials
A. Martinez, C. Gil, D. Lopez Ribas, E. Cunchillos, J. Domenech, M. Sarasa (Madrid, Spain)
- 1844 The role and underlying mechanisms of BAG3 in regulating autophagy in PC12 cells
Y.P. Yang, Y.L. Cao, C.J. Mao, F. Wang, L.F. Hu, C.F. Liu (Suzhou, People's Republic of China)
- 1845 AntiParkinsonian effects of the "radiprodil and tozadenant" combination in MPTP-treated marmosets
A. Michel, J.M. Nicolas, S. Rose, M. Jackson, P. Colman, W. Bri ne, D. Sciberras, P. Muglia, D. Scheller, M. Citron, P. Downey (Braine L'Alleud, Belgium)
- 1846 Selective M4 antagonism potentiates L-DOPA-induced dyskinesia in MPTP-treated common marmosets
D. Klisko, R. Fisher, L. Lincoln, P. Jenner, S. Rose (London, United Kingdom)
- 1847 An ongoing phase 2, multi-centre, open-label, study of WTX101 in Wilson disease patients – Early observations
A. Czlonkowska, K.H. Weiss, A. Ala, F. Askari, D. Nicholl, M.L. Schilsky (Warsaw, Poland)
- 1848 Clinical characterization of pramipexole induced edema in Parkinson's disease (PD). Is it always the best option to discontinue the treatment?
E. Urrea-Mendoza, F.J. Revilla (Greenville, SC, USA)
- 1849 The unfolded protein response pathway as a possible therapeutic target for the synucleinopathies
J.H. Baek, E. Berezcki, D. Aarsland (Stockholm, Sweden)
- 1850 May early introduction of dopaminergic agonists improve symptoms after ischemic stroke? The interim report
J. Kobal, Z. Melik, K. Cankar (Ljubljana, Slovenia)
- 1851 A computational model of iron transport between the blood circulation and the brain
V. Tjendana-Tjhin, S. Mitchell, E.A. Milward, M.J. Chappell, J.F. Collingwood (Coventry, United Kingdom)
- 1852 Long-term effects of levodopa/carbidopa intestinal gel infusion in advanced Parkinson's disease patients: Dutch multicenter retrospective cohort study
H.R. Moes, J. Groenendal-Laurense, M. Drent, G. Tissingh, T. van Laar (Groningen, Netherlands)
- 1853 Inhibition of cathepsin D enhances the autophagy lysosome pathway dysfunction and α -synuclein aggregation in experimental parkinsonism
L. Li, Y.P. Yang, L. Gao, Y. Song, Z. Liang (Suzhou, People's Republic of China)

Parkinson's Disease: Clinical Trials, Pharmacology and Treatment

- 1854 Rotigotine transdermal patch in Chinese patients with advanced Parkinson's disease: A randomized, double-blind study
Z. Zhang, M. Asgharnejad, H. Xue, E. Surmann, L. Bauer (Beijing, People's Republic of China)
- 1855 Elemental profiles as biomarkers for diagnosis and disease progression of Parkinson's disease
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- 1856 The effect of walking speed on postural stability in Parkinson's disease fallers
M.H. Cole, M. Sweeney, Z.J. Conway, T.D. Blackmore, P.A. Silburn (Virginia, Australia)
- 1857 Effects of videogame step training on gait adaptability in people with Parkinson's disease – A randomized controlled trial
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- 1858 Dopaminergic medication effect on speech in Parkinson's disease: A kinematic study
T.E. Tong, M.L. Ng, N. Yan (Hong Kong)
- 1859 A comparison of deep brain stimulation and continuous intrajejunal levodopa infusion in advanced Parkinson's disease: The INVEST study
D. van Poppelen, R.M.A. de Bie, J.M. Dijk (Amsterdam, Netherlands)
- 1860 The correlation between dietary fiber, fluid intake and constipation in patients with Parkinson's disease
N. Kawashima, A. Tabata, A. Kumon, K. Miyashita, A. Sato, H. Onuma, S. Nakamura, E. Horiuchi, K. Hasegawa (Fujisawa, Japan)



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L. Chahine, S. Xie, K. Smith, C. Scordia, R. Purri, C. Linder, J. Duda, N. Dahodwala (Philadelphia, PA, USA)
- 1865 Fighting Freezing of gait in Parkinson's disease: Effect of a phase-dependent tactile biofeedback
M. Mancini, K. Smulders, G. Harker, A.C. Fortaleza, J.G. Nutt, F.B. Horak (Portland, OR, USA)
- 1866 Novel training based on declarative memory cues improves gait performance in patients with Parkinson's disease: A randomized clinical trial
M.E.P. Piemonte, E. Okamoto, K.R. Cardoso, T.P. Oliveira, C.S. Miranda, M. Pikel, F. Mendes, G.F. Xavier (São Paulo, Brazil)
- 1867 Withdrawn by Author
- 1868 Creativity related to dopaminergic treatment. A multicenter study
P.J. Garcia Ruiz, J.C. Martinez Castrillo, L. Vela (Madrid, Spain)
- 1869 Dynamic prediction for multiple repeated measures and event time data: An application to Parkinson's disease
S. Luo, J. Wang (Houston, TX, USA)
- 1870 Development of a nanoherbaceutical formulation containing compound extracts from *huperzia serrata*, *mucuna pruriens* and *withania somnifera* for the prevention and treatment of Parkinson's disease
V. Kumar, P.C. Bhatt (Allahabad, India)
- 1871 Effect of repeated intravenous amantadine infusions in patients with Parkinson's disease
A. Khlebtovsky, I. Steiner, R. Djaldetti, T. Treves (Petach Tikva, Israel)
- 1872 A national case study of virtual care visits for Parkinson's disease (RACE-PD): Interim assessment of participant and investigator experiences
R. Korn, H.T. Keenan, T. Felong, S. Goldenthal, S. Kanchana, H. Schwarz, S. Sharma, K. Andrzejewski, E.A. Stevenson, R. Barbano, G. Kang, K. Rizer, A. Shukla, M.J. Dodge, C. Tanner, M. Katz, R. Rodriguez, N. Galifianakis, W. Zhu (Rochester, NY, USA)
- 1873 Effectivity and safety of rotigotine transdermal patch on motor and cognitive dysfunctions in Parkinson's disease with dementia and dementia with Lewy bodies
K. Ohta, Y. Kujuro, T. Osada, T. Toguchi, Y. Shinohara (Tokyo, Japan)
- 1874 Association of the DRD2 (CA) n and DRD3 Ser9Gly polymorphisms with Parkinson's disease and response of dopamine agonists
S. Xu, J. Liu, X. Yang, Y. Qian, Q. Xiao (Shanghai, People's Republic of China)
- 1875 Medicinal cannabis for Parkinson's disease: A survey of practices, beliefs, and attitudes among providers at NPF centers of excellence
D. Bega, T. Simuni, M.S. Okun, P. Schmidt (Chicago, IL, USA)
- 1876 Validity and reliability of the test d evaluation des membres superieurs de personnes agees (TEMPA) to assess upper limb in Parkinson's disease
C.L. Correa, P.R. de-Freitas, A.E. Lemos, S.M. Michaelsen, A. Swarowsky (Rio de Janeiro, Brazil)
- 1877 Does distance walked after two minutes predict total 6 minute walk test distance in people with Parkinson's disease?
R.P. Duncan, M.E. McNeely, G.M. Earhart (Saint Louis, MO, USA)
- 1878 Balance training in individual's with Parkinson's disease: Therapist-supervised vs. home-based exercise programmes
E.M. Atterbury, K.E. Welman (Stellenbosch, South Africa)
- 1879 Eight weeks of home-based balance training not as effective as therapist-based during dual tasks
E.M. Atterbury, K.E. Welman (Stellenbosch, South Africa)
- 1880 PERFORM: Controlled study in fluctuating PD patients examining the effects of motor state on the outcomes resulting from a structured physical therapy (PT) program
J.P. Hubble, B. Fisher, K. Lyons, C. McLean, G. Petzinger, R. Pahwa (Louisville, KY, USA)
- 1881 Subcutaneous apomorphine reduces OFF time and dyskinesias and improves quality of life in Parkinson's disease (PD) – 5-year follow-up of patients in Greece
G.A. Tagaris, A. Skafida, D. Athanasopoulos, E. Trachani, S. Ssiara (Athens, Greece)
- 1882 PD COMM Pilot: A pilot randomised controlled trial of Lee Silverman voice treatment (LSVT) versus NHS speech and language therapy versus no intervention in Parkinson's
C.M. Sackley, S. Patel, R. Woolley, N.J. Ives, C.E. Rick, F. Dowling, K. Wheatley, C. Smith, M. Brady, C.E. Clarke (London, United Kingdom)
- 1883 Virtual rehabilitation: A therapy for parkinsonism?
B.S. Zeigelboim, G.J.B. Santos, M.I.R. Severiano, H.A.G. Teive, A.B.M. Lacerda, C.M. Porto (Curitiba, Brazil)
- 1884 Levodopa-carbidopa intestinal gel via PEG-J for advanced Parkinson's disease- A single centre experience
E. Pekkonen, J. Lyytinen, O. Lindström, L. Kälänpää, M. Udd (Helsinki, Finland)
- 1885 Duloxetine, a serotonin and norepinephrine reuptake inhibitor, reduces daily OFF time in Parkinson's disease
M. Tomiyama, Y. Funamizu, T. Kon, R. Haga, T. Ueno, H. Nishijima, A. Arai, C. Suzuki, J.I. Nunomura, M. Baba (Aomori, Japan)
- 1886 Influence of treadmill gait training with additional load on motor function, postural instability and history of falls for individuals with Parkinson's disease: A randomized clinical trial
L.C.L. Trigueiro, A.V.C. Sousa, G.L. Gama, T.S. Ribeiro, L.G.L.M. Ferreira, C.R. Simão, É.R.V.P. Galvão, E.M.G.S. Silva, C.G. Júnior, A.R.R. Lindquist (Natal, Brazil)
- 1887 Computational assessment of calcium channel effects on subthalamic nucleus neuronal cells: Study of abnormal bursting patterns in Parkinson's disease
C. Mahapatra, R. Manchanda (Mumbai, India)
- 1888 Differential effects of tango, treadmill, and stretching interventions on gait in people with Parkinson's disease
M.E. McNeely, R.P. Duncan, G.M. Earhart (St. Louis, MO, USA)



Abstracts by Topic

- 1889 Human-derived α -synuclein antibody B1B054 binds pathologic forms of α -synuclein and attenuates transmission of α -synuclein in vitro and in vivo
A. Weihofen, H. Patel, C. Huy, C. Liu, I. Combaluzier, S. Mueller-Steiner, N. Cavegn, L. Strobel, T.M. Engber, K.J. Rhodes, C. Hock, R.M. Nitsch, F. Montrasio, J. Grimm, A. Dunah, P.H. Weinreb (Cambridge, MA, USA)
- 1890 Levodopa-entacapone-carbidopa intestinal gel in Parkinson's disease – A randomized, crossover infusion study
M. Senek, D. Nyholm (Uppsala, Sweden)
- 1891 Effects of exercise intervention on balance and gait performance, and balance confidence in people with Parkinson's disease – A meta-analysis
M.K. Mak, I.S. Wong-Yu (Hong Kong, People's Republic of China)
- 1892 AntiParkinsonian treatment patterns and motor complications among patients with Parkinson's disease in Estonia
L. Kadastik-Eerne, N. Taba, P. Taba (Tartu, Estonia)
- 1893 Efficacy of long-term treatment with istradefylline and analysis of the expression of A2A receptor protein and post-transcriptional DNA methylation
N. Kanzato, K. Nakachi, T. Naka, M. Higa, S. Mochizuki, Y. Miyamae (Okinawa Prefecture, Haebaru-cho, Japan)
- 1894 The effect of Mozart piano sonata on Parkinsonian tremor, rigidity and bradykinesia
A. Shoeybi, N. Olfati (Mashhad, Islamic Republic of Iran)
- 1895 Effects of safinamide in patients with Parkinson's disease measured by Parkinson's KinetiGraph™
I. Suttrup, V. Zentsch, J. Schroeder, T. Warnecke (Muenster, Germany)
- 1896 Duodopa treatment experience in Oradea
M. Sabau, L. Botnaru, A. Badea, C. Dudas (Oradea, Romania)
- 1897 Effectiveness of a multidisciplinary PD clinic in improving quality of life
H.F. Chan, D.K.W. Chau, T. Fung, I. Chan, Y.F. Cheung, W.C. Fong (Hong Kong)
- 1898 Lovastatin protects neurite degeneration in LRRK2-G2019S parkinsonism through activating the Akt/Nrf pathway and inhibiting GSK3 β activity
C.H. Lin, H.I. Lin, M.L. Chen, T.T. Lai, L.P. Cao, M.J. Farrer, R.M. Wu, C.T. Chien (Taipei, Taiwan)
- 1899 Predicting therapeutic effects of atomoxetine and citalopram on response inhibition in Parkinson's disease
J.B. Rowe, C. Rae, C. Nombela, T. Ham, P. Vazquez, I. Coyle-Gilchrist, C.R. Housden, B.J. Sahakian, T.W. Robbins, Z. Yes (Cambridge, United Kingdom)
- 1900 Telemedicine facilitates efficient and safe home titration of levodopa/carbidopa intestinal gel (LCIG) in patients with advanced Parkinson's disease
T. Willows, N. Dizdar, D. Nyholm, U. Widner, P. Grenholm, U. Schmiauke, A. Urbom, K. Groth, J. Larsson, J. Permert, S. Kjellander (Huddinge, Sweden)
- 1901 Safety, pharmacokinetics, and efficacy of levodopa prodrug ONO-2160/CD: A study in patients with Parkinson's disease
M. Nomoto, M. Nagai, N. Nishikawa, Y. Kagamiishi, K. Yano, M. Akisada, S. Saito, M. Yuba, A. Takeda (Tohon Ehime, Japan)
- 1902 Effects of levodopa on adaptation of reactive stepping in people with Parkinson's disease
F.B. Horak, B. Dijkstra, J.G. Nutt, D.S. Paterson (Portland, OR, USA)
- 1903 A double blind investigation of efficacy and safety of incobotulinumtoxinA in Parkinson's disease tremor- A customized injection approach
S.O. Mittal, R. Rostami, D.G. Machado, D. Richardson, B. Jabbari (Cleveland, OH, USA)
- 1904 Adenosine A2A receptor antagonist istradefylline might have efficacy to fatigue and depression in some patients of Parkinson's disease
H. Ito, T. Kamei (Fujiwara, Japan)
- 1905 Voice harmonic amplitude differences before and after LSVT LOUDTM in Parkinson's disease
M.P. Cannito, L.O. Ramig, A.E. Halpern, J.L. Spielman (Lafayette, LA, USA)
- 1906 Diurnal variation of levodopa plasma concentration in patients with Parkinson's disease
M. Nagai, M. Kubo, H. Iwaki, R. Ando, H. Yabe, N. Nishikawa, M. Nomoto (Ehime, Japan)
- 1907 Pharmacokinetic profile of ONO-2160/CD (levodopa prodrug/carbidopa) in animal and human
M. Nomoto, M. Nagai, N. Nishikawa, K. Yano, Y. Kagamiishi, M. Akisada, S. Saito, M. Yuba, T. Koyanagi, A. Takeda (Tohon Ehime, Japan)
- 1908 Progress in the development of small molecules based on the coumarin core as multifunctional neuroprotective agents
M.J. Matos, D. Viña, F. Rodríguez-Enríquez, S. Vilar, L. Santana, E. Uriarte (Santiago de Compostela, Spain)
- 1909 Pisa syndrome in Parkinson's disease: A mobile or fixed deformity?
E.I. Giyazitdinova, B.T. Muinjonov, G.S. Rakhimbaeva, Y.A. Musaeva, F.K. Shermukhamedova (Taskent, Uzbekistan)
- 1910 Suggested criteria for patient selection for therapy with carbidopa/levodopa enteral suspension (CLES)
R.L. Rodriguez, T. Green, F. Rossi, A. Khaku, J. Slevin (Orlando, FL, USA)
- 1911 New therapeutic algorithm for abnormal posture in Parkinson's disease and related disorders
Y. Mukai, Y. Furusawa, Y. Aoshima, H. Todo, Y. Hama, C. Matsumoto, N. Wakasugi, Y. Mizuno, T. Kawazoe, Y. Saitoh, T. Sakamoto, M. Murata (Tokyo, Japan)
- 1912 Swallowing difficulties in patients with Parkinson's disease and Parkinsonian syndromes
Y.O. Trufanov (Kyiv, Ukraine)
- 1913 Predicting medication reduction in Parkinson's disease patients after deep brain stimulation
S.A. Dodwell, C.E. Ashton, D.K. Simon, D. Tarsy, E. Papavassiliou, R. Alterman, L. Shih (Boston, MA, USA)
- 1914 The CNS moving voice program: Implementation of a dual voice and physical exercise program for Parkinson's disease: An applicability study
R. Loureiro, J. Domingos, D. Peralta, J. Dean, J. Ferreira (Lisbon, Portugal)
- 1915 Factors associated with falling in early, treated Parkinson's disease: The NET-PD LS1 cohort
K.L. Chou, J.J. Elm, C.L. Wielinski, D.K. Simon, M.J. Aminoff, C.W. Chadwick, G.S. Liang, R.A. Hauser, L. Sudarsky, C.C. Umeh, T. Voss, J. Juncos, J.Y. Fang, J.T. Boyd, I. Bodis-Wollner, M. Zoltan, J.C. Morgan, A.M. Wills, S.L. Lee, S.A. Parashos, On behalf of the NINDS NET-PD Investigators (Ann Arbor, MI, USA)



Abstracts by Topic

- 1916 Oligomeric and phosphorylated alpha-synuclein as potential CSF biomarkers for Parkinson's disease
 N.K. Majbour, N.N. Vaikath, K.D. Dijk, M. Ardah, C.E. Teunissen, H.W. Berendse, W.D.J. Berg, O.M.A. El-Agnaf (Amsterdam, Netherlands)
- 1917 Exploring therapeutic viability of a non-dopaminergic target for Parkinson's disease
 A. Ashrafi, M. Buttini, P. Garcia, A. del Sol, E. Glaab (Esch-sur-Alzette, Luxembourg)
- 1918 Diverse effects of alpha-synuclein fibrils on various neuron cell lines, using different buffers
 F. Aliakbari, D. Morshedi, A.A. Shabani, H. Mohammad Beigi, A. Tayaranian Marvian, P. Shariati, S.A. Shojaosadati, A.A. Saboury (Semnan, Islamic Republic of Iran)
- 1919 Diagnostic value of a new coronal examination plane in transcranial nigral sonography and of additional M-mode tremor frequency determination for the differentiation of idiopathic Parkinson's disease and essential tremor
 L. Tönges, R. Daniel, D. Woitalla, S. Muhlack, R. Gold, C. Krogias (Bochum, Germany)
- 1920 Real-life data on the use of levodopa carbidopa intestinal gel in Parkinson's disease
 J.T. Butler, D. Isaacs, C. Tolleson, R. Pierce, T. Davis (Nashville, TN, USA)
- 1921 Inhibition of glucosylceramide synthase reduces pathology and improves cognition in synucleinopathy murine models
 L. Shihabuddin, C. Viel, J. Clarke, H. Park, J.C. Dodge, J. Marshall, B. Wang, S.H. Cheng, S.P. Sardi (Framingham, MA, USA)
- 1922 Correlation between Parkinson's disease and malignant tumors
 E. Binaghi, M.M. Mascia, P. Solla, M. Meloni, R. Farris, D. Ciacchio, G. Orofino, F. Marrosu, A. Cannas (Cagliari, Italy)
- 1923 Levodopa/carbidopa intestinal gel, neuropathy, and B-vitamins - Is there an association?
 S. Löns, E. Chorbadgieva, A. Kleimann, D. Dressler, C. Schrader (Hannover, Germany)
- 1924 Serum level of vitamin D3 in patients with neurodegenerative diseases compared to healthy adults and its correlation with the years spent from the initial diagnosis
 A.N. Taravari (Skopje, Macedonia)
- 1925 Switching double-blind opicapone, entacapone or placebo to open-label opicapone: Efficacy results of the 1-year extension of study BIPARK I
 J. Ferreira, A. Lees, E. Tolosa, W. Poewe, A. Santos, N. Lopes, J.F. Rocha, P. Soares-da-Silva (Lisbon, Portugal)
- 1926 Minimizing levodopa titration period for Parkinson's disease (PD)
 I. Thomas, M. Alam, D. Nyholm, M. Senek, J. Westin (Falun, Sweden)
- 1927 Parkinson patient reported outcomes of voice and communication pre, post and 6 months following LSVT LOUD® and LSVT ARTIC
 A.E. Halpern, L.O. Ramig, K. Freeman, J.L. Spielman (Denver, CO, USA)
- 1928 STN-DBS in Parkinson's disease with early motor complications – A 10 year follow-up
 J. Muellner, F. Pineau, D. Maltête, J.L. Houeto, M.L. Welter, S. Navarro, P. Cornu, C. Bernasconi, Y. Agid, M. Schuepbach (Bern, Switzerland)
- 1929 Drug safety in the pharmacotherapy of Parkinson's disease
 S. Müller-Rebstein, C. Trenkwalder, J. Ebentheuer, C. Culmsee, G. Höglinger (Kassel, Germany)
- 1930 Outpatient management of Parkinson's disease: A review of medication changes made to address both motor and non-motor symptoms
 B. Magennis, E.A. Donlon, E.M. Fallon, T. Lynch (Dublin, Ireland)
- 1931 The novel COMT-inhibitor ODM-104 and optimized carbidopa in combination with modified release levodopa reduce levodopa fluctuation and increase minimum concentrations in healthy subjects, when compared to the standard carbidopa/levodopa/entacapone combination
 J. Ellmen, J. Tuunainen, A. Holopainen, T. Sarapohja, M. Scheinin (Turku, Finland)
- 1932 Creatine for patients with Parkinson's disease: A meta-analysis
 A. Attia, H. Ahmed, M. Morsi, K. Awad, M. Elnenny, E. Ghanem, A. Negida (Cairo, Egypt)
- 1933 Effects of nilotinib on safety in open-label phase I clinical trial in Parkinson's disease with dementia and Lewy body dementia
 F. Pagan, E. Valadez, Y. Torres-Yaghi, R. Falconer, R. Mills, S. Rogers, B. Wilmarth, M. Hebron, C. Moussa (Washington, DC, USA)
- 1934 Nilotinib improves motor skills, cognition and autonomic function in open-label phase I clinical trial in Parkinson's disease with dementia and Lewy body dementia
 F. Pagan, E. Valadez, Y. Torres-Yaghi, A. Keys, R. Falconer, S. Rogers, B. Wilmarth, M. Hebron, C. Moussa (Washington, DC, USA)
- 1935 Nilotinib significantly alters CSF biomarkers and increases endogenous dopamine in open-label phase I clinical trial in Parkinson's disease with dementia and Lewy body dementia
 C. Moussa, E. Valadez, Y. Torres-Yaghi, A. Keys, R. Falconer, S. Rogers, B. Wilmarth, M. Hebron, F. Pagan (Washington, DC, USA)
- 1936 Efficacy and feasibility study of the Medido electronic medication dispenser in Parkinson's disease: A multicentre randomized controlled trial
 K. Hannink, L. ter Brake, A. Wertenbroek, K. Movig, J. van der Palen, L. Dorresteijn (Enschede, Netherlands)
- 1937 Day case initiation of subcutaneous apomorphine in people with Parkinson's disease: A retrospective analysis from a UK teaching hospital
 K. Nalamada, J. Cosgrove, P. Duggan-Carter, S. Jamieson, J. Alty (Leeds, United Kingdom)
- 1938 Effects of combined repetitive transcranial magnetic stimulation and treadmill training on gait performance in Parkinson's disease
 C.L. Chung, M.K.Y. Mak (Hong Kong)
- 1939 Peri-operative dopaminergic replacement protocol with rotigotine in Parkinson's disease patients
 L. Abraira del Fresno, L. Ispuerto, A.M. Crespo, T. Canento, D. Vilas, M. Gonzalez, F. Sala, L. Morató, J. Sánchez-Ojanguren, R. Álvarez (Barcelona, Spain)
- 1940 Group climate in the voice therapy of patients with Parkinson's disease
 G.L.A. Diaféria, P.B. Takaki, G. Madazio, C. Pacheco, M.S. Behlau (São Paulo, Brazil)



Abstracts by Topic

- 1941 Speech and voice range profile in patients with Parkinson's disease with deep brain stimulation: Preliminary data
G.L.A. Diaféria, A.E. Dias, M.J. Carvalho, R. Cury, E.R. Barbosa, E.T. Fonoff (São Paulo, Brazil)
- 1942 Effect of over(exaggerated) articulation technique in voice and speech of individuals with Parkinson's disease with deep brain stimulation
G.L.A. Diaféria, F.A.M. Bento, M. Padovani, E.T. Fonoff, M.S. Behlau (São Paulo, Brazil)
- 1943 Preclinical evaluation of sub-anesthetic ketamine infusion to reduce L-DOPA-induced dyskinesias: Is it a 'chemical' DBS?
T. Falk, M.J. Bartlett, T. Ye, L.B. Lazarus, M.L. Heien, S.L. Cowen, S.J. Sherman (Tucson, AZ, USA)
- 1944 The clinical effects of mucuna and green tea in combination with levodopa-benserazide in advanced Parkinson's disease: Experience from a case report
R. González-Maldonado, R. González-Redondo, C.G. DiCauda (Granada, Spain)
- 1945 Effect of pharmacist-led interventions on motor symptoms and quality of life in Parkinson's patients: A pilot study
C. Stuijt, T.V. Laar (Groningen, Netherlands)
- 1946 Novel small molecules targeting alpha-synuclein aggregation for the treatment of Parkinson's disease
E. Tsika, A. Davranche, E. Gabellieri, S. Nampally, J. Molette, S. Papin, H. Kroth, A. Pfeifer, D. Lowe, A. Muhs (Lausanne, Switzerland)
- 1947 Therapy escalation in Parkinson's disease – The TEMP trial, a regional survey
F. Gandor, A. Kühn, J. Müller, F. Klostermann, T. Müller, D. Gruber, A. Lipp, A. Kivi, D. Kübler, F. Ehlen, G. Ebersbach (Beelitz-Heilstätten, Germany)
- 1948 Upper limb motor tests are related to clinical ratings of motor function in advanced Parkinson's disease
M. Memedi, S. Aghanavasi, D. Nyholm, H. Askmark, S.M. Aquilonius, R. Constantinescu, F. Bergquist, A. Medvedev, A. Ericsson, F. Ohlsson, S. Lycke, J. Spira, M. Senek, J. Westin (Falun, Sweden)
- 1949 Safety of opicapone in fluctuating Parkinson's disease patients: Results of the 1-year extension of study BIPARK I
A. Santos, J. Ferreira, A. Lees, F. Stocchi, O. Rascol, N. Lopes, H. Gama, J.F. Rocha, P. Soares-da-Silva (Porto, Portugal)
- 1950 Therapeutic yoga improves balance and balance confidence in Parkinson's disease
F. Revilla, K. Woschkolup, A.A. Walter, B.L. Hawkins, E. Urrea-Mendoza, A.A. Schmid, J. Park, J. Sharp, M. VanPuymbroek (Greenville, SC, USA)
- 1951 Patient case reports supporting a long-term effect of sub-anesthetic ketamine infusion in reducing L-DOPA-induced dyskinesias
S.J. Sherman, T. Falk (Tucson, AZ, USA)
- 1952 Safety and clinical effects of NTCCELL® [immunoprotected (alginate-encapsulated) porcine choroid plexus cells for xenotransplantation] in patients with Parkinson's disease (PD): 81 to 130 weeks follow-up
B.J. Snow, E. Mulroy, M. Simpson, L. Macdonald, A. Bok, K. Taylor, J. Han, K. Durbin (Auckland, New Zealand)
- 1953 Opicapone in fluctuating Parkinson's disease patients: OFF- and ON-time responder post-hoc analyses of pooled phase III studies
A. Lees, J. Ferreira, T. Müller, F. Stocchi, C. Oliveira, A. Santos, N. Lopes, J.F. Rocha, P. Soares-da-Silva (London, United Kingdom)
- 1954 Onset and stabilization of opicapone treatment effects in fluctuating Parkinson's disease patients: Exploratory by-week efficacy analysis of pooled phase III studies
A. Lees, J. Ferreira, H. Reichmann, E. Tolosa, A. Santos, C. Oliveira, I. Oliveira, N. Lopes, J.F. Rocha, P. Soares-da-Silva (London, United Kingdom)
- 1955 Exploratory efficacy of opicapone in fluctuating Parkinson's disease patients at different stages of symptom progression
N. Lopes, J. Ferreira, A. Lees, W. Poewe, H. Reichmann, A. Santos, C. Oliveira, J.F. Rocha, P. Soares-da-Silva (Porto, Portugal)
- 1956 Activities of daily living and motor scores of the UPDRS in fluctuating Parkinson's disease patients treated with opicapone
J. Ferreira, A. Lees, O. Rascol, T. Müller, A. Santos, I. Oliveira, N. Lopes, J.F. Rocha, P. Soares-da-Silva (Lisbon, Portugal)
- 1957 Evaluation of impulse control disorders in fluctuating Parkinson's disease patients under opicapone treatment
N. Lopes, J. Ferreira, A. Lees, T. Müller, H. Reichmann, H. Gama, A. Santos, C. Oliveira, J.F. Rocha, P. Soares-da-Silva (Coronado, Portugal)
- 1958 Improving drug discovery using brain oscillations as biomarkers of Parkinson's disease
B. Pouyatos, S.J. Perry, D.E. Grigoriadis, R. Maury, C. Bouyssières, C. Roucard, V. Duveau, Y. Roche (La Tronche, France)
- 1959 Utilization and longitudinal impact of anticholinergic use in Parkinson's disease. National Parkinson Foundation (NPF) QII registry
V. Felix Saunders, K. Li, S. Luo, T. Simuni (Chicago, IL, USA)
- 1960 Experience with utilization of rytary in the clinical setting
Y. Kianirad, T. Simuni, C. Zadikoff, D. Bega, M. Afshari, S. Jonnalagadda (Chicago, IL, USA)
- 1961 Improvement of freezing of gait with intestinal levodopa infusion in advanced Parkinson's disease patients
M. Zibetti, S. Angrisano, F. Dematteis, A. Romagnolo, A. Merola, L. Lopiano (Torino, Italy)
- 1962 Dopamine dysregulation syndrome /DDS/ in LCIG infusion: Successful treatment without interrupting the pump therapy
A. Tóth, H. Nagy, S. Funk, A. Takáts (Budapest, Hungary)
- 1963 Safety and efficacy of pardoprunox for patients with Parkinson's disease: A meta-analysis
N. Elzagheer, H. Ahmed, A. Attia, K. Awad, E. Ezzat, M. Abd Elaleem Aziz, A. Negida (Beni Suef, Egypt)
- 1964 Objective measurement in clinical care of patients with Parkinson's disease
M. Horne, K. Kotschet, M. Braybrook (Parkville, Australia)
- 1965 The efficacy of tremor detection and suppression device in intractable rest tremor in patients with Parkinson's disease
O. Jitkritsadakul, C. Thanawattano, C. Anan, R. Bhidayasiri (Bangkok, Thailand)
- 1966 A phase II, pragmatic, randomized clinical trial on a high-intensity exercise and fall prevention boot camp for Parkinson's disease: Signal of efficacy
M.R. Landers, J.W. Navalta (Las Vegas, NV, USA)



Abstracts by Topic

- 1967 Best supportive care or palliative care for late stage Parkinsonian syndromes?
S. Lorenz, C. Richinger, C. Schmotz, G. Nübling (Salzburg, Austria)
- 1968 Withdrawn by Author
- 1969 Hospitalisation following different initial therapies in early Parkinson's disease: Analysis of hospital episodes statistics from the PD MED EARLY trial
S. Muzerengi, R.L. Woolley, C. Rick, N. Ives, F. Dowling, R. Gray, C.E. Clarke, PD MED Collaborative Group (Birmingham, United Kingdom)
- 1970 Withdrawn by Author
- 1971 A randomized controlled clinical study to evaluate efficacy, safety and tolerability of SC L-dopa/carbidopa (ND0612H) infusion regimens in fluctuating PD patients
K. Kiebertz, C.W. Olanow, Y. Cohen, S. Oren (Rochester, NY, USA)
- 1972 A combined therapeutic approach in the management of abnormal postures in Parkinson's disease
S. Di Martino, E. Unti, C. Tramonti, S. Mazzucchi, U. Bonuccelli, B. Rossi, R. Ceravolo, C. Chisari (Pisa, Italy)
- 1973 Continuous subcutaneous delivery of solubilized carbidopa improves the pharmacokinetic profile of levodopa
R. Shaltiel-Karyo, E. Zawoznik, I. Weinstock, M. Nemas, Y. Caraco, P.A. LeWitt, S. Oren, O. Yacoby-Zeevi (Rehovot, Israel)
- 1974 Association of Parkinson's disease with essential tremor
D. Aygun (Samsun, Turkey)
- 1975 Can treadmill training facilitate the dual-task gait in Parkinson's disease?
A.V.C. Sousa, L.M.M. Santiago, R.E.O. Silva, A.P. Spaniol, D.A. Oliveira, É.R.V.P. Galvão, T.S. Ribeiro, A.R.R. Lindquist (Natal, Brazil)
- 1976 The potential therapeutic effect of intranasal administration of stem cells in rotenone model of Parkinson's disease in mice
M. El-Gamal, M. Salama, M. Sobh, M. Emam, A. Abdalla, A. Lotfy, D. Sabry, M. El-Qotb, M. Sobh (Mansoura, Egypt)
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- 1992 Utility of IgGs subtypes in hemolytic anemia prevention and treatment maintenance in patients treated with continuous infusion of apomorphine
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- 1995 Virtual-reality balance training with Nintendo-Wii games improves dynamic balance in Parkinson's disease patients
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H. Saiki, S. Matsumoto (Osaka, Japan)
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J. Morgan, M. Stacy, R. Rubens, S. Khanna, S. Gupta (Augusta, GA, USA)
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- 2017 Feasibility of implementing a long-term mobile device program in PD patients
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L. Timmerman, R. Jain, L. Chen, T. Brucke, F. Seijo, E. Suarez San Martin, C. Haegelen, M. Verin, V. Visser-Vandewalle, M.T. Barbe, S. Gill, A. Whone, M. Porta, D. Servello, F. Alesch (Cologne, Germany)
- 2019 Contributions of sensorial feedback to gait in Parkinson's disease
F.A. Barbieri, L.T.B. Gobbi, P.C.R. Santos, R. Vitória, L. Simieli, D. Orzioli-Silva, M.B. Pestana, C.M. Fiorelli, Q. Almeida (Bauru, Brazil)
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J. Volkmann, S. Chabardes, G.K. Steinke, S. Carcieri, N. Van Dyck (Würzburg, Germany)
- 2021 Whole body vibration therapy with exercise enhances motor function and improves quality of life in Parkinson's disease
O.K. Gruder, D.Y. Edmonston, G.Q. Barr, C.G. Maitland (Tallahassee, FL, USA)
- 2022 Proprioceptive training as a means to enhance sensorimotor function in Parkinson's disease
N. Elangovan, P. Tuite, J. Konczak (Minneapolis, MN, USA)
- 2023 Pallidal versus subthalamic stimulation for PD: Beyond the motor effects
M.G. dos Santos Ghilardi, R.G. Cury, R.C.R. Martinez, M.J. Teixeira, E.R. Barbosa, E.T. Fonoff (São Paulo, Brazil)
- 2024 Improved motor functioning of people with Parkinson's disease following dance intervention
S.M. Simone, K.A. Beben, S.E. Maguire, C. Noudga, K.L.M. Martin, G.N. Luabeya, P. Dhami, R.J. Bar, J.F. DeSouza (Toronto, ON, Canada)
- 2025 Auditory cues during obstacle crossing increase gait asymmetry in neurologically health individuals but not in people with Parkinson's disease
M.B. Pestana, L.T.B. Gobbi, L. Simieli, D. Orzioli-Silva, A.M. Baptista, V.S. Baretta, P.C.R. Santos, T. Penedo, V.I.A. Pereira, F.A. Barbieri (Rio Claro, Brazil)
- 2026 PARK-OMM - An osteopathic manipulative medicine protocol to improve motor function and balance in Parkinson's disease
S. Yao, K. de Vries, J. DiFrancisco-Donoghue, J. Mancini, M.K. Jung, G. Cheriyan, S. Curtis, A. Leder (Old Westbury, NY, USA)
- 2027 Conversion of patients from immediate release carbidopa-levodopa (IR CD-LD) and sustained release carbidopa-levodopa (SR CD-LD) to extended-release carbidopa-levodopa (ER CD-LD) in clinical practice
S.J. LoRusso, B. Ouyang, B.R. Barton (Chicago, IL, USA)
- 2028 Extended-release carbidopa-levodopa, IPX066: Dosing and efficacy with concomitant medication use in Parkinson's disease
S. Gupta, S. Khanna, S. Kell, R. Rubens (Hayward, CA, USA)
- 2029 Peripheral neuropathies in Parkinson's disease during levodopa-carbidopa intestinal gel treatment: Results from a long-term prospective follow-up study
A. Romagnolo, A. Merola, M. Zibetti, A. Bernardini, D. Cocito, C.A. Artusi, F. Dematteis, S. Angrisano, M.G. Rizzone, L. Lopiano (Turin, Italy)
- 2030 The application of mobile health technology to increase physical activity in persons with Parkinson's disease
T.D. Ellis, T.R. DeAngelis, K. Hendron, J.T. Cavanaugh, N. Sullivan, L. Goehring, C.A. Thomas, M. Saint-Hilaire, N.K. Latham (Boston, MA, USA)
- 2031 Does physical exercise influence the cognitive domains that predict dementia in Parkinson's disease?
C.R.A. Silveira, E.A. Roy, B.N. Intzandt, Q.J. Almeida (Waterloo, ON, Canada)
- 2032 Balance and gait disturbances in Parkinson's disease patients with falls and freezing of gait
J. Stozek, M. Rudzinska, S. Bukowczan, A. Szcudlik (Cracow, Poland)
- 2033 Establishment of InMotion, an independent, fee-free community center for persons with movement disorders
D.E. Riley, K.M. Jaffe, J.Z. Peters (Warrensville Heights, OH, USA)
- 2034 Duodenal levodopa infusion: Safety and efficacy in a 6 years outpatient follow-up
S. Simoni, N. Tambasco, E. Sacchini, P. Nigro, F. Ripandelli, P. Calabresi (Perugia, Italy)
- 2035 Exercise-induced adaptive neuroplasticity in the MPTP mouse model of Parkinson's disease
C.J.H.M. Klemann, G. Poelmans, G.J.M. Martens, J.E. Visser (Nijmegen, Netherlands)
- 2036 Mobile decision support system for nurse management of deep brain stimulation
G. Duffley, D. Martinez, J. Krueger, B. Lutz, M.S. Okun, C.R. Butson (Salt Lake City, UT, USA)
- 2037 Critical path for Parkinson's, I: Data sharing and regulatory science in catalyzing innovation for Parkinson's disease
K. Romero, D. Burn, M. Hu, A. Yarnell, C. Williams Gray, K. Marek, D. Grosset, M. Sutherland, M. Isaac, A. Bhattaram, V. Sinha, M.F. Gordon, P. Muglia, L. Slicker, W. Hirst, M. Facheris, J. Posener, M. Bani, B. Corrigan, R. Schindler, K. Tsai, T. Nicholas, J. Cedarbaum, J. Gallagher, S. Ford, E. Avilex, V. Kern, S. Arneric, D. Stephenson, A. Roach (Tucson, AZ, USA)
- 2038 Feasibility and preliminary efficacy of a telehealth approach to group tango instruction for people with Parkinson's disease
K.J. Seidler, R.P. Duncan, M.E. McNeely, M.E. Hackney, G.M. Earhart (St. Louis, MO, USA)
- 2039 Blindfolded balance training in patients with Parkinson's disease: A sensory-motor strategy to improve the gait
A. Peppe, S. Bonni, M. Fabio, K. Giacomo, A. Martino Cinnera, M. Tramontano, C. Caltagirone (Rome, Italy)
- 2040 Objective measures of Parkinsonian motor symptoms using a continuously worn smartwatch
N. Fixler, L. Reitblat, A. Wagner, S. Cohen, M. Afek, P. Bonato, J.F. Daneault, N. Golabchi, S. Moore, A. Patel, C. Cho, L. Bataille (Petach Tikva, Israel)
- 2041 Utilization and longitudinal impact of amantadine use in Parkinson's disease. National Parkinson Foundation (NPF) QII registry
V. Felix Saunders, T. Simuni, K. Li, S. Luo (Chicago, IL, USA)
- 2042 Pathological findings from two Parkinson's disease patients after intraputamin GDNF infusion
T.R. Yamasaki, V.D. Smith, Y. Ai, D.M. Gash, P.T. Nelson, G.A. Gerhardt, J.T. Slevin (Lexington, KY, USA)
- 2043 Fox insight wear ecosystem: using mobile technology and cloud-based computing to support PD research
I. Feldman, M. Afek, L. Bataille (Gedera, Israel)



Abstracts by Topic

- 2044 Rasagiline treatment for sleep disorders in Parkinson's disease (RaSPar) – Double-blinded, randomized, placebo-controlled, placebo run-in-phase, polysomnography clinical trial
W. Schrempf, M. Fauser, K. Otto, M. Wienecke, C. Ossig, S. Brown, A. Maass, M.D. Brandt, U. Schwanebeck, X. Graehler, H. Reichmann, A. Storch (Dresden, Germany)
- 2045 Reflex saccades changes can estimate long-term symptom progression in DBS STN and MED Parkinson's disease patients (PD)
S. Szlufik, A. Przybyszewski, J. Dutkiewicz, P. Habela, T. Mandat, D. Koziowski (Warsaw, Poland)
- 2046 Biseptol a new antiParkinsonian agent?
K. Karpinska, V. Smolanka (Uzhgorod, Ukraine)
- 2047 Body position during sleep in patients with Parkinson's disease (PD): A sensor-based analysis
J. Sringean, P. Taechalerpaisarn, C. Thanawattano, R. Bhidayasiri (Nonthaburi, Thailand)
- 2048 The impact of STN DBS on kinetic tremor in Parkinson's disease patients
S. Szlufik, M. Szumilas, J. Dutkiewicz, D. Koziowski, T. Mandat, E. Slubowska (Warsaw, Poland)
- 2049 Falls and frailty predicate escalating care needs in Parkinson's disease
B. Mohamed, C. Thomas, H. Shukla, S. Aithal (Cardiff, United Kingdom)
- 2050 Patient experiences following Parkinson's disease treatment with inhaled levodopa: Results from a Phase 2b study
P. LeWitt, A. Niyazov, A. Sedkov, H. Murck, A. Guo (West Bloomfield, MI, USA)
- 2051 Acute admissions in people with Parkinson's – More than just frailty
N. Leopold, B. Mohamed, C. Thomas (Cardiff, United Kingdom)
- 2052 Effects of pyridostigmine bromide vs. fludrocortison in the treatment of orthostatic hypotension in Parkinson's disease
S.R. Schreglmann, F. Büchele, M. Sommerauer, L. Epprecht, G. Kägi, S. Hägele-Link, O. Götze, L. Zimmerli, D. Waldvogel, C.R. Baumann (London, United Kingdom)
- 2053 Can hospital admissions predict mortality in Parkinson's?
B. Mohamed, N. Leopold, C. Thomas (Cardiff, United Kingdom)
- 2054 Taking specialist clinics into community nursing homes
T. Williams, S. Mahon, C. Thomas, B. Mohamed (Cardiff, United Kingdom)
- 2055 Medication use patterns vary across expert Parkinson's disease clinics
P. Schmidt, F. Cubillos, T. Simuni, C. Marras, T. Davis, E.C. Nelson (Miami, FL, USA)
- 2056 Safety and tolerability of inhaled levodopa (CVT-301) administered to Parkinson's disease patients with motor fluctuations
R. Pahwa, P. LeWitt, A. Corbin, R. Batycky, H. Murck (Kansas City, KS, USA)
- 2057 Status of NPF-QII after six years: Updates to the dataset
F. Cubillos, E.C. Nelson, T. Simuni, C. Marras, M. Rafferty, T. Davis, P. Schmidt (Miami, FL, USA)
- 2058 Clinical effect and dose conversion of rytary (numient) in 50 consecutive patients with PD motor fluctuations
N. Chhabria, S.H. Isaacson (Boca Raton, FL, USA)
- 2059 Evaluation of droxidopa dosing and clinical response in 50 consecutive patients with Parkinson's disease and symptomatic neurogenic orthostatic hypotension
S.H. Isaacson, S. Brillman, N. Chhabria (Boca Raton, FL, USA)
- 2060 Efficacy of apomorphine subcutaneous injections in patients with levodopa dose failures and morning akinesia
S.H. Isaacson (Boca Raton, FL, USA)
- 2061 Improvement in posture, pain, and cardiac autonomic function in a prospective study of osteopathic manipulative medicine and physical therapy for camptocormia in Parkinson's disease
J.D. Mancini, D.M. Pasternack, N. Caruana, A. Leder (Old Westbury, NY, USA)
- 2062 When is the worst period of nocturnal hypokinesia in Parkinson's disease? A sensor-based analysis
J. Sringean, P. Taechalerpaisarn, C. Thanawattano, R. Bhidayasiri (Nonthaburi, Thailand)
- 2063 The Parkinson progression marker initiative (PPMI) – Developing a comprehensive longitudinal biomarker dataset
Parkinson Progression Marker Initiative (New Haven, CT, USA)

Clinical Trials and Therapy in Movement Disorders

- 2064 Botulinum toxin in cerebral palsy children with gait disorder: Different therapy approaches
G.S. Pilina (Izhevsk, Russia)
- 2065 Patient satisfaction with flexible botulinum toxin injection intervals – Preliminary results of a telephone survey
C. Linder, S. Macher, E. Auff, T. Sycha (Vienna, Austria)
- 2066 A survey of impulse control disorders in Chinese patients with Parkinson's disease and literature review
Q. Xiao, X. Wang, Y. Tan, M. Wei (Shanghai, People's Republic of China)
- 2067 Beta - blockers worsen vascular parkinsonism in patients with concomitant coronary heart disease
A. Turakhonov, S. Dadajonov, R. Sadikov, R. Khodjaev, S. Nurov (Tashkent, Uzbekistan)
- 2068 Familial cortical myoclonic tremor with epilepsy in Chinese population: Clinical and neurophysiologic features in nine pedigrees from People's Republic of China
Z. Cen, C. Huang, H. Yin, F. Xie, X. Lu, Z. Ouyang, Y. Lou, X. Qiu, Z. Wang, J. Xiao, M. Ding, W. Luo (Hangzhou, People's Republic of China)
- 2069 A randomized clinical trial of atomoxetine treatment for mild cognitive impairment (MCI) in Parkinson's disease (PD)
V.K. Hinson, J. Elm, A. Delambo, T. Turner (Charleston, SC, USA)
- 2070 LSVT-BIG© case studies: A snapshot of observations
L.A. Dearle (Johannesburg, South Africa)
- 2071 Clinical benefits of vestibular rehabilitation in neurodegenerative diseases
B.S. Zeigelboim, G.B. Santos, H.A.G. Teive, M.I.R. Severiano, C.M. Porto (Curitiba, Brazil)
- 2072 Efficacy of 4845 botulinum toxin (BoNT) treatment cycles, and clinical strategies after a failed cycle
P. Tanvijit, A.P. Moore (Bangkok, Thailand)



Abstracts by Topic

- 2073 Neural plasticity and freezing of gait: Stepping through the FoG
B.W. Fling, M. Mancini, P. Carlson-Kuhta, L.A. King, K. Smulders, D.S. Peterson, N. Pal, J.G. Nutt, F.B. Horak (Portland, OR, USA)
- 2074 Effects of the biodex stability system training on balance, gait and fatigue in Parkinson's disease
G. Singh, R. Pahwa, K.E. Lyons, Y. Colgrove, N.K. Sharma (Troy, NY, USA)
- 2075 Efficiency of carotid endarterectomy in vascular parkinsonism in patients with stenotic carotid artery disease
M. Ataniyazov, G. Rakhimbaeva, K. Ataniyazova (Tashkent, Uzbekistan)
- 2076 A clinical trials 'charter' to improve communication about, recruitment to and retention in Parkinson's clinical trials
C. Carroll, I. Tom, M. Helen, S. Jon (Plymouth, United Kingdom)
- 2077 Changes of speech after neurostimulation for Parkinson's disease with early fluctuations: A 2-years randomized controlled trial (earlystim-speech)
S. Pinto, A. Nebel, R. Espesser, J. Rau, P. Maillolhon, O. Krack, K. Knudsen, A. Ghio, O. Niebuhr, Y. Agid, M. Schüpbach, G. Deuschl (Aix-en-Provence, France)
- 2078 Levodopa, placebo and rotigotine change biomarker levels for oxidative stress
S. Muhlack, M. Kinkel, L. Herrmann, L. Tönges, T. Müller (Bochum, Germany)
- 2079 Cognitive behavioural therapy and adjunctive physical therapy for functional movement disorders
R. Erro, M. Tinazzi, C. Dallochio (London, United Kingdom)
- 2080 Sensor-based motor state detection in Parkinson's disease to approach personalized therapy delivery
L.P. Roncoroni, M. Scholten, I. Hanci, A. Gharabagi, D. Weiss (Tübingen, Germany)
- 2081 Randomized controlled trial protocol: Balance training with rhythmical cues to improve and maintain balance control in Parkinson's disease
T.T.C. Capato, J. Tornai, V.F. Gianguiagi, R.R. Firmino, E.R. Barbosa, M.E. Piemonte (São Paulo, Brazil)
- 2082 Utilizing remote blood pressure monitoring in a phase III clinical drug trial for Parkinson's disease
J.L. Adams, R.A. Biemiller, K.L. Andrzejewski, S. Sharma, R.L. Rockhill, B.L. Greco, K.C. Hodgeman, P. Singh, S. Khanuja, T. Simuni, K.M. Biglan (Rochester, NY, USA)
- 2083 Therapeutic protocol for Parkinson's patient with freezing based on action observation plus sonification: Preliminary results
S. Mezzarobba, M. Grassi, M. Catalan, L. Pellegrini, R. Valentini, B. Krüger, P. Manganotti, P. Bernardis (Trieste, Italy)
- 2084 The effects of intensive speech treatment on intelligibility in Spanish dysarthria secondary to Parkinson's disease
G. Moya-Gale, E. Levy (New York, NY, USA)
- 2085 STEADY-PD III. A phase 3 study of isradipine as a disease modifying agent in patients with early Parkinson's disease. Baseline characteristics of the enrolled cohort
T. Simuni, K.M. Biglan, J. Lowell, K. Hodgeman, B. Greco, R. Rockhill, D. Oakes (Chicago, IL, USA)
- 2086 A crossover study of pretarsal and preseptal injections of botulinum toxin type A (BTX-A) in the treatment of hemifacial spasm and blepharospasm
A. Choolam, K. Kulkantrakorn, P. Lolekha (Pathumthani, Thailand)
- 2087 Effect of outside influences on the therapeutic benefits of botulinum toxin injections
D.C. Taylor, P.A. LeWitt, P. Kaminski (Royal Oak, MI, USA)
- 2088 Copper chelation efficacy of alginate/chitosan based D-penicillamine nanoparticles in rat model of non-Wilsonian brain copper toxicosis
A. Pal, B.R. Thapa, R.K. Vasishta, R. Prasad (Chandigarh, India)
- 2089 Classification and recommendation of nonpharmacological therapies for Parkinson's disease
T.T.C. Capato, C.H. Fen, E.R. Barbosa (São Paulo, Brazil)
- 2090 Multi-modal recruitment strategy leads to expeditious enrollment in STEADY-PD III
B.L. Greco, T. Simuni, J. Lowell, K.C. Hodgeman, S. Sharma, C.A. Marshall, J. Denmark, W. Galpern, J.L. Goudreau, C. Meunier, C. Sia, C.A. Thomas, D. Young, K.M. Biglan (Rochester, NY, USA)
- 2091 Transcranial versus root repeated magnetic stimulation as a treatment of psychogenic movement disorders
B. Garcin, C. Hubsch, L. Lliescu, L. Naccache, M. Vidailhet, E. Fournier, F. Mesrati, E. Roze, B. Degos (Paris, France)
- 2092 Global implementation of efficacious voice treatment for Parkinson's disease: LSVT LOUD: Germany®
T. Brauer, H. Penner, P. Benecke, C. Fox, L. Ramig (Mainz, Germany)
- 2093 Effect of right DLPFC-repetitive transcranial magnetic stimulation (rTMS) on tardive dyskinesia in patients with psychosis
S. Lavania, A. Patojoshi, A.H. Khan, S. Lavania (Agra, India)
- 2094 Combined stimulation of STN and SNr for resistant freezing of gait in Parkinson's disease (STN+SNr) – A multicenter randomized controlled trial
D. Weiss, G. Naros, C. Meisner, R. Krüger, A. Gharabagi (Tübingen, Germany)
- 2095 KINECT 3: A randomized, double-blind, placebo-controlled phase 3 trial of valbenazine (NBI-98854) for tardive dyskinesia
S.A. Factor, R.A. Hauser, S. Siegert, G.S. Liang, C.F. O'Brien (Atlanta, GA, USA)
- 2096 RE-024: Mechanism of action and efficacy in non-clinical models
M. Beconi, E. Monteagudo, A. Di Marco, S. Malancona, D. Elbaum, S. Harper (San Diego, CA, USA)
- 2097 Detailed evaluation of dyskinesias using multiple endpoints in a randomized, placebo-controlled trial of Parkinson's disease patients with motor fluctuations
C. Kenney, K. Kieburtz, W. Olanow, S. Bandak (San Francisco, CA, USA)
- 2098 Regional differences in the results of a phase 2b study of tozadenant in Parkinson's disease patients with motor fluctuations
C. Kenney, K. Kieburtz, W. Olanow, S. Bandak (San Francisco, CA, USA)
- 2099 Apraclonidine in the treatment of ptosis
S. Wijemanne, D. Vijayakumar, J. Jankovic (Houston, TX, USA)
- 2100 The systemic synuclein sampling study (S4)
D. Jennings, C. Coffey, T. Beach, T. Foroud, C.H. Adler, B. Mollenhauer, J. Seibyl, D. Ecklund, S. Lasch, V. Arnedo, C. Kopil (New Haven, CT, USA)
- 2101 Active movement discrimination of the ankle in Parkinson's disease
H.E. Teasdale, E.A. Preston, G. Waddington (Canberra, Australia)



Abstracts by Topic

- 2102 Applicability study of a multitask cognitive and motor exercise program for individuals with Parkinson's disease: The COGWEB CNS Move Program
J. Domingos, D. Peralta, R. Loureiro, C. Ribeiro, V.T. Cruz, J. Ferreira (Torres Vedras, Portugal)
- 2103 Systematic literature review of quetiapine for hallucinosis / psychosis in Parkinson's disease (PD)
K. Dashtipour, J.J. Chen, L. Massihi, S. Tashiro, K. Frei (Loma Linda, CA, USA)
- 2104 A double-blind randomized controlled trial of cognitive training for freezing of gait in Parkinson's disease
C.C. Walton, L. Mowszowski, J.M. Shine, M. Gilat, J.M. Hall, C. O'Callaghan, A.J. Muller, M. Georiades, J.Y.Y. Szeto, K.A. Ehgoetz Martens, S.L. Naismith, S.J.G. Lewis (Sydney, Australia)
- 2105 Development of a human neuroblastoma model of pantothenate kinase-associated neurodegeneration
A. Di Marco, G. Auciello, A. Vecchi, D. Vignone, M.R. Battista, E. Bracacel, F. Bonelli, E. Nizi, E. Monteagudo, M. Beconi (Pomezia, Italy)
- 2106 A healthy volunteer phase 1 study of RE-024, a potential phosphopantothenate replacement therapy for patients with pantothenate kinase-associated neurodegeneration (PKAN)
R.D. Marshall, A. Harring-Abbott, K. Lucey, K. Leach, M. Beconi, J. Hunt, H. Plotkin (San Diego, CA, USA)
- 2107 Significant improvement of adult-onset dystonia with cannabinoids-based oromucosal spray
M. Aguilar, S. Romero, L. Molina Porcel, P. Pastor (Terrassa, Spain)
- 2108 RE-024: A potential phosphopantothenate replacement therapy in 2 patients with pantothenate kinase-associated neurodegeneration (PKAN)
P. Roa, P. Stoeter, E. Perez, M. Santana (Santo Domingo, Dominican Republic)
- 2109 Are Parkinson's disease futility studies futile?
B.C. Tilley, J. Elm (Houston, TX, USA)
- 2110 Strategies to improve drug development efficiency through regulatory interactions, minimizing the placebo effect and improving data integrity within a phase 3 study of tozadenant in Parkinson's disease patients with motor fluctuations (TOZ-PD)
F. Kerwood, C. Kenney, K. Kieburz, W. Olanow, C. Resburg, J. Krishnaswami, S. Bandak (San Francisco, CA, USA)
- 2111 Risk factors for premature withdraw from the LS-1 PD study
J.Y. Fang, S. Luo, M. Huang, R.B. Dewey, R. Hauser, G. Chen (Nashville, TN, USA)



Late-Breaking Abstracts

- LBA 1 Young Onset Parkinson Disease – Analysis of data from the National Parkinson Foundation Quality Improvement Initiative
- LBA 2 The PD_manager European Parkinson Project: A pilot multicenter study using mHealth devices for symptom smart monitoring
- LBA 3 Phase IIb Study of Intranasal Glutathione in Parkinson's Disease
- LBA 4 High genetic load in early-onset Parkinson's disease
- LBA 5 Tau [18F]AV-1451 PET Uptake in Patients with Suspected 4-Repeat Tauopathy
- LBA 6 Progression of Parkinson's disease: 5 year follow-up
- LBA 7 Interim Results of a Long-term Open-label Safety Study of ADS-5102 (amantadine HCl) Extended-Release Capsules for Treatment of Levodopa-Induced Dyskinesia (LID) (EASE LID 2 Study)
- LBA 8 Survival and dementia in GBA-associated Parkinson Disease: the mutation matters.
- LBA 9 A Pilot Trial of Biphasic Pulses Deep Brain Stimulation for Dystonia: The BiP DBS Dystonia Study
- LBA 10 Launching the International Parkinson and Movement Disorder Society Genetic Mutation Database (MDSGene)
- LBA 11 DNA repair pathways as a common genetic mechanism modulating the age at onset in Huntington's disease and other polyglutamine diseases
- LBA 12 Using Gene Ontology to characterise key players in Parkinson's Disease.
- LBA 13 Early add-on rasagiline to ropinirole monotherapy in newly diagnosed patients with Parkinson's disease. Preliminary results of a prospective randomized single-blind delayed-start follow-up study
- LBA 14 A Minipig Model of Parkinson's Disease Induced by Proteasome Inhibition: A Multi-Tracer PET Imaging Study
- LBA 15 Predictors of outcome of STN-DBS in Parkinson's disease with early motor complications
- LBA 16 Predictors of cognitive impairment in Parkinson's disease – first report from Belgrade PD Study
- LBA 17 Direct autophagy inhibition induces dopaminergic deficits in the substantia nigra in rats.
- LBA 18 10-year follow-up of the German multicenter study on pallidal neurostimulation for generalized or segmental dystonia
- LBA 19 Early and Late Onset Parkinson's Disease: two different entities?
- LBA 20 Nicotinamide: A Key Player in the Developmental Origins of Parkinson's disease?
- LBA 21 DPI-289, a novel delta opioid agonist / mu opioid antagonist, has potential to provide an L-DOPA-sparing approach in Parkinson's disease.
- LBA 22 The Substantia Nigra 7 Tesla MRI in patients with REM Behaviour Disorder: new evidences supporting the link with neurodegenerative diseases.
- LBA 23 Assessment of tau pathology in patients with corticobasal syndrome using 18F-THK5351 PET
- LBA 24 Drug re-positioning for Parkinson's disease dementia
- LBA 25 Effects of Levodopa-Carbidopa Intestinal Gel on Non-Motor Symptoms and Safety of Outpatient Titration: a Phase 3 Study in Advanced Parkinson's Disease Patients
- LBA 26 ROBUST DOPAMINE GRAFT SURVIVAL AND EXTENSIVE DOPAMINERGIC INNERVATION DOES NOT OBLIGATE CLINICAL RECOVERY IN A PATIENT WITH PARKINSON'S DISEASE
- LBA 27 Baseline characteristics associated with therapeutic response to levodopa-carbidopa intestinal gel treatment for advanced Parkinson disease
- LBA 28 Treatment of restless legs syndrome in iron deficient non-anemic patients - a randomized, placebo-controlled trial using a single dose of iv ferric carboxymaltose
- LBA 29 Heart rate variability in LRRK2-associated Parkinson's Disease.
- LBA 30 A Single Ascending Dose Study of the Tau-Directed Monoclonal Antibody BMS-986168
- LBA 31 In vivo imaging of neuromelanin in Parkinson's disease using 18F-AV-1451 PET
- LBA 32 A Phase 2a study of standard administration versus semicontinuous intraoral administration of levodopa/carbidopa in patients with advanced Parkinson's disease
- LBA 33 PINK1 selectively accumulates at mitochondria-associated membranes during mitophagy and promotes ER-mitochondria tethering and autophagosome formation
- LBA 34 Study of subthalamic motor cortical connectivity and its application for deep brain stimulation.
- LBA 35 Skin sebum production is abnormal in Parkinson's disease- a potential biomarker?
- LBA 36 Tau pathology spreads into striatal allografts in Huntington's disease patients
- LBA 37 Alterations of diffusion kurtosis and neurite density indices in deep grey matter and white matter in Parkinson's disease
- LBA 38 Gait rather than cognition predicts cognitive decline in early Parkinson's disease
- LBA 39 Restless legs syndrome associated with functional movement disorders: a pilot study
- LBA 40 Family with mutation in the GIGYF2 (PARK11) gene with complex dystonia-parkinsonism phenotype
- LBA 41 Spinocerebellar Ataxias types 3 and 10 - Relation between the onset or worsening of the Ataxia with the gestational period and postpartum.
- LBA 42 Altered functional connectivity in patients with blepharospasm/Meige's syndrome
- LBA 43 Validation of a new ELISA for detection of a-Synuclein in cerebrospinal fluid
- LBA 44 Translational models of apathy: A novel paradigm assessing motivation in Huntington's disease patients and R6/1 Huntington's mice
- LBA 45 Striatal dopamine receptor and transporter alterations induced by accumulation of pathological alpha synuclein in a rat model of Parkinson's disease
- LBA 46 Effects of donepezil on the prognosis of Parkinson's disease with severe hyposmia - a multicenter randomized double-blind placebo-controlled trial (DASH-PD study)
- LBA 47 Exploratory analysis of the relationship between domain-specific cognitive impairments and regional cortical atrophy in Parkinson's disease
- LBA 48 Writer's cramp patients had normal rapid adaptation to rotation yet abnormal movement execution
- LBA 49 Surgical Coverage of the Putamen in Parkinson's disease with AAV2-AADC using MRI-Guided Convective Delivery.



Late-Breaking Abstracts

- LBA 50 Treadmill exercise improves motor deficits and regulates expression of striatal GLT-1 and AMPA receptor subunits in 6-OHDA-induced Parkinson's rats
- LBA 51 The regulating effects of A2AR/D2DR in the exercise intervention to PD basal ganglia dysfunction
- LBA 52 High expression of α -synuclein in damaged mitochondria with PLA2G6 dysfunction
- LBA 53 Improving postural stability in early Parkinson's disease by enhancing somatosensory integration through exercise
- LBA 54 18F-FDG PET Studies with freezing of gait in Parkinson's disease
- LBA 55 Promotion of mitochondrial biogenesis by necdin protects dopaminergic neurons in experimental Parkinson's diseased.
- LBA 56 Oro-facial symptoms in Parkinson's disease as predictor of disease progression: data from a longitudinal Swedish cohort
- LBA 57 Levodopa/carbidopa intestinal gel infusion effects on balance and gait
- LBA 58 Novel structural congeners of a known phosphodiesterase type-IV inhibitor against experimental Parkinson's disease

MDS Study Group Abstracts

- SG 1 Objectives of the MDS rare movement disorders study group
- SG 2 Magnetic Resonance imaging and pyramidal impairment in Huntington disease
- SG 3 Pan American Multiple System Atrophy (PANMSA) Consortium Database
- SG 4 Diffusion tensor imaging (DTI) within the primate caudate nucleus marks dopaminergic (DA) and serotonergic (5-HT) lesions
- SG 5 Cerebrospinal fluid biomarkers in Parkinson's disease and associated cognitive impairment
- SG 6 Cytokines in CSF and plasma as potential biomarkers for PD cognitive impairment
- SG 7 Altered connectivity within the cerebello-thalamo-cortical network in essential tremor: A resting state fMRI study
- SG 8 Diagnostic reliability of clinical symptoms in patients with incomplete manifestation of the triad of Parkinsonism compared to 18F-DOPA PET-CT MRI imaging
- SG 9 Cerebellar GABA-A receptor activity is inversely correlated with gait speed in Parkinson's disease
- SG 10 Anosmia predicts development of more severe motor symptoms including freezing of gait and impaired balance at 2 year follow-up in PD
- SG 11 Participation in cognitively-stimulating activities and computer use are associated with better cognitive performance in Parkinson's disease independent
- SG 12 Motor rigidity selectively associates with impaired odor identification in Parkinson's disease
- SG 13 Impaired color discrimination selectively associates with postural instability and gait difficulties in Parkinson's disease
- SG 14 Substantia nigra $\alpha 4\beta 2$ nicotinic cholinergic receptor expression correlates with tremor in Parkinson's disease
- SG 15 Motor-related brain changes associated with acute administration of trihexyphenidyl in patients with cervical dystonia
- SG 16 Withdrawn by Author
- SG 17 Mild cognitive impairment is linked with white matter degeneration in the cortico-subcortical tracts in patients with Parkinson's disease
- SG 18 Functional connectivity during resting state in Parkinson's disease patients with and without mild cognitive impairment
- SG 19 Visual vs. automated analysis of [123I]FP-CIT SPECT scans in patients with Parkinsonism
- SG 20 Long-term incidence of Parkinson's disease in rural areas of Finland
- SG 21 MRI-supported diagnosis of multiple system atrophy: Implications for clinical trials
- SG 22 Dorsolateral nigral hyperintensity on 3.0 tesla susceptibility-weighted imaging in idiopathic rapid eye movement sleep behaviour disorder
- SG 23 Effects of age and gender on brainstem MR-planimetry
- SG 24 The effect of STN-DBS on movement initiation control is modulated by the noradrenergic system: Evidence of an interaction from a combined
- SG 25 Functional connectivity underpinnings of fatigue in "drug-naïve"
- SG 26 PET Imaging of Tau Pathology in Progressive Supranuclear Palsy
- SG 27 The relationship between the cognitive phenotype and 5-HT_{2A} receptor in PD with visual hallucinations
- SG 28 Unilateral subthalamotomy in Parkinson's disease: cognitive and neuropsychiatric effects and correlation with lesion size
- SG 29 Brain mechanisms underlying visual processing in Parkinson's disease
- SG 30 Speech prosody impairment predicts cognitive decline in Parkinson's disease
- SG 31 Diffusion tensor imaging biomarkers of nigrostriatal neurodegeneration in early Parkinson's disease
- SG 32 A proposed Parkinson's disease Neuropsychological Battery (PNB)
- SG 33 Imaging correlates of hypodipsia in progressive supranuclear palsy
- SG 34 Correlation of clinical and pathological data in Progressive Supranuclear Palsy
- SG 35 MDS-Clinical Diagnostic Criteria for Progressive Supranuclear Palsy (PSP)



Corporate Therapeutic Symposia

These company-based information sessions will provide attendees with non-CME educational opportunities to learn the latest in therapeutics.

Sunday, June 19, 2016

Cynapsus

13:15-14:15

Location: Hall 7.2a Helsinki 1, Level 2

From OFF to ON – Treating Levodopa-Induced OFF Periods

Chairs: C. Warren Olanow
New York, NY, USA

Fabrizio Stocchi
Rome, Italy

Speakers: Anthony Schapira
London, United Kingdom

Karl Kiebertz
New York, NY, USA

C. Warren Olanow
New York, NY, USA

GE Healthcare

13:15-14:15

Location: Hall 7.2a Helsinki 1, Level 2

A Debate on Appropriate Clinical Scenarios for DaT SPECT Imaging

Chair: Stuart Isaacson
Boca Raton, FL, USA

Speakers: Britt Mollenhauer
Kassel, Germany

Angelo Antonini
Padua, Italy

Hubert Fernandez
Cleveland, OH, USA

Monday, June 20, 2016

Adamas

14:00-15:00

Location: Hall 7.2b Budapest, Level 2

Levodopa Induced Dyskinesias: Assessment, Management, and Potential Treatments

Chair: Rajesh Pahwa
Kansas City, MO, USA

Introduction and Program Goals; LID Overview: Risk Factors, Epidemiology, Terminology, and Current Management Strategies

Rajesh Pahwa
Kansas City, MO, USA

LID Burden: How Does It Impact the Patient and Caregiver?

Caroline Tanner
Sunnyvale, CA, USA

Dyskinesia Assessment in Clinical Trials: The UDysRS and Patient Home Diaries

Robert Hauser
Tampa, FL, USA

Zambon

14:00-15:00

Location: Hall A1, Level 1

Safinamide – A Dual Effect to Improve the Management of Motor and Non-Motor Symptoms in Parkinson's Disease

Chairs: Wolfgang Jost
Stuttgart, Germany

C. Warren Olanow
New York, NY, USA

Dual Dopaminergic/Glutamatergic Modulation in Parkinson's Disease

Michele Morari
Ferrara, Italy

Safinamide – A Unique Treatment Targeting Both Dopaminergic and Non-Dopaminergic Systems

Paulo Barone
Naples, Italy

Panel Discussion



Corporate Therapeutic Symposia

Monday, June 20, 2016, cont.

Britannia

14:00-15:00

Location: Hall A8, Level 1

How Can We Enhance Patient Outcomes With Current Therapies? Practical Approaches to Treatment Optimization in Parkinson's Disease

Chair: Claudia Trenkwalder
Kassel, Germany

Optimizing ON Time in Early Parkinson's Disease

Stuart Isaacson
Boca Raton, FL, USA

The Importance of Patient Selection and Monitoring with Continuous Dopaminergic Therapy

Georg Ebersbach
Beelitz-Heilstatten, Germany

Tuesday, June 21, 2016

Ipsen

14:00-15:00

Location: Hall 7.2b Budapest, Level 2

Cervical Dystonia Management with BoNT-A: Towards an Optimized Approach

Chair: David M. Simpson
New York, NY, USA

American Academy of Neurology Evidence Based Guidelines 2016 Update

David M. Simpson
New York, NY, USA

New Approaches to Differentiate and Treat Cervical Dystonia

Wolfgang Jost
Freiburg, Germany

Simplifying Injection Parameters for Botulinum Toxin in Cervical Dystonia: A Personal Experience

Marion Simonetta-Moreau
Toulouse, France

Tuesday, June 21, 2016, cont.

AbbVie

14:00-15:00

Location: Hall A1, Level 1

Empowering Patients for Clinical Decision-Making in Advanced Parkinson's Disease

Chair: Werner Poewe
Innsbruck, Austria

Considering Timing of Device-Aided Therapies - Having Patients' Quality of Life in Mind

Angelo Antonini
Venice, Italy

The Spectrum of Patients for Device-Aided Therapies - Clinical Data and Practical Considerations

K. Ray Chaudhuri
London, United Kingdom

When and How to Educate Patients on Device-Aided Therapies - The Art of Making Informed Decisions

Alexander Storch
Rostock, Germany

ACADIA Pharmaceuticals

14:00-15:00

Location: Hall A8, Level 1

Treating the Hallucinations and Delusions Associated With Parkinson's Disease Psychosis

Daniel E. Kremens
Philadelphia, PA, USA

Rajesh Pahwa, MD
Kansas City, MO, USA

Due to the German Medicinal Products Act, attendance to this session is limited to delegates from the United States.



Corporate Therapeutic Symposia

Wednesday, June 22, 2016

Bial

13:30-14:30

Location: Hall 7.2b Budapest, Level 2

Are We Fulfilling the Needs of Patients with Motor Fluctuations? The Role of COMT Inhibition

Chair: Joaquim Ferreira
Lisbon, Portugal

Levodopa Motor Fluctuations and Current Treatment Strategies

Eduardo Tolosa
Barcelona, Spain

COMT Inhibition: Strengths and Weaknesses

Fabrizio Stocchi
Rome, Italy

Developments in COMT Inhibitors

Olivier Rascol
Toulouse, France

Medtronic

13:30-14:30

Location: Hall A1, Level 1

Who Wants to be a DBS Master – Three DBS Experts Sharing Their Knowledge From Diagnosis to Follow Up Through a Quiz Show That Asks the Audience for Help

Chair/
Players: Bastiaan Bloem
Nijmegen, Netherlands

Lars Timmermann
Cologne, Germany

Stephan Chabardes
Grenoble, France

Wednesday, June 22, 2016, cont.

Acorda Therapeutics

13:30-14:30

Location: Hall A8, Level 1

The Many Faces of OFF

Chair: Matthew Stern
Philadelphia, PA, USA

The Many Faces of OFF

Anthony Lang
Toronto, ON, Canada

Primary Causes of Motor Fluctuations in PD

Peter LeWitt
Detroit, MI, USA

Emerging Levodopa Strategies to Address Motor Fluctuations

Robert Hauser
Tampa, FL, USA

Thursday, June 23, 2016

Teva Pharmaceuticals

13:30-14:30

Location: Hall A1, Level 1

Emerging Therapies and Technologies in Movement Disorders

Chair: Bernhard Landwehrmeyer
Ulm, Germany

Digital Health Technology

Ralf Reilmann
Münster, Germany

Dueteration Technology: SD-809 in Tourette's Syndrome

Joseph Jankovic
Houston, Texas

Dueteration Technology: SD-809 in Tardive Dyskinesia

Hubert Fernandez
Cleveland, OH, USA



Exhibitor Information

Exhibit Hall

Location: Hall B, Level 2

Please allow adequate time in your daily schedule to visit the Exhibit Hall. The exhibition is an integral component of your International Congress experience, offering you the opportunity to speak with representatives of companies providing services or marketing products directly related to Movement Disorders.

Exhibit Hall hours are as follows:

Sunday, June 19	20:00 - 21:30 (immediately following the Welcome Ceremony)
Monday, June 20	9:00 – 17:00
Tuesday, June 21	9:00 – 17:00
Wednesday, June 22	9:00 – 17:00
Thursday, June 23	9:00 – 16:00

Exhibitor Registration

Location: Entrance Lobby Messedamm

Exhibitors must register and pick up their badge at the Exhibitor Registration Desk.

Exhibitor Registration Desk hours are as follows:

Saturday, June 18:	16:00 – 20:00
Sunday, June 19:	7:00 – 20:00
Monday, June 20:	7:00 – 18:00
Tuesday, June 21:	7:00 – 18:00
Wednesday, June 22:	7:00 – 18:00
Thursday, June 23:	7:00 – 16:00

Exhibitor Badge Policy

Admission to the Exhibit Hall will be by name badge only. Security guards will monitor Exhibit Hall entrances for proper identification. Exhibit stand personnel must show an official MDS exhibitor name badge in order to gain access to the Exhibit Hall during installation, show, or dismantlement hours.

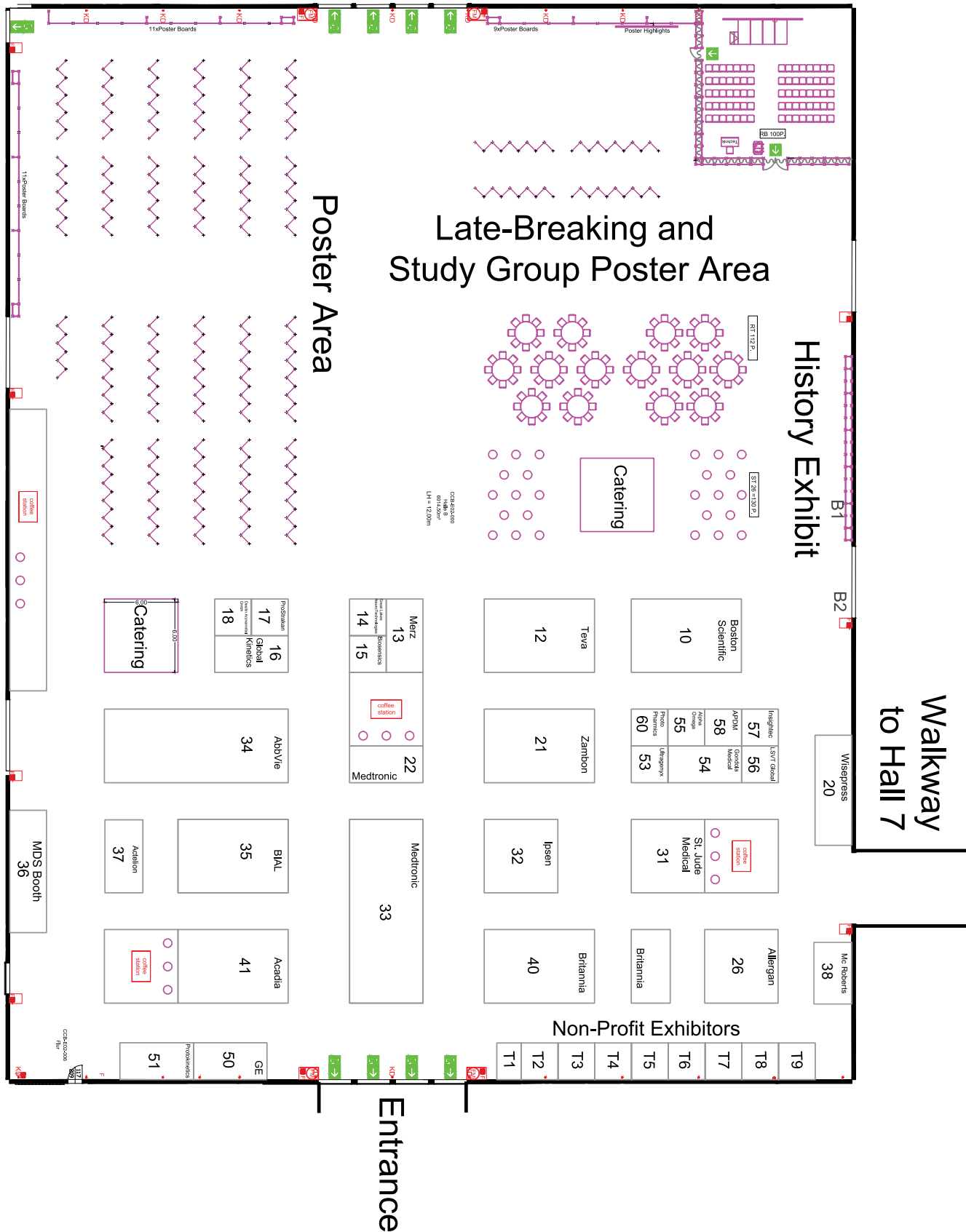
Exhibitor Personnel Badge (Yellow): Allows admittance to the Exhibit Hall only.

Endorsement Disclaimer

Products and services displayed in the Exhibit Hall or advertised in the program occur by contractual business arrangements between MDS and participating companies and organizations. These arrangements do not constitute nor imply an endorsement by MDS of these products and services.



Exhibit and Poster Hall Floor Plan





Exhibitor Directory

ABBVIE

1 North Waukegan Road
North Chicago, IL 60064
USA
Telephone: +1 800-255-5162
Website: www.abbvie.com

Booth #: 23

AbbVie is a global, research-based biopharmaceutical company formed in 2013 following separation from Abbott Laboratories. The company's mission is to use its expertise, dedicated people and unique approach to innovation to develop and market advanced therapies that address some of the world's most complex and serious diseases. Together with its wholly-owned subsidiary, Pharmacyclics, AbbVie employs more than 28,000 people worldwide and markets medicines in more than 170 countries. For further information on the company and its people, portfolio and commitments, please visit www.abbvie.com. Follow @abbvie on Twitter or view careers on our Facebook or LinkedIn page.

ACADIA PHARMACEUTICALS

3611 Valley Centre Drive, Suite 300
San Diego, CA 92130
USA
Telephone: +1 858-558-2871
Website: www.acadia-pharm.com

Booth #: 41

ACADIA Pharmaceuticals is a biopharmaceutical company focused on the development and commercialization of innovative medicines to address unmet medical needs in neurological and related central nervous system disorders.

ALLERGAN, INC.

2525 Dupont Drive
Irvine, CA 92612
USA
Telephone: +1 714-246-4500
Fax: +1 714-246-4971
Website: www.allergan.com

Booth #: 26

Allergan plc, headquartered in Dublin, Ireland, is a unique, global pharmaceutical company and a leader in a new industry model – Growth Pharma. Allergan is focused on developing, manufacturing and commercialising innovative branded pharmaceuticals, high-quality generic and over-the-counter medicines and biologic products for patients around the world.

Allergan markets a portfolio of best-in-class products that provide valuable treatments for the central nervous system, eye care, medical aesthetics, gastroenterology, women's health, urology, cardiovascular and anti-infective therapeutic categories, and operates the world's third-largest global generics business, providing patients around the globe with increased access to affordable, high-quality medicines.

APDM, INC.

2828 SW Corbett Avenue, Suite 135
Portland, OR 97201
USA
Telephone: 971-506-8166
Website: www.apdm.com

Booth #: 58

APDM produces a wearable technology for gait and balance assessment in the clinic and at home. The system has been validated in over 200 studies to date.

BIAL GROUP

À Av. da Siderurgia Nacional
4745-457 Coronado
Portugal
Telephone
website: www.bial.com

Booth #: 34

BIAL is an innovative international pharmaceutical company with products available in more than 50 countries. Founded in 1924, BIAL's mission is to discover, develop and provide new therapeutic solutions within the area of Health. Strongly committed to therapeutic innovation, BIAL's R&D program is centered on the central nervous and cardiovascular systems.

BIOSENSICS, LLC

678 Massachusetts Avenue, Suite 904
Cambridge, MA 02139
USA
Telephone: +1-888-589-6213
Website: www.biosensics.com

Booth #: 15

BioSensics will be exhibiting wireless wearable sensors for physical activity, gait, and balance assessment, including multi-sensor solutions for long-term remote monitoring of whole-body movements. BioSensics also offers data management and customized analysis services in support of clinical trials involving wearable movement sensors.

BOSTON SCIENTIFIC

25155 Rye Canyon Loop
Valencia, CA 91355
USA
Telephone: +1 661-949-4000
Website: www.vercise.com

Booth #: 11

Boston Scientific is a worldwide developer, manufacturer and marketer of medical devices whose products are used in a broad range of interventional medical specialties. As an innovation leader in Neuromodulation and implantable Deep Brain Stimulation Technology, Boston Scientific is committed to transforming lives through innovative medical solutions that improve the health of patients.



Exhibitor Directory

BRITANNIA PHARMACEUTICALS LIMITED

200 Longwater Avenue
Green Park, Reading RG2 6GP
United Kingdom
Telephone: +44 011 892 15900
Website: www.britannia-pharm.com
www.apo-go.com

Booth #: 40

Britannia Pharmaceuticals Limited is a UK based pharmaceutical company specializing in niche innovative products for chronic and serious medical conditions, and in particular, the treatment of patients with Parkinson's disease. The need for apomorphine as a treatment option for Parkinson's disease has led to the development of APO-go and other associated brands around the globe, which are available in many countries through our Distribution or Licensing Partners.

CURE PSP ORG

261 Madison Avenue
9th Floor
New York, New York 10016
USA
Telephone: +1-800-457-4777
Website: www.psp.org

Table #: 12

Cure PSP is the leading non-profit organization providing awareness, education, care and cure for the devastating prime of life neurodegenerative diseases that include PSP and CBD. We have developed our unique and powerful Patient Engagement Program (PGP) to provide a unique service to the Pharmaceutical Industry within drug development

DESITIN ARZNEIMITTEL GMBH

Weg beim Jaeger 214
Hamburg 22335
Germany
Telephone: +49 40 59101 299
Website: www.desitinpharma.com/portal

Booth #: 18

DESITIN ARZNEIMITTEL GMBH is a medium-sized specialty pharmaceutical company headquartered in Hamburg. Its success in CNS concentrates on the therapeutic areas of epilepsy and Parkinson's disease. 300 employees develop, produce and sell their pharmaceuticals to the German market and selected other European countries.

DYSTONIA EUROPE

Square de Meeus 37 – 4th Floor
1000 Brussels
Belgium
Telephone: +46 739 98 49 61
Website: www.dystonia-europe.org

Booth #: 33

By connecting people across Europe, Dystonia Europe (DE) aims to raise awareness, spread information, support lobbying, and promote education and research within the field of dystonia. To achieve this DE works in partnership with all stakeholders, including patient advocacy groups, clinicians and researchers, healthcare professionals, and the pharmaceutical and medical device industry.

DYSTONIA MEDICAL RESEARCH FOUNDATION

One East Wacker Drive, Suite 2810
Chicago, IL 60601
USA
Telephone: +1-312-447-5150
Website: www.dystonia-foundation.org

Table #: 13

The Dystonia Medical Research Foundation is a 501(c)(3) non-profit organization dedicated to advancing research for improved dystonia treatments and ultimately a cure, promoting awareness, and supporting the well-being of affected individuals and families

EUROPEAN HUNTINGTON'S DISEASE NETWORK

Ulm University Hospital, Dept. of Neurology
Oberer Eselsberg 45/1
89081 Ulm
Germany
Telephone: +43-664-5441307
Website: www.euro-hd.net/html/network

Table #: 20

The European Huntington's Disease Network (EHDN) is a non-profit organization devoted to HD research and care involving professionals and people affected by HD. Approximately 160 centres in 18 European countries facilitate high standard clinical naturalistic and interventional trials, helping on the road towards a cure for HD



Exhibitor Directory

EUROPEAN PARKINSON'S DISEASE ASSOCIATION

1 Cobden Road, Sevenoaks,
Kent, TN13 3UB
United Kingdom
Telephone: +44 1273 857280
Website: www.epda.eu.com

Booth #: 33

The EPDA is the only European Parkinson's disease umbrella association. We represent national Parkinson's associations in nearly 30 countries across Europe and advocate for the rights and needs of more than 1.2 million people with Parkinson's and their families. Our vision is to enable all people with Parkinson's to live a full life. Our mission is to become the leading voice for Parkinson's in Europe by providing innovative leadership, information and resources to all Parkinson's stakeholders.

GE HEALTHCARE

35c Campus Drive, 5th Floor
Marlborough, MA 01752
USA
Telephone: +1 508-683-2368
Website: www.gehealthcare.com

Booth #: 50

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE (NYSE: GE) works on things that matter - great people and technologies taking on tough challenges. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

GLOBAL KINETICS CORPORATION

Level 15, 440 Collins Street
Melbourne, VIC 3000
Australia
Telephone: +61 428 051 052
Website: www.globalkineticscorporation.com

Booth #: 16

Global Kinetics Corporation is committed to improving the lives of those with Parkinson's disease and other movement disorders with advanced medical technologies. Its lead product, the Parkinson's KinetiGraph™ (PKG™), has been developed by neurologists at the world-renowned Florey Institute of Neuroscience in Australia, to enable the precise monitoring, quantification and reporting of movement symptoms of neurological diseases.

GLUT 1 DEFICIENCY FOUNDATION

PO Box 943
Westfield, IN 46074
USA
Telephone: +1-859-585-2538
Website: www.g1dfoundation.org

Table #: 14

The Glut1 Deficiency Foundation is a volunteer, nonprofit family organization dedicated to increasing awareness of and advocacy for Glut1 Deficiency, educating others, and funding researchers as they work for better understanding, better treatments, and an ultimate cure.

GONDOLA MEDICAL TECHNOLOGIES SA

Vicolo Nassetta 2
Lugano, 6900
Switzerland
Telephone: +41 91 9213838
Website: www.gondola-parkinson.com

Booth #: 54

Treat Freezing of Gait, impaired walking and poor balance due to Parkinson's Disease with the GONDOLA™ medical device. GONDOLA™ gives a noninvasive, fast (2 minutes), add-on treatment which benefits last 3 to 5 days on average. Regular use of the device twice a week allows to maintain benefits over time.

GREAT LAKES NEUROTECHNOLOGIES

10055 Sweet Valley Drive
Valley View, OH 44125
USA
Telephone: +1 216-361-5410
Fax: +1 216-361-5420
Website: www.GLNeuroTech.com

Booth #: 14

Kinesia technology provides continuous Parkinson's monitoring for in-clinic and home applications. Intelligent remote sensing technology increases sensitivity and reliability of outcome measures for pharmaceutical trials, DBS measurement, and patient care. Kinesia is validated in over 60 publications and is successfully used in pharmaceutical and medical device trials around the globe.

HUNTINGTON STUDY GROUP

919 Winton Road S, Ste 212
Rochester, NY 14618
USA
Telephone: +1-800-487-7671
Website: huntingtonstudygroup.org

Table #: 19

The Huntington Study Group (HSG) is an organization of compassionate professionals dedicated to finding treatments that make a difference for Huntington disease (HD) and improving the quality of life and outcomes for HD families



Exhibitor Directory

INSIGHTEC

Nachum Chet 5 Street
Haifa 39120
Israel
Telephone: +972 4 8131380
Website: www.insightec.com

Booth #: 57

INSIGHTEC is the global leader in MR-guided Focused Ultrasound (MRgFUS) and developer of the ExAblate therapeutic platform. The first company to successfully focus ultrasound through the cranium, INSIGHTEC offers a noninvasive treatment option for the treatment of essential tremor, Parkinson's tremor and neuropathic pain and has CE mark for these treatments. The ExAblate Neuro is presently an Investigational Device undergoing FDA clinical evaluation in the US. INSIGHTEC is actively pursuing research and development to expand the applications for its technology with a goal of becoming a non-invasive standard of care in medicine.

IPSEN

65 Quai Georges Gorse
Boulogne Billancourt 92100
France
Telephone: +33 1 58 33 5000
Website: www.ipsen.com/en/

Booth #: 32

Ipsen is a global specialty-driven biotechnological group with total sales exceeding €1.2 billion in 2014. Ipsen sells more than 20 drugs in more than 115 countries, with a direct commercial presence in 30 countries. Ipsen's ambition is to become a leader in specialty healthcare solutions for targeted debilitating diseases. Its development strategy is supported by 3 franchises: neurology, endocrinology and urology-oncology. Ipsen's R&D is focused on its innovative and differentiated technological platforms, peptides and toxins, located in the heart of the leading biotechnological and life sciences hubs (Les Ulis, France; Slough/Oxford, UK; Cambridge, US).

In 2014, R&D expenditure totaled close to €187 million, representing about 15% of Group sales. The Group has more than 4,500 employees worldwide.

LSVT GLOBAL

3323 N. Campbell Avenue, Suite 5
Tuscon, AZ 85719
USA
Telephone: +1-520-445-4398

Booth #: 56

LSVT Global trains speech, physical and occupational therapists in the evidence-based treatments, LSVT LOUD and LSVT BIG to restore communication and movement in people with Parkinson disease. LSVT Global has trained over 20,000 clinicians from 69 countries and offers free webinars, symposiums and exercise support tools to patients globally.

MEDTRONIC

710 Medtronic Parkway
Minneapolis, MN 55432-5604
USA
Telephone: +1 763-514-4000
Website: www.professional.medtronic.com

Booth #: 33

As a global leader in medical technology, services and solutions, Medtronic improves the health and lives of millions of people each year. We believe our deep clinical, therapeutic and economic expertise can help address the complex challenges – such as rising costs, aging populations and the burden of chronic disease – faced by families and healthcare systems today. But no one can do it alone. That's why we're committed to partnering in new ways and developing powerful solutions that deliver better patient outcomes.

Founded in 1949 as a medical repair company, we're now among the world's largest medical technology, services and solutions companies, employing more than 85,000 people worldwide, serving physicians, hospitals and patients in nearly 160 countries. Join us in our commitment to take healthcare Further, Together. Learn more at Medtronic.com.

MERZ PHARMA GROUP

Eckenheimer Landstrasse 100
D-60318 Frankfurt
Germany
Telephone: +49 69 15030
Fax: +49 69 1503200
Website: www.merz.com

Booth #: 13

Merz is a privately held pharmaceutical company based in Frankfurt/Germany and active in research, development and distribution of innovative products in the areas of aesthetic medicine, dermatology and neurologically induced movement disorders. Merz developed Xeomin®, the first botulinum toxin free of complex proteins.

MULTIPLE SYSTEM ATROPHY COALITION

9935-D Rea Road, #212
Charlotte, NC 28277
USA
Telephone: +1 866-737-4999
Website: www.multiplesystematrophy.org

Table #: 15

The MSA Coalition is dedicated to supporting patients and educating healthcare professionals about Multiple System Atrophy. Educational pamphlets and DVDs available.



Exhibitor Directory

NATIONAL SPASMODIC TORTICOLLIS ASSOCIATION

9920 Talbert Avenue
Fountain Valley, CA 92708
USA
Telephone: +1 714-378-9837
Website: www.torticollis.org

Table #: 16

The NSTA is a non-profit supporting the needs and well-being of individuals and families affected by spasmodic torticollis /cervical dystonia.

PHOTOPHARMICS, INC.

6222 West 10480 North
Highland, UT 84003
USA
Telephone: +1 801-494-7804
Fax: +1 801-609-7055
Website: www.photopharmics.com

Booth #: 60

PhotoPharmics develops medical lighting for Parkinson's disease patients. Summer 2016, PPI concludes a pivotal investigation, demonstrating safety and efficacy of specialized phototherapy for PD. The study, a randomized double-blind, parallel design of 7½ months (two-week baseline assessment, six-month treatment, and one-month follow-up), was conducted at Amsterdam, Boston, and Salt Lake City.

PROSTRAKAN PHARMA GMBH

Monschauer Str. 1,
D-40549
Dusseldorf
Germany
Telephone: +49 211 / 416 119 18
Website: www.prostrakan.com

Booth #: 17

ProStrakan is a rapidly growing specialty pharmaceutical company engaged in the development and commercialisation of prescription medicines for the treatment of unmet therapeutic needs in major markets.

ProStrakan is a subsidiary of Kyowa Hakko Kirin Co. Ltd., the Japan-based global specialty pharmaceutical company.

PROTOKINETICS

60 Garlor Drive
Havertown, PA 19083
USA
Telephone: +1 610-449-4879
Fax: +1 610-853-2925
Website: www.protokinetics.com

Booth #: 51

The Zeno Electronic Walkway (Zenometrics) powered by PKMAS software (ProtoKinetics) has become the most popular "gait mat" technology in the world. No other equipment has this versatility... capture balance, walking, turning, TUG, sit to stand, etc. Contact us at ProtoKinetics.com to experience best in class customer service and market knowledge.

ST. JUDE MEDICAL

6300 Bee Cave Rd Bldg 2 Ste 100
Austin, TX 78746
USA
Telephone: +1 512-286-4050
Website: www.sjm.com

Booth #: 31

St. Jude Medical develops medical technology designed to put more control into the hands of those who treat cardiac, neurological and chronic pain patients worldwide. The company is dedicated to advancing the practice of medicine by reducing risk wherever possible and contributing to successful patient outcomes. Learn more at sjmprofessional.com.

TEVA CNS

41 Moores Road
Frazer, PA 19355
USA
Telephone: +1 800-221-4026
Website: www.tevausa.com

Booth #: 12

Teva CNS invites you to visit booth #401 in the MDS exhibit hall to discuss our dedication to supporting and improving the lives of individuals with neurological disorders.



Exhibitor Directory

THE MICHAEL J. FOX FOUNDATION FOR PARKINSON'S RESEARCH

Grand Central Station, P.O. Box 4777
New York, NY 10163
USA
Telephone: +1 212-509-0995
Fax: +1 212-509-1107
Website: www.michaeljfox.org

Table #: 17

The Michael J Fox Foundation aims to accelerate Parkinson's research toward improved therapies and a cure through an aggressively funded, highly targeted research program coupled with global collaboration of Parkinson's community stakeholders. Connect with staff movement disorder specialists to discuss the latest research, funding opportunities and our new physician offerings.

WORLD PARKINSON COALITION

1359 Broadway, Suite 1509
New York, NY 10018
USA
Telephone: +1 212-923-4700
Fax: +1 212-923-4778
Website : www.worldpdcoalition.org

Table #: 18

The 4th World Parkinson Congress will take place from September 20 – 23, 2016 in Portland, OR, USA. By bringing some of the world's most respected movement disorder specialists, neuroscientists, nurses, rehab specialists together with people with Parkinson's and care partners, WPC 2016 will provide a vibrant international forum to learn about the latest scientific discoveries, medical practices, and care initiatives for PD. Visit www.WPC2016.org for more information.

ULTRAGENYX

60 Leveroni Court
Novato, CA 94949
USA
Telephone: +1-415-483-8800
Fax: +1-415-483-8810
Website: www.ultragenyx.com

Booth #: 53

Ultragenyx is a clinical-stage biopharmaceutical company committed to bringing to market novel products for the treatment of rare and ultra-rare diseases, with a focus on serious, debilitating genetic diseases.

WISEPRESS MEDICAL BOOKSHOP

Wisepress Medical Bookshop
25 High Path
Merton Abbey
London
SW19 2JL
United Kingdom
Phone: +44 20 8715 1812
Fax: +44 20 8715 1722
www.wisepress.com

Booth #: 20

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ZAMBON SPA

Via Lillo del Duca 10
Bresso (Milan) 20091
Italy
Telephone: +39 02 6652401
Website: www.zambongroup.com
www.zambonpharma.com

Booth #: 21

Zambon is a leading Italian pharmaceutical and fine-chemical multinational company. Zambon is well-established in 3 areas: respiratory, pain, woman care; it is also strongly committed in CNS area with Xadago® (safinamide) for PD. Zambon is headquartered in Milan and was established in 1906 in Vicenza. Zambon is present in 15 countries.



Education Grant Supporters

MDS acknowledges the supporters of the following 20th International Congress activities through unrestricted educational grants:

Plenary session 1101:

Update on the Treatment of Parkinson's Disease, supported by UCB

Plenary Session 2102:

Stratifying Parkinson's Disease(s): Implications for Diagnosis and Treatment, supported by Boston Scientific and UCB

Teaching Course 2310:

Surgical Management of Movement Disorders, supported by Medtronic

Video Session 2518:

How to Examine: A Clinical Perspective – Bedside Examination, supported by Roche

Parallel Session 3208:

Late-Breaking Advances in Clinical, Basic and Translational Science, supported by UCB

Parallel Session 3211:

Wearable Sensors, Mobile Applications and Big Data Analytics in Movement Disorders, supported by Adamas Pharmaceuticals and UCB

Skills Session 3414:

Optimizing the Management of the DBS Patient, supported by Medtronic

Video Session 3516:

Unusual Movement Disorders, supported by Roche

Video Session 3518:

Diagnosis and Treatment of Functional Movement Disorders, supported by Roche

Plenary Session 4101:

Novel Technologies for Medical Decision Support: The Dawn of Stratified and Digitalized Medicine in Parkinson's Disease, supported by Medtronic

Parallel Session 4203:

The Clinical Spectrum of Synucleinopathies and Tauopathies, supported by UCB

Video Session 4517:

Drug-Induced Movement Disorders, supported by Roche

Video Session 4518:

Update on Paroxysmal Movement Disorders / Fluctuating Movement Disorders, supported by Roche

Plenary Session 5102:

Controversies in Movement Disorders, supported by UCB

The overall education program has been supported by an unrestricted medical education grant from Pfizer, Inc.



Acknowledgements

The International Congress Oversight Committee of the 20th International Congress of Parkinson's Disease and Movement Disorders wishes to acknowledge and thank the following companies for their support:

Platinum-Plus Level

Platinum Level

GE Healthcare



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Above companies are confirmed as of April 8, 2016.

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BOOTH #41

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FP Pharmaceutical Corp. is pleased to be a supporter of the 20th International Congress of Parkinson's Disease and Movement Disorders.

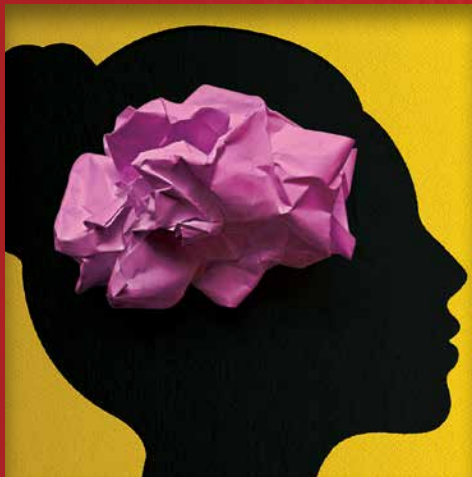
BERLIN, GERMANY
June 19 - 23, 2016

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FP Pharmaceutical Corp.

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580-0011 JAPAN



CurePSP is the leading nonprofit foundation focused on prime of life neurodegenerative diseases. These diseases often strike people during their productive, active years and progress rapidly with debilitating symptoms. Characterized by gradual personality, behavior, language and motor decline, these diseases currently have no treatment and no cure. But there is hope.

CurePSP is committed to funding research into these diseases, providing a gateway to understanding and ultimately preventing, treating and curing prime of life brain diseases. Discover the latest CurePSP research initiatives at the 2016 International Research Symposium, Jersey City, New Jersey, October 27 - 28, 2016. For more information about the Research Symposium and the CurePSP Grants Program, visit www.curepsp.org.

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OF OFF

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DR. MATT STERN

with

DR. ANTHONY LANG
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DR. ROBERT HAUSER

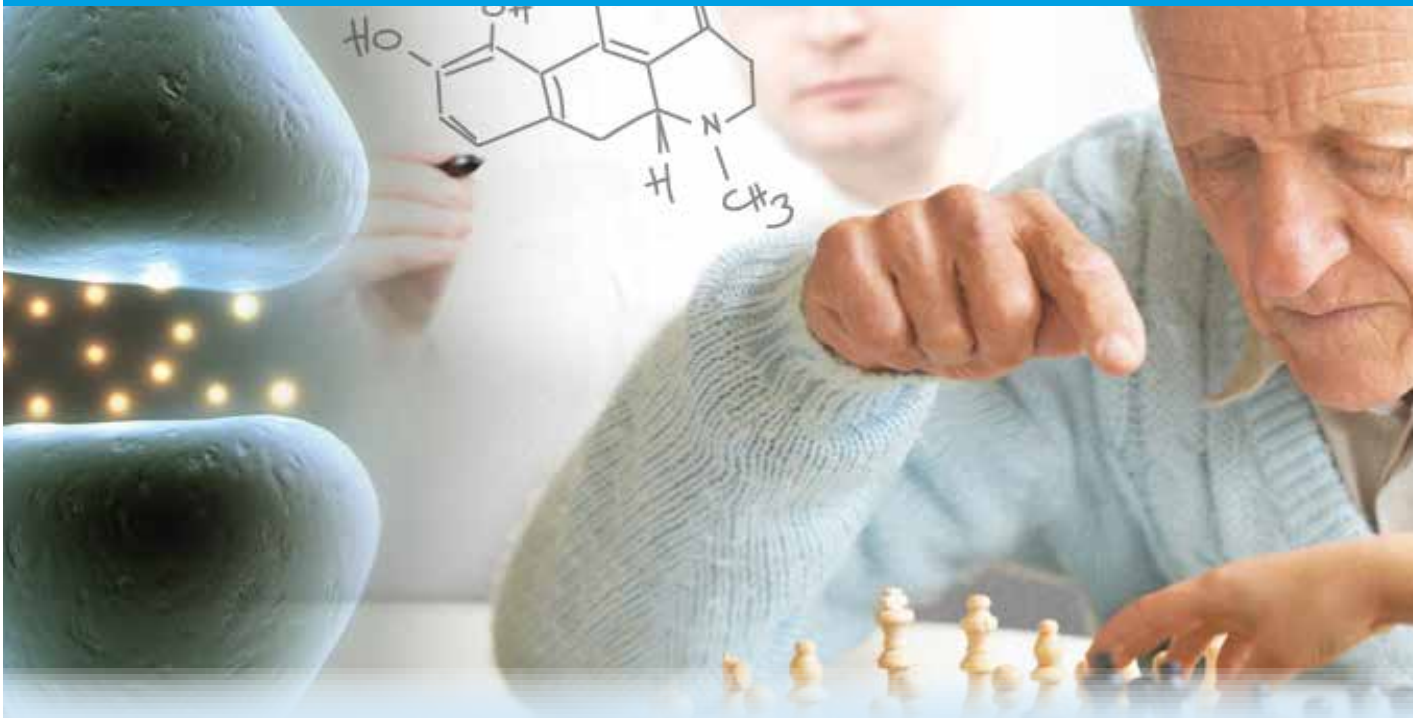
Explore the many challenges of OFF
and the impact it has on your patients.

Wednesday, June 22, 2016 • 1:30PM–2:30PM
Hall A8



Acorda Therapeutics: Our mission is to develop therapies that restore function and improve the lives of people with neurological disorders.

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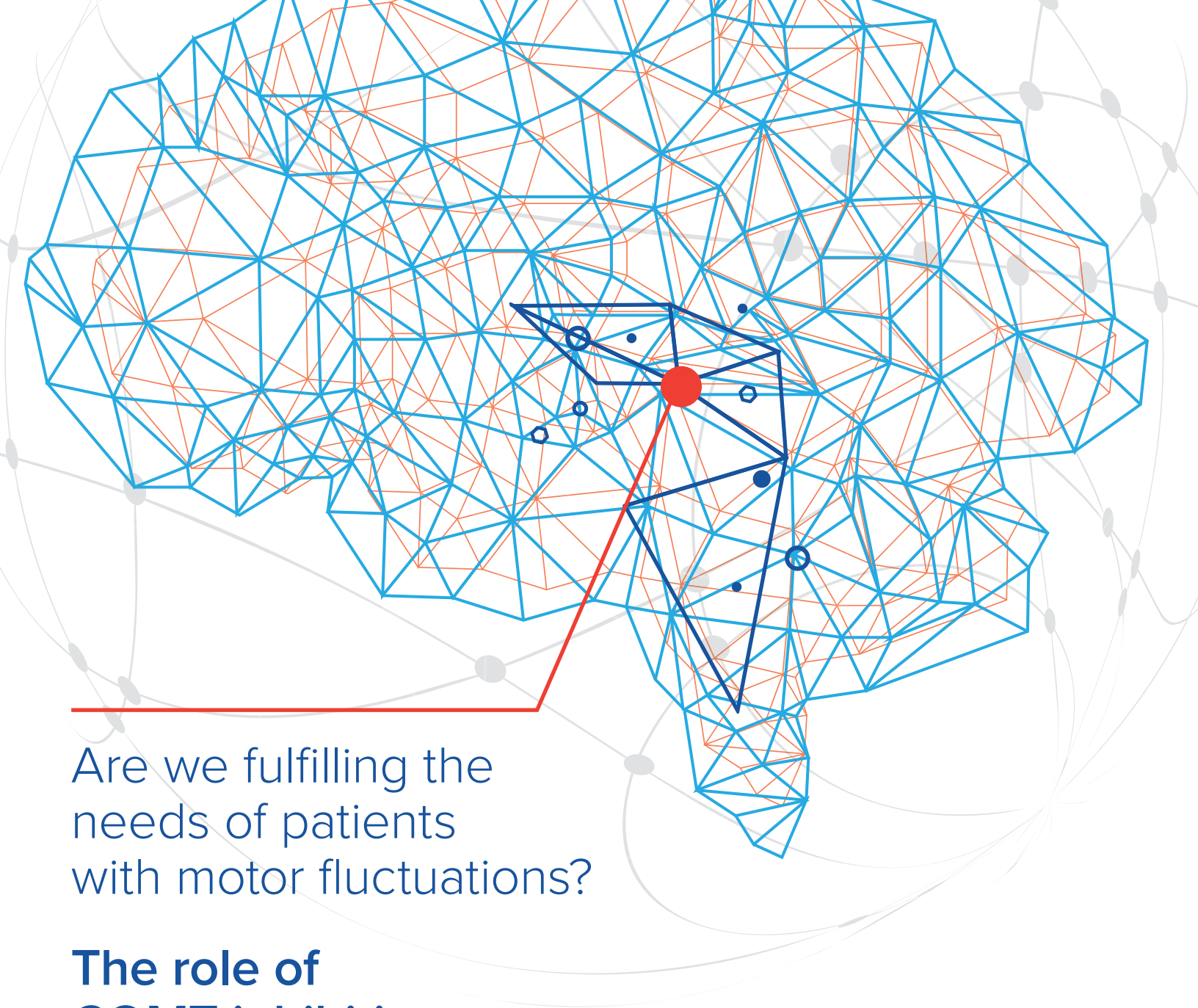


***Cynapsus is proud to be a Platinum Sponsor of the
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Cynapsus is a specialty pharmaceutical company that is focused on the clinical and regulatory development of a sublingual apomorphine film strip (APL-130277).

Cynapsus' drug candidate, APL-130277, is a sublingual form of apomorphine that is currently enrolling patients in Phase III clinical studies (clinicaltrials.gov: NCT02469090 and NCT02542696).

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Wednesday, June 22, 2016

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Budapest Hall, City Cube Berlin and Hall 7

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International Parkinson and
Movement Disorder Society
Pan American Section

SAVE THE DATE

1st Pan American Parkinson's Disease and Movement Disorders Congress

FEBRUARY 24-26, 2017 MIAMI, FLORIDA, USA

IMPORTANT DATES

August 1, 2016: Registration Opens

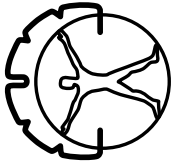
August 1, 2016: Housing Opens

September 1, 2016: Abstract Submission Closes

January 24, 2017: Final Pre-Registration Deadline



www.pascongress2017.org



International Parkinson and
Movement Disorder Society

Certifies that

has attended the International Parkinson and Movement Disorder Society's
20th International Congress of Parkinson's Disease and Movement Disorders on
June 19-23, 2016 in Berlin, Germany

Oscar Gershanik
President,
International Parkinson and Movement Disorder
Society
2015-2017

Christine Klein
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Congress Scientific Program Committee
2015-2017

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Co-Chair,
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VISUALIZATION IS THE LANGUAGE WE SPEAK TO PROVIDE MORE ACCURATE MEDTRONIC DBS* THERAPY



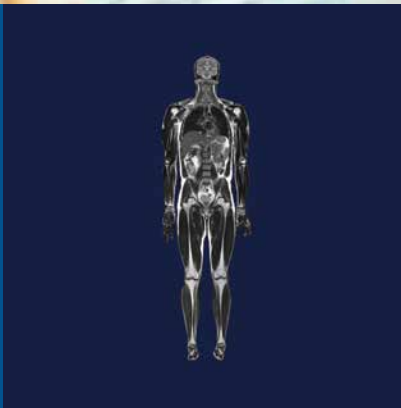
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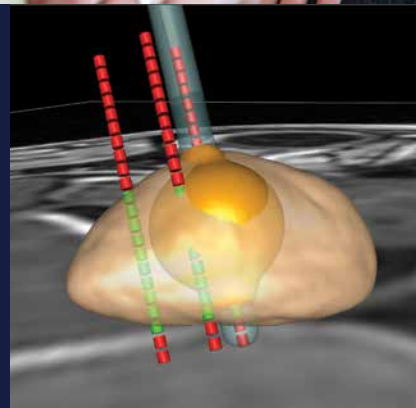
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*Deep Brain Stimulation

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