International Parkinson and
Movement Disorder Society

International Congress of Parkinson's Disease and Movement Disorders

FINAL PROGRAM

June 4–8, 2017

VANCOUVER

British Columbia, Canada

International Parkinson and
Movement Disorder Society

New in 2017!

MDS is pleased to introduce a number of new things to experience at the Vancouver International Congress. All delegates are encouraged to take advantage of as many of these opportunities as they can.

MDS Demo Lab – Ballroom Foyer

Join MDS Staff and Doctors for hands-on demonstrations of both the MDS E-Learning tools and the MDSGene Database in the MDS Demo Lab.

MDS Pavilion – Exhibit Hall C

The MDS Pavilion is the new interactive presentation space designed to provide International Congress delegates with a comfortable lounge atmosphere while presenting valuable information regarding the Society. Learn about various MDS initiatives and programs, gain MDS expert advise, and discover ways to get involved with MDS.

MDS Member Lounge – Exhibit Hall C

MDS warmly invites all members to visit the MDS Member Lounge, located in the Exhibit Hall. Members will have the opportunity to enjoy light refreshments, engage with other members or just use this space as a quiet place to work.

History Exhibits

Learn about the **History of Canadian Contributions to Movement Disorders** in Ballroom D and visit the **James Parkinson 200 Year History Exhibit** in the Ballroom Foyer

Young Delegates Reception – Room 223

Join your colleagues in Vancouver on Tuesday, June 6, 2017 from 19:30-21:00 at a networking event.

Basic Science Meet the Experts Networking Sessions

These sessions will provide young basic scientists an opportunity to network and interact with Basic Science experts in a small group setting.
Advance registration for this event was required.

Be sure to download the official MDS Congress mobile app before arriving in Vancouver, where you can find even more information about times and locations for all of these activities. The app will also help you manage your schedule, assist in networking with other delegates, keep track of all the events happening at the International Congress and much more. Just search "MDS Congress" in your app store.

Table of Contents

Welcome to Vancouver

Dear Colleagues,

On behalf of the International Parkinson and Movement Disorder Society (MDS), we are pleased to formally welcome you to the 21st International Congress of Parkinson's Disease and Movement Disorders in Vancouver, BC, Canada.

The city of Vancouver is home to a vast multicultural population, endless activities, and amazing scenery. The city takes advantage of its great location, bordered by the Pacific Ocean and the Coastal mountain range, providing an amazing backdrop no matter where you look.

Each year, the International Congress attracts delegates from around the world who come to learn about the latest research and perspectives, to listen to world renowned speakers, and to be exposed to the most up-to-date information in the field of Movement Disorders.

We are excited to welcome you to Vancouver and hope you will take advantage of the many exciting educational opportunities the 2017 International Congress offers.

With kind regards,

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

Christine Klein
Chair, Congress Scientific Program Committee, 2015-2017

A. Jon Stoessl
Co-Chair, Congress Scientific Program Committee, 2017

About MDS

MDS Officers (2015-2017)

President
Oscar Gershanik, *Argentina*

President-Elect
Christopher Goetz, *USA*

Secretary
Claudia Trenkwalder, *Germany*

Secretary-Elect
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Treasurer-Elect
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Past-President
Matthew Stern, *USA*

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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*
David John Burn, *United Kingdom*
Günther Deuschl, *Germany*
Oscar Gershanik, *Argentina*
Christopher Goetz, *USA*
Christine Klein, *Germany*
Matthew Stern, *USA*
A. Jon Stoessl, *Canada*

Congress Scientific Program Committee

Chair: Christine Klein, *Germany*
Co-Chair: A. Jon Stoessl, *Canada*
Charles Adler, *USA*
Tim Anderson, *New Zealand*
Vincenzo Bonifati, *Netherlands*
K. Ray Chaudhuri, *United Kingdom*
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Günter Höglinger, *Germany*
Beomseok Jeon, *Korea*
Hyder Jinnah, *USA*
Micaela Morelli, *Italy*
Elena Moro, *France*
Alice Nieuwboer, *Belgium*
Stéphane Palfi, *France*
Irena Rektorova, *Czech Republic*
Raymond Rosales, *Philippines*
Eng-King Tan, *Singapore*
Philip Thompson, *Australia*
Lars Timmerman, *Germany*
Yoshikazu Ugawa, *Japan*
Miquel Vila, *Spain*

Congress Local Organizing Committee

Chair: A. Jon Stoessl
Silke Appel-Cresswell
Doris Doudet
Matthew Farrer
Wayne Martin
Martin McKeown
Oury Monchi
Vesna Sossi
Joseph Tsui

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*

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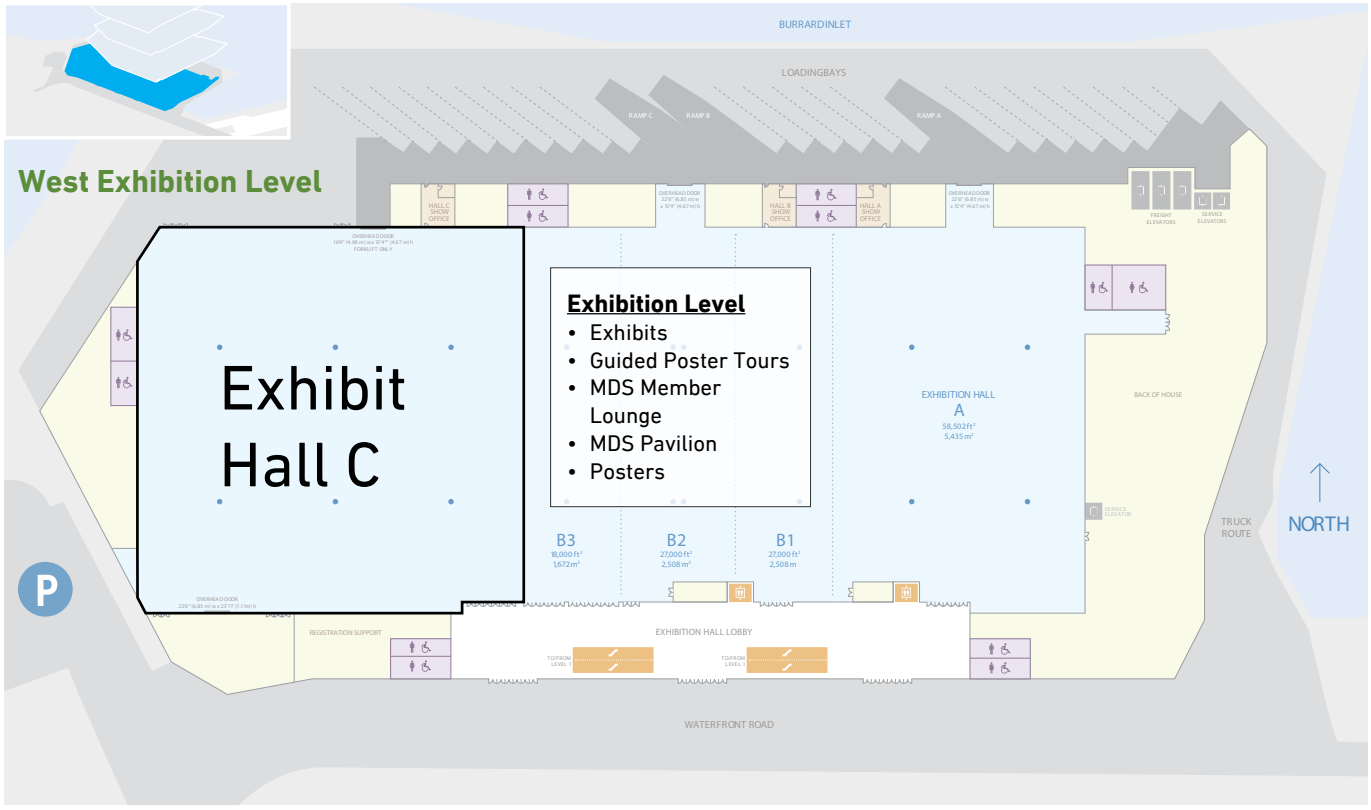
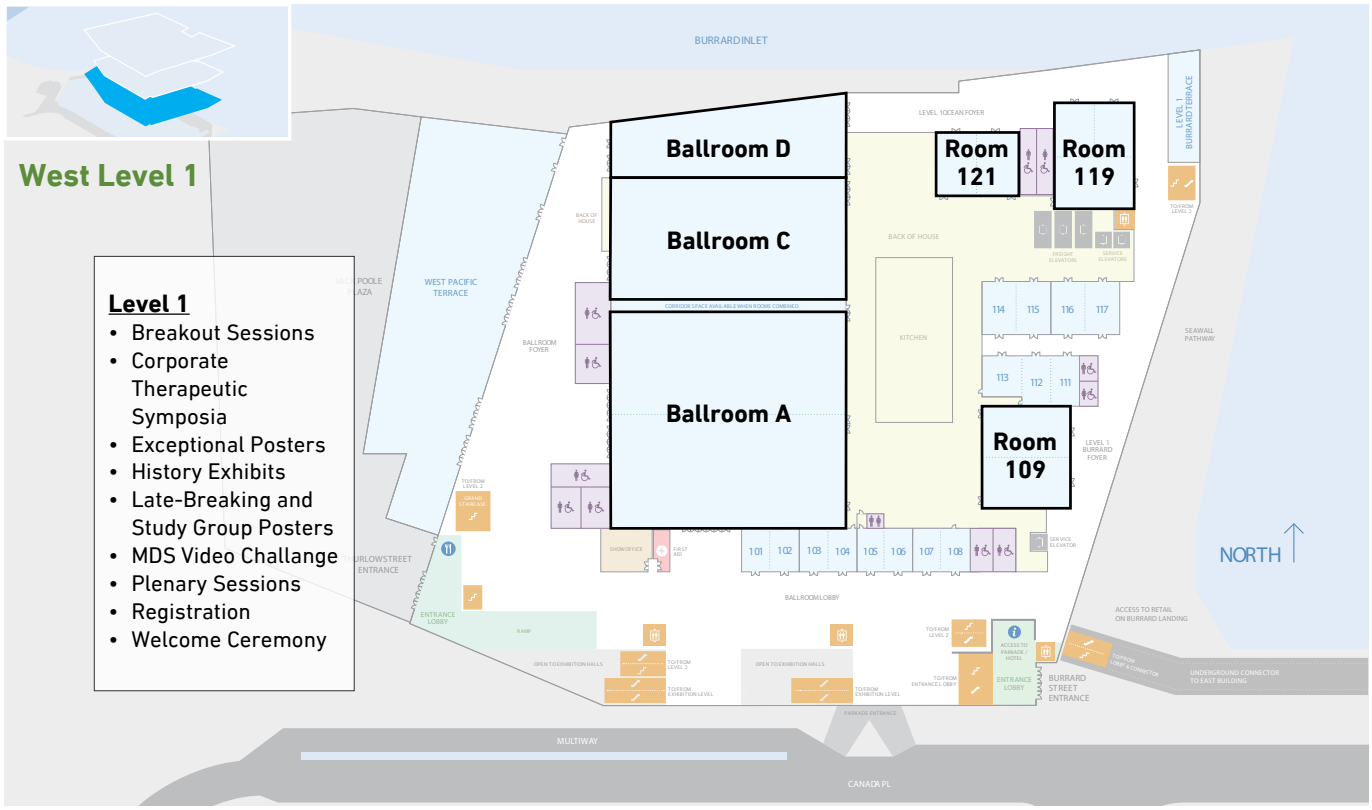
1993-1994 C. Warren Olanow, *USA*
1991-1992 Bastian Conrad, *Germany*
1989-1990 Mark Hallett, *USA*
1987-1988 Mario Manfredi, *Italy*
1985-1986 C. David Marsden, *United Kingdom*

MDS International Secretariat

International Parkinson and
Movement Disorder Society
555 East Wells Street, Suite 1100
Milwaukee, WI 53202-3823 USA
Tel: +1 414-276-2145
Fax: +1 414-276-3349
E-mail: info@movementdisorders.org
Website: www.movementdisorders.org

Congress Floor Plan

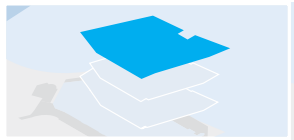




Congress Floor Plan

West Level 2

Level 2
- Breakout Sessions
- Corporate Therapeutic Symposia
- Leadership/Faculty Lounge
- MDS Business Meeting
- Regional Assemblies
- Speaker Ready Room



West Level 3

Level 3
- Breakout Sessions

Continuing Medical Education (CME) Information

Purpose

The purpose of the 21st International Congress of Parkinson's Disease and Movement Disorders in Vancouver is to offer a forum for clinical and basic science 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.

ACCME accreditation covers the following accreditation bodies through a reciprocity agreement:

Canada: CPD activities held in Canada developed by accredited CPD physician organizations recognized by the Accreditation Council for Continuing Medicine Education are deemed to be Accredited Group Learning Activities (Section1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada.

EACCME: The UEMS-EACCME® and the AMA recognize each other's CME credits since 2000. In 2014 the UEMS-EACCME® and the AMA renewed an agreement that European physicians can earn their ECMEC®s worldwide, except in Europe, that have been certified for *AMA PRA Category 1 Credits*™. For further information on reciprocity, please see the AMA website.

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.

Target Audience

The target audience of the 21st 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 but to ensure that the speaker can present independent of their financial interest. 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 available to participants in Vancouver at the MDS membership booth and on the International Congress website: www.mdscongress2017.org

Claiming CME Credit

To claim CME credit for participation in the 21st International Congress for Parkinson's Disease and Movement Disorders, participants must complete and submit an online CME Request Form.

Instructions for claiming credit:
After June 7, 2017, please visit www.mdscongress2017.org/CongressCME2017

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 congress@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

All CME Sessions:
Please see the MDS International Congress App for all CME Session evaluations. Evaluations are considered part of the course. All evaluations need to be completed by June 16, 2017. Evaluations can be done in the MDS Congress App and online at https://event.crowdcompass.com/mdscongress2017.

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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.mdscongress2017.org/Congress-2017/Abstracts.htm, as of June 4, 2017. 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 2017 International Congress website, www.mdscongress2017.org/Congress-2017/Abstracts.htm. These abstracts are available for download as of June 4, 2017.

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. Guided Poster Tours require a ticket to attend.

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 Ballroom D, Monday – Thursday throughout the duration of the International Congress. Late-Breaking Abstract poster presentations will take place Wednesday, June 7, 2017 from 13:15 - 14:45 in Ballroom D.

MDS Study Group Abstracts

All accepted MDS Study Group Abstract posters are displayed in Ballroom D, Monday – Thursday throughout the duration of the International Congress. MDS Study Group Abstract poster presentations will take place Wednesday, June 7, 2017 from 13:15 - 14:45 in Ballroom D.

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 will be present for 1.5 hours each day to explain their work and answer questions. All accepted abstracts are presented as a poster at the 2017 International Congress.

Case studies will be displayed and designated at the end of each category. Basic Science and abstracts presented by fellows, residents, or students will be flagged within each category.

Poster sessions are held Monday – Thursday. Posters are available for viewing in Exhibit Hall C from 9:00 – 16:00 Monday through Wednesday, and 9:00 – 15:30 on Thursday. Poster session topics and schedules vary by date; please see the complete listing of scheduled poster presentation dates, times and locations.

Abstract Information & Schedules

Poster Session Schedule (listed by abstract number)

All poster sessions will take place in Exhibit Hall C.

Abstract Numbers:	Category Name:
MONDAY, JUNE 5, 2017 13:45 - 15:15	
1 - 29	Epidemiology
30 - 31	History
32 - 158	Parkinson's Disease: Non-Motor Symptoms
159 - 253	Parkinsonism, MSA, PSP (Secondary and Parkinsonism-Plus)
254 - 296	Quality of Life/Caregiver Burden in Movement Disorders
297 - 315	Surgical Therapy: Other Movement Disorders
316 - 394	Surgical Therapy: Parkinson's Disease
TUESDAY, JUNE 6, 2017 13:45 - 15:15	
395 - 426	Drug-Induced Movement Disorders
427 - 434	Education in Movement Disorders
435 - 456	Genetics (Non-PD)
457 - 501	Huntington's Disease
502 - 611	Parkinson's Disease: Pathophysiology
612 - 618	Pathophysiology (Other Movement Disorders)
619 - 641	Rare Genetic and Metabolic Diseases
642 - 651	Restless Legs Syndrome and Other Sleep Disorders
652 - 685	Technology
686 - 741	Therapy in Movement Disorders
742 - 773	Tremor
WEDNESDAY, JUNE 7, 2017 13:15 - 14:45	
774 - 822	Ataxia
823 - 833	Choreas (Non-Huntington's Disease)
834 - 854	Cognitive Disorders
855 - 866	Myoclonus
867 - 896	Neuroimaging (Non-PD)
897 - 923	Neuropharmacology
924 - 930	Neurophysiology (Non-PD)
931 - 1011	Parkinson's Disease: Cognition
1012 - 1070	Parkinson's Disease: Genetics
1071 - 1095	Parkinson's Disease: Psychiatric Manifestations
1096 - 1137	Phenomenology and Clinical Assessment of Movement Disorders
1138 - 1146	Rating Scales
1147 - 1156	Spasticity
1157 - 1167	Tics/Stereotypies
THURSDAY, JUNE 8, 2017 13:15 - 14:45	
1168 - 1190	Clinical Trials and Therapy in Movement Disorders
1191 - 1259	Dystonia
1260 - 1319	Other
1320 - 1445	Parkinson's Disease: Clinical Trials, Pharmacology and Treatment
1446 - 1570	Parkinson's Disease: Neuroimaging and Neurophysiology
1571 - 1576	Pediatric Movement Disorders

Abstract Information & Schedules

Poster Session Schedule (listed alphabetically by abstract category)

All poster sessions will take place in Exhibit Hall C.

Category Name	Abstract Numbers:	Presentation Date:	Presentation Time:
Ataxia	774 - 822	Wednesday, June 7, 2017	13:15 - 14:45
Choreas (Non-Huntington's Disease)	823 - 833	Wednesday, June 7, 2017	13:15 - 14:45
Clinical Trials and Therapy in Movement Disorders	1168 - 1190	Thursday, June 8, 2017	13:15 - 14:45
Cognitive Disorders	834 - 854	Wednesday, June 7, 2017	13:15 - 14:45
Drug-Induced Movement Disorders	395 - 426	Tuesday, June 6, 2017	13:45 - 15:15
Dystonia	1191 - 1259	Thursday, June 8, 2017	13:15 - 14:45
Education in Movement Disorders	427 - 434	Tuesday, June 6, 2017	13:45 - 15:15
Epidemiology	1 - 29	Monday, June 5, 2017	13:45 - 15:15
Genetics (Non-PD)	435 - 456	Tuesday, June 6, 2017	13:45 - 15:15
History	30 - 31	Monday, June 5, 2017	13:45 - 15:15
Huntington's Disease	457 - 501	Tuesday, June 6, 2017	13:45 - 15:15
Myoclonus	855 - 866	Wednesday, June 7, 2017	13:15 - 14:45
Neuroimaging (Non-PD)	867 - 896	Wednesday, June 7, 2017	13:15 - 14:45
Neuropharmacology	897 - 923	Wednesday, June 7, 2017	13:15 - 14:45
Neurophysiology (Non-PD)	924 - 930	Wednesday, June 7, 2017	13:15 - 14:45
Other	1260 - 1319	Thursday, June 8, 2017	13:15 - 14:45
Parkinson's Disease: Clinical Trials, Pharmacology and Treatment	1320 - 1445	Thursday, June 8, 2017	13:15 - 14:45
Parkinsonism, MSA, PSP (Secondary and Parkinsonism-Plus)	159 - 253	Monday, June 5, 2017	13:45 - 15:15
Parkinson's Disease: Cognition	931 - 1011	Wednesday, June 7, 2017	13:15 - 14:45
Parkinson's Disease: Genetics	1012 - 1070	Wednesday, June 7, 2017	13:15 - 14:45
Parkinson's Disease: Neuroimaging and Neurophysiology	1446 - 1570	Thursday, June 8, 2017	13:15 - 14:45
Parkinson's Disease: Non-Motor Symptoms	32 - 158	Monday, June 5, 2017	13:45 - 15:15
Parkinson's Disease: Pathophysiology	502 - 611	Tuesday, June 6, 2017	13:45 - 15:15
Parkinson's Disease: Psychiatric Manifestations	1071 - 1095	Wednesday, June 7, 2017	13:15 - 14:45
Pathophysiology (Other Movement Disorders)	612 - 618	Tuesday, June 6, 2017	13:45 - 15:15
Pediatric Movement Disorders	1571 - 1576	Thursday, June 8, 2017	13:15 - 14:45
Phenomenology and Clinical Assessment of Movement Disorders	1096 - 1137	Wednesday, June 7, 2017	13:15 - 14:45
Quality of Life/Caregiver Burden in Movement Disorders	254 - 296	Monday, June 5, 2017	13:45 - 15:15
Rare Genetic and Metabolic Diseases	619 - 641	Tuesday, June 6, 2017	13:45 - 15:15
Rating Scales	1138 - 1146	Wednesday, June 7, 2017	13:15 - 14:45
Restless Legs Syndrome and Other Sleep Disorders	642 - 651	Tuesday, June 6, 2017	13:45 - 15:15
Spasticity	1147 - 1156	Wednesday, June 7, 2017	13:15 - 14:45
Surgical Therapy: Other Movement Disorders	297 - 315	Monday, June 5, 2017	13:45 - 15:15
Surgical Therapy: Parkinson's Disease	316 - 394	Monday, June 5, 2017	13:45 - 15:15
Technology	652 - 685	Tuesday, June 6, 2017	13:45 - 15:15
Therapy in Movement Disorders	686- 741	Tuesday, June 6, 2017	13:45 - 15:15
Tics/Stereotypies	1157 - 1167	Wednesday, June 7, 2017	13:15 - 14:45
Tremor	742 - 773	Tuesday, June 6, 2017	13:45 - 15:15

Abstract Information & Schedules

Guided Poster Tour Schedule

All Guided Poster Tours will take place in Exhibit Hall C.

** No Guided Poster Tours on Sunday*	
MONDAY, JUNE 5, 2017 13:45 - 15:15	
1	Surgical Therapy
2	Parkinsonism, Multiple System Atrophy, and Progressive Supranuclear Palsy
3	Parkinson's Disease: Non-Motor Symptoms
4	Epidemiology and Quality of Life
TUESDAY, JUNE 6, 2017 13:45 - 15:15	
5	Technology
6	Genetics
7	Pathophysiology
8	Restless Legs Syndrome and Sleep
WEDNESDAY, JUNE 7, 2017 13:15 - 14:45	
9	Ataxia, Choreas
10	Imaging and Neurophysiology (Non-Parkinson's Disease)
11	Cognition and Psychiatry
12	Clinical Phenomenology and Rating Scales
THURSDAY, JUNE 8, 2017 13:15 - 14:45	
13	Dystonia, Hyperkinetic Movement Disorders and Other
14	Parkinson's Disease: Pharmacology
15	Parkinson's Disease: Neuroimaging
16	Clinical Trials

MDS PAVILION

The MDS Pavilion is the new interactive presentation space designed to provide Congress attendees with a comfortable lounge atmosphere while presenting valuable information regarding the Society. Learn about various MDS initiatives and programs, gain MDS-expert advice, and discover ways to get involved with MDS.

The MDS Pavilion will be located in the Exhibition Hall, near the MDS Booth.

Monday, June 5, 2017

Be the One to See: Tips for a Successful Presentation and Distinguishing Yourself from the Crowd
10:00 – 10:30

Presenters: Anthony Lang, Mark Hallett

Presentation Objective: Discuss the best techniques for a successful live presentation and pitfalls to avoid.

Shaping the Future of MDS: How to Get Involved as a Young Neurologist
12:30 – 12:45

Presenters: Matthew Stern, Susan Fox

Presentation Objective: Discuss Young Member / young neurologist's opportunities offered by MDS and how to get involved.

Welcome to the International Congress First-Time Attendees!
14:00 – 14:15

Presenters: Michael Okun

Presentation Objective: Welcome first-time attendees, highlight not-to-miss sessions and "events", familiarize the Congress app and more.

Journal Editors Guide: How to Submit a Paper and Get it Accepted in *Movement Disorders* and *Movement Disorders Clinical Practice*
15:00 – 15:30

Presenters: José Obeso, Kailash Bhatia

Presentation Objective: Provide step-by-step instructions and advice to get your paper published in the MDS Journals.

The MDS Pavilion is made possible by the financial support of Medtronic. Thank you!

Tuesday, June 6, 2017

Young Members Group: Guide to Getting Active with The Society
10:00 - 10:30

Presenters: Thiago Cardoso Vale, Santiago Perez-Lloret

Presentation Objective: The MDS Young Members Group discusses MDS resources for young neurologists, groups to join and how to work side-by-side with the experts.

Pop-up Discussion #1: Session Follow-up and Continued Discussion
10:30 – 11:00

Presenters: TBD (Congress faculty)

Presentation Objective: Continue discussion from a highly attended/interesting session and answer questions submitted by session attendees via the Congress app.

Getting to know MDS President, Dr. Oscar Gershanik
12:30 – 12:45

Presenter: Oscar Gershanik

Presentation Objective: Be inspired by Dr. Gershanik's professional journey and gain insight from an MDS expert.

How to Get Involved: MDS Study Groups and Special Interest Groups
13:15 – 13:30

Presenters: K. Ray Chaudhuri, Terence Sanger

Presentation Objective: Group Chairs discuss which MDS programs are open to the general MDS Member and how to get involved.

LIVE Demo: How to Initiate a Movement Disorders Exam
14:15 – 14:45

Presenters: Brandon Barton, Victor Fung

Presentation Objective: Demonstrate the best practices to make the most out of your patient exam time.

Meet the Grand Rounds Experts
15:15 – 15:30

Presenters: Giovanni Fabbrini, Susan Fox, Carolyn Sue, Marie Vidailhet

Presentation Objective: Live discussion on preferred examination tactics, advice, general exam techniques and tips prior to the Grand Rounds Session (Wednesday).

MDS Pavilion

Wednesday, June 7, 2017

Pop-up Discussion #2: Session Follow-up and Continued Discussion
9:30 – 10:00

Presenters: TBD (Congress faculty)

Presentation Objective: Continue discussion from a highly attended/interesting session and answer questions submitted by session attendees via the Congress app.

MDS Regional Congress Highlights
12:00 – 12:30

Presenters: Cynthia Comella, Beomseok Jeon, Louis Tan

Presentation Objective: Discuss successes, learnings and highlights from the 1st MDS-PAS Congress and AOPMC, and hear about the themed sessions for the 2018 International Congress.

How to Submit a Successful MDS Congress Abstract
13:00 – 13:15

Presenters: Christine Klein, A. Jon Stoessl

Presentation Objective: Explain what MDS is looking for in a top scoring abstract; what should be included, what to leave out.

Becoming Congress Faculty: How Congress Sessions are Developed and How to Get Involved
14:00 – 14:15

Presenters: David John Burn, Hyder Jinnah

Presentation Objective: Instruct the delegates on how to submit session suggestions, faculty suggestions, and summarize how the Congress scientific program is created.

Task Force on Technology Updates
14:45 – 15:00

Presenters: Alberto Espay, Spyros Papapetropoulos

Presentation Objective: Discuss the Task Force's new advancements in Movement Disorder technologies and data analytics.

Thursday, June 8, 2017

MDS Rating Scales Growth and Progress
9:30 – 10:00

Presenter: Pablo Martinez-Martin, Glenn Stebbins

Presentation Objective: Discuss where MDS Rating Scales are today and what is on the horizon.

Pop-up Discussion #3: Session Follow-up and Continued Discussion
12:00 – 12:30

Presenters: TBD (Congress faculty)

Presentation Objective: Continue discussion from a highly attended/interesting session and answer questions submitted by session attendees via the Congress app.

Session Definitions

Blue Ribbon Highlights

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 science 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 will be addressed as discussion of pre-selected "hot" topics will be open for debate among the panelists.

Corporate Therapeutic Symposia

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

Guided Poster Tours

Guided Poster Tours will 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 will 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 will be 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, these sessions will focus on the phenomenology covering the many different kinds of movement disorders affecting the population today.

International Congress Theme:

At each annual International Congress, the Congress Scientific Program Committee selects a theme that is highlighted throughout the meeting. This year's theme, *Pathophysiology of Basal Ganglia Disorders: From Cell to System to Patient*, will be showcased in two Plenary Sessions, nine Parallel Sessions, one Skills Workshop, 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 4, 2017	Monday, June 5, 2017	Tuesday, June 6, 2017	Wednesday, June 7, 2017	Thursday, June 8, 2017
7:00	Committee Meetings 7:00 - 8:00	Committee Meetings 7:00 - 8:00	Committee Meetings 7:00 - 8:00	Committee Meetings 7:00 - 8:00	Committee Meetings 7:00 - 8:00
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
9:30				Break 9:30 - 10:00	Break 9:30 - 10:00
10:00	Regional Assemblies 10:00-11:00	Break 10:00 - 10:30	Break 10:00 - 11:00 / MDS Business Meeting 10:00 - 11:00	Plenary Session 10:00 - 12:00 (Grand Rounds)	Controversies 10:00 - 11:00
11:00	Therapeutic Plenary Session 11:00 - 13:00	Plenary Session 10:30 - 12:30	Plenary Session 11:00 - 12:30		Blue Ribbon Highlights 11:00- 12:00
12:00				Break 12:00 - 12:15	Break 12:00 - 13:15
12:30		Break 12:30 - 12:45	Break 12:30 - 12:45	Corporate Therapeutic Symposia 12:15 - 13:15	
13:00	Break 13:00 - 14:30	Corporate Therapeutic Symposia 12:45 - 13:45	Corporate Therapeutic Symposia 12:45 - 13:45	Break/Guided Poster Tours/ Poster Sessions/LBA & Study Group Poster Session 13:15 - 14:45	Break/ Guided Poster Tours/ Poster Sessions 13:15 - 14:45
13:30	Corporate Therapeutic Symposia 13:15 - 14:15				
14:00		Break/ Guided Poster Tours/ Poster Sessions 13:45 - 15:15	Break/ Guided Poster Tours/ Poster Sessions 13:45 - 15:15		
14:30	Therapeutic Plenary Session 14:30 - 16:30			Break 14:45 - 15:00	Break 14:45 - 15:00
15:00		Break 15:15 - 15:30	Break 15:15 - 15:30	Parallel Sessions/ Teaching Courses 15:00 - 17:00	Parallel Sessions/ Teaching Courses 15:00 - 17:00
15:30		Parallel Sessions/ Teaching Courses 15:30 - 17:30	Parallel Sessions/ Teaching Courses 15:30 - 17:30		
16:00					
16:30	Break 16:30 - 17:00			Break 17:00 - 17:30	
17:00	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	
17:30					
18:00		Skills Workshops/ Video Sessions 18:00 - 19:30	Skills Workshops/ Video Sessions 18:00 - 19:30		
18:30					
19:00	Break 19:00 - 19:30			MDS Video Challenge 19:00 - 22:00	
19:30	Welcome Ceremony 19:30 - 21:30				
20:00					
20:30					
21:00					
21:30					

Sunday, June 4, 2017

1101 Therapeutic Plenary Session

Treating Motor Complications of Parkinson's Disease
8:00 – 10:00

Location: Ballroom A
Chairs: Bettina Debu
Grenoble, France
Oscar Gershanik
Buenos Aires, Argentina

8:00 Disease Related Motor Complications: Gait, Posture, Balance
Bettina Debu
Grenoble, France

8:40 Understanding Motor Fluctuations and Dyskinesias: Clinical Aspects, Pathophysiology, Risk Factors
Han-Joon Kim
Seoul, Korea

9:20 Prevention, Treatment and Management of Motor Fluctuations and Dyskinesias
Jean-Christophe Corvol
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. Identify and manage disease related motor complications
2. Recognize medication induced motor complications and understand their pathophysiology and risk factors
3. Apply preventive measures, and both conventional and novel therapeutic interventions, to manage levodopa-induced motor complications

AOS Regional Assembly
10:00 – 11:00
Location: Room 204
All delegates from Asia and Oceania are encouraged to attend.

ES Regional Assembly
10:00 – 11:00
Location: Room 207
All delegates from Europe and North Africa are encouraged to attend.

PAS Regional Assembly
10:00 – 11:00
Location: Room 221
All delegates from Pan America are encouraged to attend.

1102 Therapeutic Plenary Session

Treatment of Dystonia
11:00 – 13:00

Location: Ballroom A
Chairs: Marina De Koning-Tijssen
Groningen, Netherlands
Hyder Jinnah
Atlanta, GA, USA

11:00 Assessment and Classification as the First Step in Expert Management
Alberto Albanese
Rozzano, Italy

11:40 Medical Treatment (Including Botulinum Toxins)
Mandar Jog
London, ON, Canada

12:20 Surgical Treatment (Including Deep Brain Stimulation)
Joachim Krauss
Hannover, 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. Recognize diagnostic challenges for different types of dystonia and implement the current classification system for the dystonias
2. Recognize the issues involved in selecting the best options for treating patients with dystonia syndromes
3. Describe treatment principles for dystonia syndromes, including medical and surgical options

1103 Therapeutic Plenary Session

Update on the Treatment of Hyperkinetic Movement Disorders
14:30 – 16:30

Location: Ballroom A
Chairs: Jonathan Mink
Rochester, NY, USA
Raymond Rosales
Manila, Philippines

14:30 Chorea in the Clinic: Which One and Which Treatment?
Pichet Termsarasab
Cleveland Heights, OH, USA

15:10 Tic Disorders: Diagnosis and Treatment
Jonathan Mink
Rochester, NY, USA

1103 Therapeutic Plenary Session, cont.

15:50 Myoclonus: Etiology, Pathophysiology and Treatment Insights
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. Recognize the different causes and treatment of chorea
2. Describe the different causes and treatment of tic disorders
3. Identify the different causes and treatment of myoclonus

1104 Therapeutic Plenary Session

Update on Neurosurgical Interventions for Movement Disorders
17:00 – 19:00

Location: Ballroom A
Chairs: Kelly Foote
Gainesville, FL, USA
Elena Moro
Grenoble, France

17:00 MRI-Guided Focal Ultrasound Lesions: Present and Future
Binit Shah
Charlottesville, VA, USA

17:40 Updates on Gamma-Knife Treatment
Jean Regis
Marseille, France

18:20 Emerging Interventions in Deep Brain Stimulation
Peter Brown
Oxfordshire, 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. Describe non-invasive lesion therapies for movement disorders
2. Recognize indications for the available ablative and neuromodulatory neurosurgical techniques in movement disorders
3. Discuss recent technological advances in DBS for movement disorders such as directional stimulation and adaptive stimulation

Welcome Ceremony
19:30 – 21:30
Location: Ballroom A

Monday, June 5, 2017

2101 Plenary Session

Presidential Lectures
8:00 – 10:00

Location: Ballroom A
Chairs: Oscar Gershanik
Buenos Aires, Argentina
Christopher Goetz
Chicago, IL, USA

Recommended Audience: Basic Scientists, Clinical Academicians, Non-Physician Health Professionals, Practitioners, Students/Residents/Trainees

8:00 Stanley Fahn Lecture: Advancing the Movement Disorders Needle – The Saskatchewan Way
Ali Rajput
Saskatoon, SK, Canada

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

Illustrate that the small size of an institution is not always a handicap to research; and to share examples of our work that advanced the knowledge of Movement Disorders

8:30 Junior Award Lectures
Ziv Gan-Or
Montreal, QC, Canada
Vladana Markovic
Belgrade, Serbia
Raul Martinez-Fernandez
Madrid, Spain

9:30 C. David Marsden Lecture: Clues to Disease Mechanisms from the Types and Patterns of Cellular Pathologies in the Brain
Glenda Halliday
Randwick, NSW, Australia

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

Describe the motivation for the Phase III clinical neuroprotection trial in early stage Parkinson's disease with the dihydropyridine isradipine

2102 Plenary Session

Pathophysiological Underpinnings of Clinical Manifestations
10:30 – 12:30

Location: Ballroom A
Chairs: David Eidelberg
Masshasset, NY, USA
A. Jon Stoessl
Vancouver, BC, Canada

10:30 Pathophysiology of Motor Dysfunction
John Rothwell
London, United Kingdom

2102 Plenary Session, cont.

11:10 Compensatory Mechanisms - Lessons from Imaging Studies
David Eidelberg
Masshasset, NY, USA

11:50 Pathophysiology of Cognitive and Behavioral Changes in Basal Ganglia Disorders
Anthony Phillips
Vancouver, BC, 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. Describe functional alterations in brain circuitry and in disorders of the basal ganglia, and their modulation by pharmacologic and surgical treatment
2. Recognize changes in network expression and brain neurochemistry that may delay the onset and mitigate the expression of symptoms in subjects with basal ganglia disorders and how these mechanisms may also ultimately contribute to unwanted outcomes
3. Recognize the role of dopamine in learning, attribution of salience and decision making, and how both disease and its treatment can result in impaired learning, apathy and impulsivity

Guided Poster Tours

Guided Poster Tour 1: Surgical Therapy
13:45 – 15:15

Guided Poster Tour 2: Parkinsonism, Multiple System Atrophy, and Progressive Supranuclear Palsy
13:45 – 15:15

Guided Poster Tour 3: Parkinson's Disease: Non-Motor Symptoms
13:45 – 15:15

Guided Poster Tour 4: Epidemiology and Quality of Life
13:45 – 15:15

Location: Exhibit Hall C

Poster Session

13:45 – 15:15

Abstract Numbers: 1 – 394
Location: Exhibit Hall C

2203 Parallel Session TICKET

Imaging in Model Systems of Basal Ganglia Function
15:30 – 17:30

Location: Room 207
Chairs: Bernd Pichler
Tübingen, Germany
Vesna Sossi
Vancouver, BC, Canada

15:30 Optogenetics: Enhancing our Understanding of Basal Ganglia Function
Nicole Calakos
Durham, NC, USA

16:10 Astrocytes and Microglia Studied in Vivo: Imaging Disease Mechanisms
Brian MacVicar
Vancouver, BC, Canada

16:50 Concurrent Multimodal Imaging
Bernd Pichler
Tübingen, Germany

Recommended Audience: Basic Scientists, Clinical Academicians, Students/Residents/Trainees

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

1. Recognize the contributions of optogenetics to the study of basal ganglia circuitry
2. Describe how modern optical techniques can be used to study the dynamic nature and function of glial and microglial cells in order to better understand their role in disease
3. Recognize emerging advances in hybrid PET-MR and PET-MR-EEG imaging

2204 Parallel Session TICKET

Repeat Expansion Disorders: From Cell to System to Patient
15:30 – 17:30

Location: Room 221
Chairs: Alexis Brice
Paris, France
Luis Velázquez-Pérez
Holguín, Cuba

15:30 Repeat Expansion Disorders – Movement Disorders and More
Alexis Brice
Paris, France

16:10 Spinocerebellar Ataxias (SCAs)
Luis Velázquez-Pérez
Holguín, Cuba

Monday, June 5, 2017

2204 Parallel Session TICKET, cont.

16:50 Fragile X Tremor-Ataxia
Deborah Hall
Chicago, IL, USA

Recommended Audience: Basic Scientists, Clinical Academicians, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Provide a perspective of the importance of triplet expansion disorders and discuss the broad phenotype, including combined neuromuscular and movement disorders
2. Describe the various subtypes of ataxia and mechanisms of pathogenesis associated with triplet repeat expansions
3. Describe the pleomorphic phenotypes and mechanisms of pathogenesis associated with abnormal expansions of the FMR1 gene

2205 Parallel Session TICKET

Pediatric Movement Disorders
15:30 – 17:30

Location: Room 204
Chairs: Jonathan Mink
Rochester, NY, USA
Harvey Singer
Baltimore, MD, USA

15:30 Repetitive Movement Disorders in Children
Harvey Singer
Baltimore, MD, USA

16:10 Metabolic Movement Disorders in Children
Darius Ebrahimi-Fakhari
Boston, MA, USA

16:50 Crossing Barriers: A Multidisciplinary Team Approach to Young-Onset Movement Disorders
Martje van Egmond
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. Identify the clinical characteristics and underlying neurobiology of repetitive movements in children
2. Diagnose metabolic diseases in children
3. Describe the problem of transition from pediatric into adult neurology

2206 Parallel Session TICKET

Movement Disorders in Paraneoplastic and Autoimmune Disease
15:30 – 17:30

Location: Ballroom C
Chairs: Sarosh Irani
Oxford, United Kingdom
Philip Thompson
Adelaide, SA, Australia

15:30 Autoimmune Encephalopathies
Sarosh Irani
Oxford, United Kingdom

16:10 Sydenham's Chorea
Hilla Ben-Pazi
Jerusalem, Israel

16:50 Paraneoplastic Movement Disorders
Sean Pittock
Rochester, MN, 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 mechanisms and treatment implications for unusual autoimmune encephalopathies affecting adults and children
2. Describe the role of immune modulation in the treatment of severely affected patients with Sydenham's chorea
3. Understand recent advances in the diagnosis and management of cell mediated and humoral mediated paraneoplastic movement disorders

2207 Parallel Session TICKET

Monogenic Movement Disorders in the Next Generation Sequencing Era
15:30 – 17:30

Location: Room 211
Chairs: Thomas Bird
Seattle, WA, USA
Katja Lohmann
Lübeck, Germany

15:30 Finding Genes for Movement Disorders in the Next Generation Sequencing Era: Parkinsonism as Example
Enza Maria Valente
Rome, Italy

16:10 Genes Causing Isolated Dystonia – New Mutations and Pathogenetic Pathways
Katja Lohmann
Lübeck, Germany

2207 Parallel Session TICKET, cont.

16:50 Monogenic Hyperkinetic Disorders with Pleomorphic Phenotypes
Thomas Bird
Seattle, WA, 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. Discuss the new research strategies enabled by the NGS-technologies such as whole-exome and whole-genome sequencing, and the recently identified mutations associated with monogenic parkinsonism (including TMEM230, VPS13C, SYNJ1, and DNAJC6)
2. Discuss the recently identified genetic mutations causing isolated dystonia, and the implications for the understanding of the disease pathogenesis
3. Discuss the recently identified monogenic hyperkinetic disorders with pleomorphic phenotypes (including ADCY5, FOXG1, PDE10A, and ATP1A3)

2208 Parallel Session TICKET

Integrated Management of Movement Disorders: Is It Needed in All Stages?
15:30 – 17:30

Location: Room 302
Chairs: Bastiaan Bloem
Nijmegen, Netherlands
Daniel Corcos
Chicago, IL, USA

15:30 The Case for Integrated Care Management of Parkinson's Disease: An Evidence-Based Perspective
Carsten Eggers
Cologne, Germany

16:10 Update on the Most Recent Evidence for Non-Pharmacological Interventions
Daniel Corcos
Chicago, IL, USA

16:50 Logistics of Integrated Care
Geraldine Acuna-Sunshine
Boston, MA, 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. Identify the value and efficacy of integrated care management for different stages of Parkinson's disease
2. Appraise the scientific basis of non-pharmacological interventions of Parkinson's disease
3. Optimize strategies and logistics to implement patient-centered care in movement disorder clinics

Monday, June 5, 2017

2309 Teaching Course TICKET

Neuroimaging Techniques of Systems Neuroscience
15:30 – 17:30

Location: Room 119
Chairs: Paola Piccini
London, United Kingdom
Irena Rektorova
Brno, Czech Republic

15:30 Principles of Tractography
Federica Agosta
Milan, Italy

16:10 Imaging the Human Connectome
Shunsuke Kobayashi
Fukushima, Japan

16:50 Principles of Molecular Imaging
Paola Piccini
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 MRI approaches to study structural brain connectivity and interpret results in movement disorder clinics and research
2. Describe principles of functional connectivity analysis and understand how functional MRI can be used to study neural correlates of brain pathology, compensation and treatment effects
3. Describe methods of molecular imaging to assess dopamine release, dopamine transporter activity and other neurotransmitter changes in the human striatum and cortex in movement disorders

2310 Teaching Course TICKET

Practical Management of Common Non-Motor Symptoms in Parkinson's Disease
15:30 – 17:30

Location: Room 109
Chairs: Paolo Barone
Naples, Italy
Pablo Martinez-Martin
Madrid, Spain

15:30 How to Evaluate and Treat Autonomic Dysfunction in Parkinson's Disease
Christopher Mathias
London, United Kingdom

16:10 How to Evaluate and Treat Sleep Dysfunction in Parkinson's Disease
Aleksandar Videnovic
Boston, MA, USA

2310 Teaching Course TICKET, cont.

16:50 How to Evaluate and Treat Cognitive and Psychiatric Disturbances in Parkinson's Disease
Jennifer Goldman
Chicago, IL, 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 the prevalence, pathophysiology, diagnosis, and management of constipation, urinary dysfunction, sexual dysfunction and orthostatic hypotension in Parkinson's disease
2. Indicate the pathophysiology of sleep disorders in Parkinson's disease as well as the evaluation and treatment of insomnia, somnolence, sleep apnea, and REM sleep behavior disorder in Parkinson's disease
3. Recognize the key features for the recognition, diagnosis and treatment of depression, anxiety, hallucinations and psychotic disorders in Parkinson's disease

2411 Skills Workshop TICKET

Functional Capacity in Parkinson's Disease: How Can Practice Help?
18:00 – 19:30

Location: Room 211
Elke Heremans
Heverlee, Belgium
Ingrid Sturkenboom
Nijmegen, Netherlands

This interactive session will tackle what matters most to patients with Parkinson's disease: the disease impact on daily function. This session will clarify how physiotherapy and occupational therapy can contribute to improving function and which training methods translate best into functional gains as supported by scientific evidence.

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 core components of functional disability in Parkinson's disease
2. Identify which training approaches lead to direct benefits of activities of daily living
3. Distinguish between the specific roles of physical and occupational therapy to improve function

2412 Skills Workshop TICKET

Which Targeting Technique for Botulinum Toxin Injections?
18:00 – 19:30

Location: Room 204
Joseph Tsui
Vancouver, BC, Canada
Uwe Walter
Rostock, Germany

This interactive session is intended to provide the participant with a practical way to analyze simple and complex cases of dystonia and spasticity, and to select the best tools for muscle targeting during botulinum toxin treatment.

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. Discuss the pros and cons of EMG vs. anatomical landmarks to inject BoNT
2. Identify key muscles in the neck and limbs by sonoacoustic properties
3. Recognize the benefits and limitations of different targeting techniques to guide BoNT muscle injections

2413 Skills Workshop TICKET

Post-Surgical Management of Deep Brain Stimulation Therapies
18:00 – 19:30

Location: Room 302
Genko Oyama
Tokyo, Japan
Maria Rodriguez-Oroz
Pamplona, Spain

In this interactive session, the faculty will present tricks and skills for optimizing deep brain stimulation with respect to motor and non-motor effects.

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. Apply strategies to optimize motor effects in Parkinson's disease
2. Employ programming tricks to avoid non-motor side effects of deep brain stimulation in Parkinson's disease
3. Identify methods in adjusting Parkinson's disease medication post-operatively with respect to motor and non-motor symptoms

Monday, June 5, 2017

2414 Skills Workshop TICKET

Lessons from My Patients
18:00 – 19:30

Location: Room 109

Susan Bressman
New York, NY, USA

Barry Snow
Auckland, New Zealand

In this interactive session, the faculty will present cases from their own practice and discuss the lessons learned when follow-up and critical reappraisal of clinical features has led to a revision of diagnosis and change in management.

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 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

2415 Skills Workshop TICKET

The Challenge of Molecular Genetics for the Clinician
18:00 – 19:30

Location: Room 221

Alexandra Durr
Paris, France

Marialuisa Quadri
Rotterdam, Netherlands

In this interactive session, the faculty will present opportunities and challenges of genetic testing in the "next-generation sequencing" era. The different types of testing will be discussed (e.g. mutations, genes, gene panels, gene filters, whole-exome and whole-genome sequencing), as well as the challenges in the interpretation of the results, and the ethical implications.

Recommended Audience: Basic Scientists, Clinical Academicians, Practitioners, Students/Residents/Trainees

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

1. Discuss the "when", "what", and "how" of genetic testing (including mutations, genes, gene panels, gene filters, WES, WGS)
2. Discuss the challenges in the interpretation of the results of genetic testing (including pathogenicity of novel variants, variants of unknown significance)
3. Debate the ethical and emerging issues in genetic testing (including informed consent, ethical issues, secondary findings from WES or WGS; storage and re-analysis of NGS data)

2516 Video Session TICKET

Movement Disorders in Autoimmune Diseases
18:00 – 19:30

Location: Room 119

Bettina Balint
London, United Kingdom

Andrew McKeon
Rochester, MN, USA

In this interactive session, the faculty will demonstrate how to identify and investigate autoimmune movement disorders, and what treatments are available.

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 movement disorders associated with autoimmune diseases
2. Identify the range of antibodies associated with movement disorders phenotypes
3. Determine appropriate investigations and therapies for movement disorders of autoimmune origin

2517 Video Session TICKET

Update on Paroxysmal Movement Disorders
18:00 – 19:30

Location: Ballroom C

Roberto Erro
Verona, Italy

Jennifer Friedman
San Diego, CA, USA

In this interactive session, the faculty will explain how to recognize and clinically approach patients with paroxysmal movement disorders. Diagnostic strategies, including genetics, will be discussed, not only for classical forms, but also for the new variants of paroxysmal movement disorders.

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

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

1. Characterize paroxysmal disorders, both classical forms and new variants
2. Identify the diagnostic clues and treatment options in paroxysmal movement disorders
3. Identify the diagnostic strategies in paroxysmal movement disorders

2518 Video Session TICKET

Acquired Choreas: What is New?
18:00 – 19:30

Location: Room 207

Kalyan Bhattacharyya
Kolkata, India

Michael Samuel
London, United Kingdom

This video session will review and illustrate one of the most challenging aspects of movement disorders, i.e. choreas; its origins, its many-faceted clinical presentations, the complexity of differential diagnosis, and management strategies.

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 different aspects of the etiology of acquired choreas
2. Recognize the phenomenology of acquired choreas as well as differential diagnosis with other movement disorders
3. Define the latest in management of acquired choreas

Tuesday, June 6, 2017

3101 Plenary Session

Disease Mechanisms of Parkinson's Disease: From Cell to System
8:00 – 10:00

Location: Ballroom A
Chairs: Marie-Francoise Chesselet
Los Angeles, CA, USA
Andrew West
Birmingham, AL, USA

8:00 Lysosomal Dysfunction and the Relevance of GBA Mutations to Parkinson's Disease
Anthony Schapira
London, United Kingdom

8:40 Axonal Transport and Membrane Sorting
Matthew Seaman
Cambridge, United Kingdom

9:20 Neuroinflammation
Andrew West
Birmingham, AL, 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 the cell biological mechanism related to Parkinson's disease genetic and sporadic forms
2. Recognize how these cell biological changes influence cells in several organ systems
3. Recognize how cell disease mechanisms in Parkinson's disease can provide diverse and wide-spread changes and opportunities for biomarkers

MDS Business Meeting
10:00 – 11:00

Location: Room 207
All delegates are encouraged to attend.

3102 Plenary Session

Huntington's Disease: Molecular and Therapeutic Advances
11:00 – 12:30

Location: Ballroom A
Chairs: Christopher Goetz
Chicago, IL, USA
Werner Poewe
Innsbruck, Austria

11:00 The Huntington's Disease Gene and Its Modifiers
Jong-Min Lee
Boston, MA, USA

3102 Plenary Session, cont.

11:30 Molecular Imaging in Huntington's Disease - Recent Advances
Andrea Varrone
Stockholm, Sweden

12:00 Emerging Therapies in Huntington's Disease: Promises and Challenges
Blair Leavitt
Vancouver, BC, 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. Recognize recent developments in genetics of Huntington's disease including the impact of gene modifiers identified in GWAS
2. Identify a comprehensive view of molecular imaging biomarkers to study Huntington's disease including recent advances in the development of a Huntington's PET Tracer
3. Describe the emergent therapies in Huntington's disease and to recognize their potential strengths and limitations

Guided Poster Tours

Guided Poster Tour 5: Technology
13:45 – 15:15

Guided Poster Tour 6: Genetics
13:45 – 15:15

Guided Poster Tour 7: Pathophysiology
13:45 – 15:15

Guided Poster Tour 8: Restless Legs Syndrome and Sleep
13:45 – 15:15

Location: Exhibit Hall C

Poster Session

13:45 – 15:15
Abstract Numbers: 395-773
Location: Exhibit Hall C

3203 Parallel Session TICKET

Promises of Induced Pluripotent Stem Cells: From Modeling to Therapy
15:30 – 17:30

Location: Room 221
Chairs: Steven Finkbeiner
San Francisco, CA, USA
Nobutaka Hattori
Tokyo, Japan

15:30 iPSC-Derived Neuronal Models for Basal Ganglia Diseases
Steven Finkbeiner
San Francisco, CA, USA

16:10 From Neurons to Brain Organoids
Nobutaka Hattori
Tokyo, Japan

16:50 Application of iPSC-Derived Models and Novel Therapeutic Approaches
Brent Ryan
Oxford, United Kingdon

Recommended Audience: Basic Scientists, Clinical Academicians, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Describe how iPSC-derived neuronal cultures can serve as a model for basal ganglia diseases
2. Identify how brain organoids can be generated from iPSC-derived neurons
3. Evaluate how iPSC-derived models can be employed to develop new therapeutic approaches

3204 Parallel Session TICKET

Imaging Genetics and Pathophysiology in Humans
15:30 – 17:30

Location: Room 204
Chairs: Doris Doudet
Vancouver, BC, Canada
Wayne Martin
Edmonton, AB, Canada

15:30 Neurotransmitter Studies in Genetic Disease and Prodromal Populations
Marios Politis
London, United Kingdom

16:10 Structural and Functional Connectivity
Hartwig Siebner
Hvidovre, Denmark

Tuesday, June 6, 2017

3204 Parallel Session TICKET, cont.

16:50 Imaging Pathology - Inflammation and Abnormal Protein
Vesna Sossi
Vancouver, BC, 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. Describe changes in monoamine and other neurotransmitters seen in prodromal stages of genetic Parkinson's disease and REM behavior disorder
2. Recognize changes in structural connectivity associated with prodromal and established Parkinson's disease and its complications
3. Assess the current status of tracers designed to assess disease pathology, including inflammation and abnormal protein accumulation

3205 Parallel Session TICKET

Breaking News in Movement Disorders
15:30 – 17:30

Location: Ballroom C
Chairs: Michael Schlossmacher
Ottawa, ON, Canada
Matthew Stern
Philadelphia, PA, USA

15:30 Imaging Pathology of Neurodegenerative Movement Disorders: Why is it Important and So Difficult?
Per Borghammer
Aarhus, Denmark

16:10 New Genes, New Mechanisms: Why Do We Care?
Niccolò Mencacci
London, United Kingdom

16:50 Biomarkers and Clinical Trials: Where are We?
Michael Schlossmacher
Ottawa, ON, 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. Describe the progress and challenges of brain imaging in neurodegenerative disorders
2. Identify recent progress in linking genetic information to disease mechanisms and their implication for translation to clinically meaningful outcomes
3. Recognize current efforts in developing clinical, genetic and other biomarkers and critique their use in clinical trials

3206 Parallel Session TICKET

Management of Common Axial Problems in Advanced Parkinson's Disease
15:30 – 17:30

Location: Room 302
Chairs: Yael Manor
Tel Aviv, Israel
Alice Nieuwboer
Heverlee, Belgium

15:30 Effective Pharmacological and Surgical Treatment Strategies for Common Late Stage Axial
Caroline Moreau
Marcq en Baroeul, France

16:10 Speech and Respiratory Therapy Options to Treat Hypophonic Dysarthria and Prevent Dysphagia
Yael Manor
Tel Aviv, Israel

16:50 When Recurrent Falls and Postural Instability are Prevalent, is Rehabilitation Too Late?
Colleen Canning
Sydney, NSW, Australia

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 the underlying mechanisms of common axial problems in advanced Parkinson's disease and the best prevailing medical treatment options
2. Recognize the efficacy of behavioral interventions to alleviate speech and swallowing problems
3. Summarize existing rehabilitation approaches for reducing postural instability and recurrent falls

3207 Parallel Session TICKET

Function and Dysfunction of the Synapse
15:30 – 17:30

Location: Room 207
Chairs: Micaela Morelli
Cagliari, Italy
José Obeso
Madrid, Spain

15:30 Modulation of the Synapse in the Normal and Denervated Striatum
Christian Pifl
Wien, Austria

16:10 Therapeutic Complications Arising from Synaptic Dysfunction
Manolo Carta
Cagliari, Italy

3207 Parallel Session TICKET, cont.

16:50 Therapies Targeting Synaptic Plasticity
Per Svenningsson
Stockholm, Sweden

Recommended Audience: Basic Scientists, Clinical Academicians, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Identify the differences of apoptosis-inducing dopamine neuronal degeneration in humans and experimental animals
2. Assess pathogenic mechanisms of striatal transmission in Parkinson's disease and in the long-term complications arising from dopaminergic therapy
3. Recognize how to manage complications related to aberrant synaptic plasticity

3208 Parallel Session TICKET

Progressive Supranuclear Palsy: Towards Early Diagnosis and Causal Therapies
15:30 – 17:30

Location: Room 211
Chairs: Adam Boxer
San Francisco, CA, USA
Günter Höglinger
Munich, Germany

15:30 The MDS-Criteria for Diagnosis of Progressive Supranuclear Palsy
Christer Nilsson
Lund, Sweden

16:10 Imaging the Diagnosis and Progression of Progressive Supranuclear Palsy
Jennifer Whitwell
Rochester, MN, USA

16:50 Current and Future Therapies for Progressive Supranuclear Palsy
Adam Boxer
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. Apply the MDS-criteria for the diagnosis of Progressive Supranuclear Palsy
2. Identify the most appropriate imaging modalities for the diagnosis and progression measurement of Progressive Supranuclear Palsy
3. Recognize state of the art therapies for Progressive Supranuclear Palsy and understand concepts of current therapeutic trials

Tuesday, June 6, 2017

3309 Teaching Course TICKET

Clues in the Clinical Examination of Movement Disorders
15:30 – 17:30

Location: Room 109
Chairs: Peter Bain
Richmond, United Kingdom
Francisco Cardoso
Belo Horizonte, Brazil

15:30 Tips in Tremor
Peter Bain
Richmond, United Kingdom

16:10 Pointers in Parkinsonism
Vincent Mok
Shatin, People's Republic of China

16:50 Hints for Hyperkinetic Movement Disorders
Emilia Gatto
Buenos Aires, Argentina

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. Perform examination techniques that help in the differential diagnosis of tremor
2. Utilize the examination of patients with parkinsonism to reveal signs that characterize different akinetic-rigid syndromes
3. Elicit and recognize examination features that characterize different hyperkinetic movement disorders

3310 Teaching Course TICKET

Classification, Pathogenesis, and Management of Dystonia
15:30 – 17:30

Location: Room 119
Chairs: Petr Kanovsky
Olomouc, Czech Republic
Christine Klein
Lübeck, Germany

15:30 Applying the Dystonia Classification to Your Patient
Petr Kanovsky
Olomouc, Czech Republic

16:10 Pathogenesis of Dystonia
Aloysius Domingo
Lübeck, Germany

16:50 Current Treatments in Dystonia
Takahiro Mezaki
Takarazuka, Japan

Recommended Audience: Basic Scientists, Clinical Academicians, Non-Physician Health Professionals, Practitioners, Students/Residents/Trainees

3310 Teaching Course TICKET, cont.

At the conclusion of this session, participants should be better able to:
1. Describe the classification and diagnosis of dystonia
2. Discuss the disease mechanisms and genetics underlying dystonia
3. Recognize the available medical and surgical treatments for dystonia including expected outcomes

Basic Science Meet the Experts Networking Session #1
17:00 – 19:00

Location: Room 306
Attendance to this event required pre-registration.

3411 Skills Workshop TICKET

How to Interpret Systems Neuroscience Findings
18:00 – 19:30

Location: Room 221
Rudi Balling
Luxembourg, Germany
Alfons Schnitzler
Düsseldorf, Germany

This interactive session will help participants to better navigate the growing field of important and complex discoveries in systems neurosciences related to basal ganglia function and dysfunction. Participants will learn how to select, analyze and implement the most relevant neuroscience findings from an integrative perspective.

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 relevant and useful information coming from neuroscience research
2. Distinguish the possible pitfalls in the interpretation of data and results coming from the neuroscience field, including neuroimaging and neurophysiology
3. Integrate the new information and knowledge in both clinical research and practice

3412 Skills Workshop TICKET

Telemedicine and Technology in Parkinson's Disease Management: The Why, What and How
18:00 – 19:30

Location: Room 302
Esther Cubo Delgado
Burgos, Spain
Meredith Spindler
Philadelphia, PA, USA

In this interactive session, experts interact with participants to share the breadth of telemedicine options for clinical care and the practical points to allow telemedicine implementation.

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. List available and in-development telemedicine options for health care access and management of movement disorders
2. Define the "minimal standard" of needed equipment to set up telemedicine services for patients with movement disorders
3. Apply practical knowledge on implementing and customizing telemedicine skills for movement disorders management

3413 Skills Workshop TICKET

Honing the MDS-UPDRS to Deal With Real-Life Challenges
18:00 – 19:30

Location: Room 204
Mayela Rodriguez Violante
Mexico City, Mexico
Glenn Stebbins
Chicago, IL, USA

This interactive session brings scale experts together with the participants to share practical approaches to utilizing the MDS-UPDRS in both clinical practice and research.

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. Apply arithmetic formulas to accommodate missing values in the MDS-UPDRS
2. Convert old UPDRS scores to MDS-UPDRS scores for continuity of longitudinal monitoring
3. Utilize the MDS-UPDRS in Parkinson's disease patients with motor fluctuations

Tuesday, June 6, 2017

3414 Skills Workshop TICKET

Colleague to Colleague: Recognizing and Managing Tardive Syndromes
18:00 – 19:30

Location: Room 109

Tove Henriksen
Copenhagen, Denmark

Daniel Tarsy
Boston, MA, USA

In this interactive session, clinical experts engage participants to outline the wide breadth of tardive syndromes, their temporal development in relation to causative drug exposure, and practical approaches to diagnosis and treatment.

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 wide phenotypic variability of tardive syndromes in adults and children
2. Describe the time-frame and natural history of different tardive syndromes
3. Utilize diagnostic tools and management options to treat tardive syndromes

3415 Skills Workshop TICKET

Technology in Assessment of Parkinson's Disease: How Does it Help?
18:00 – 19:30

Location: Room 211

Jeffrey Hausdorff
Tel Aviv, Israel

Walter Maetzler
Kiel, Germany

In this interactive session, the use of technology for actual clinical and patient-centered assessment will be discussed in all its facets. Although intuitively technology-based measurement is considered to be 'objective,' this session will heighten the awareness of the pitfalls and challenges for obtaining reliable data that are useful for the multidisciplinary team and most importantly for the patient himself.

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. Appraise recent evidence on reliability of technology designed to assess gait and balance problems
2. Identify the benefits and pitfalls of smartphone apps for patients' self-assessment of diverse clinical outcomes
3. Determine the potential of technology-based assessment for multidisciplinary patient management

3416 Skills Workshop TICKET

Noninvasive Stimulation in Movement Disorders
18:00 – 19:30

Location: Room 207

Robert Chen
Toronto, ON, Canada

Angelo Quartarone
Messina, Italy

In this interactive session, faculty will provide a broad update about the current techniques of non-invasive brain stimulation used for research and clinic application, including mechanisms of action, limits and future perspectives.

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 different techniques of noninvasive brain stimulation
2. Describe the possible mechanisms of action of noninvasive brain stimulation
3. Identify the applications on noninvasive technique of brain stimulation in research and patient management

3517 Video Session TICKET

Eye Movement Characteristics in Movement Disorders
18:00 – 19:30

Location: Ballroom C

Adolfo Bronstein
London, United Kingdom

Aasef Shaikh
Cleveland, OH, USA

In this interactive session, two experts will show the bedside examination of eye movements and how to recognize the oculomotor clues to common and not so common movement and ataxic disorders.

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 bedside oculomotor examination relevant to movement disorders
2. Identify typical eye movement abnormalities of fixation, saccades, pursuit, vergence and vestibular function
3. Recognize characteristic eye movement abnormalities across the common and uncommon hypokinetic, hyperkinetic and ataxic disorders

3518 Video Session TICKET

Movement Disorders in Children
18:00 – 19:30

Location: Room 119

Yoshiko Nomura
Tokyo, Japan

Toni Pearson
St. Louis, MO, USA

In this interactive session, faculty will show the clinical approach to recognition, investigation and treatment of movement disorders in children.

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 specificity of pediatric movement disorders and their evolution in adulthood
2. Recognize the spectrum of metabolic and genetic movement disorders in children
3. Organize a clinical approach to the diagnosis of movement disorders in children

Wednesday, June 7, 2017

4101 Plenary Session

Development of Targeted Therapies for Parkinson's Disease
8:00 – 9:30

Location: Ballroom A
Chairs: Dimitri Krainc
Chicago, IL, USA
Werner Poewe
Innsbruck, Austria

8:00 Novel Targeted Therapies for Parkinson's Disease
Werner Poewe
Innsbruck, Austria

8:30 Development of Small Molecule Activators for GBA1
Dimitri Krainc
Chicago, IL, USA

9:00 Translating LRRK2 Biology into Novel Therapies
Mark Cookson
Bethesda, MD, 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. Assess novel targeted therapeutic approaches for Parkinson's disease
2. Recognize the potential of small molecules for the treatment of Parkinson's disease
3. Clarify how Parkinson's disease biology informs new treatment development

4102 Plenary Session

Grand Rounds
10:00 – 12:00

In this interactive session, MDS experts will examine interesting common and complex patients. During this session, you will learn how they formulate diagnoses and manage these interesting and challenging patients.

Location: Ballroom A
Chairs: Silke Appel-Cresswell
Vancouver, BC, Canada
Martin McKeown
Vancouver, BC, Canada
MDS Experts: Giovanni Fabbrini
Rome, Italy
Susan Fox
Toronto, ON, Canada

4102 Plenary Session, cont.

Carolyn Sue
Sydney, NSW, Australia
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. Identify how experts use clinical history and signs to formulate their diagnosis in complex movement disorder cases
2. Identify how experts use paraclinical methods to diagnose complex movement disorders
3. Identify how experts formulate therapies for complex movement disorder patients

Guided Poster Tours

Guided Poster Tour 9: Ataxia, Choreas
13:15 - 14:45

Guided Poster Tour 10: Imaging and Neurophysiology (Non-Parkinson's Disease)
13:15 - 14:45

Guided Poster Tour 11: Cognition and Psychiatry
13:15 - 14:45

Guided Poster Tour 12: Clinical Phenomenology and Rating Scales
13:15 - 14:45

Location: Exhibit Hall C

Poster Session

13:15 - 14:45

Abstract Numbers: 774 - 1167
Location: Exhibit Hall C

Late-Breaking and Study Group Abstract Poster Sessions

13:15 - 14:45

Location: Ballroom D

4203 Parallel Session TICKET

From Genes to Functional Pathways in Parkinsonism
15:00 – 17:00

Location: Room 211
Chairs: Vincenzo Bonifati
Rotterdam, Netherlands
Andreas Puschmann
Lund, Sweden

15:00 Dominantly Inherited Parkinsonism: What are the Common Pathways?
Andreas Puschmann
Lund, Sweden

15:40 Linking Monogenic Parkinsonism to the Immune System
Matthew LaVoie
Boston, MA, USA

16:20 Retromer Dysfunction as a Common Pathway Underlying Parkinson's Disease
Matthew Farrer
Vancouver, BC, 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. Discuss genetic features (mutations, penetrance, screening) of the dominant parkinsonisms, and their relevance for the etiologic landscape of Parkinson's disease
2. Discuss recent findings linking the immune system and the pathogenesis of monogenic parkinsonism
3. Discuss the evidence supporting a role for retromer dysfunctions in the pathogenesis of Parkinson's disease

4204 Parallel Session TICKET

Are all Neurodegenerative Diseases Prion Disorders?
15:00 – 17:00

Location: Room 302
Chairs: Glenda Halliday
Randwick, NSW, Australia
Yvonne Eisele
La Jolla, CA, USA

15:00 Synucleinopathies
Seung-Jae Lee
Seoul, Korea

15:40 Amyloidopathies
Yvonne Eisele
La Jolla, CA, USA

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4204 Parallel Session TICKET, cont.

16:20 Tauopathies
John Trojanowski
Philadelphia, PA, 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 evidence, knowledge gaps and potential therapeutic implications for prion-like cell-to-cell protein propagation in synucleinopathies
2. Recognize the evidence, knowledge gaps and potential therapeutic implications for prion-like cell-to-cell protein propagation in amyloidopathies
3. Recognize the evidence, knowledge gaps and potential therapeutic implications for prion-like cell-to-cell protein propagation in tauopathies

4205 Parallel Session TICKET

Food, Gut and Parkinson's Disease: You Are What You Ingest
15:00 – 17:00

Location: Ballroom C
Chairs: Alberto Ascherio
Boston, MA, USA
Filip Scheperjans
Helsinki, Finland

15:00 The Gut Microbiome, Parkinson's Disease and Motor, Non-Motor Clinical Subtypes
Filip Scheperjans
Helsinki, Finland

15:40 Caffeine, Uric Acid and Smoking
Alberto Ascherio
Boston, MA, USA

16:20 Does Vagotomy Have a Role in Parkinson's Disease Pathogenesis or Treatment?
Elisabeth Svensson
Aarhus, Denmark

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 current role of the microbiome in the pathophysiology of Parkinson's disease and clinical subtypes (motor and non-motor) of Parkinson's disease
2. Recognize how caffeine, nicotine and uric acid may act as protective factors in the pathophysiology of Parkinson's disease
3. Discuss the putative role of vagotomy in the preventive treatment of Parkinson's disease

4206 Parallel Session TICKET

James Parkinson's 200 Years: The Non-Motor Parkinson's New Visions
15:00 – 17:00

Location: Room 221
Chairs: K. Ray Chaudhuri
London, United Kingdom
Pablo Martinez-Martin
Madrid, Spain

15:00 Novel Ways of Grading Parkinson's Disease Using Motor and Non-Motor Assessments: An Essential Clinical Paradigm
Pablo Martinez-Martin
Madrid, Spain

15:40 Motor and Non-Motor Endophenotypes of Parkinson's Disease: Controversies and Clinical Description
Connie Marras
Toronto, ON, Canada

16:20 Ethnicity and Its Impact on Parkinson's Disease: A Global View With a Non-Motor Perspective
Yoshio Tsuboi
Fukuoka, Japan

Recommended Audience: Basic Scientists, Clinical Academicians, Epidemiologists, General physicians, Non-Physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Discuss new grading of Parkinson's disease based on non-motor assessments and non-motor burden using validated tools
2. Discuss non-motor endophenotyping in Parkinson's disease based on cluster, clinical and biomarker driven analysis and the possibility of subtype driven treatments
3. Discuss the expression of motor and non-motor symptoms variations across different ethnic groups in relation to Parkinson's disease with a global perspective

4207 Parallel Session TICKET

From Fish to Primates: Genetic and Mechanistic Animal Models for Parkinson's Disease
15:00 – 17:00

Location: Room 204
Chairs: Stéphane Palfi
Creteil, France
Ryosuke Takahashi
Kyoto, Japan

4207 Parallel Session TICKET, cont.

15:00 How do Fish Models Contribute to Understanding of Parkinson's Disease?
Ryosuke Takahashi
Kyoto, Japan

15:40 Modeling Non-Motor Symptoms of Parkinson's Disease in Rodents
Penelope Hallett
Belmont, MA, USA

16:20 Primate Models of Parkinson's Disease: From MPTP to Synucleinopathy
Erwan Bezard
Bordeaux, France

Recommended Audience: Basic Scientists, Clinical Academicians, Non-Physician Health Professionals, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Understand the advantages of fish models over other vertebrates in modeling Parkinson's disease
2. Understand the advantages of reproducing non-motor symptoms including cognition and autonomic symptoms in Parkinson's disease in rodents
3. Describe updates on genetic and alpha-synucleinopathy primate models of Parkinson's disease

4208 Parallel Session TICKET

Basal Ganglia: Crossroads of Behavior and Motility
15:00 – 17:00

Location: Room 207
Chairs: Fumino Fujiyama
Kyoto, Japan
Mark Stacy
Durham, NC, USA

15:00 Basal Ganglia Circuits for Motor and Behavioral, Emotional Performances
Fumino Fujiyama
Kyoto, Japan

15:40 Behavioral and Motor Symptoms in Parkinson's Disease and Other Movement Disorders
Kathy Dujardin
Lille, France

16:20 How to Treat Patients With Behavioral Disorders and Motor Symptoms
Louis Tan
Singapore

Recommended Audience: Basic Scientists, Clinical Academicians, Non-Physician Health Professionals, Practitioners, Students/Residents/Trainees

Wednesday, June 7, 2017

4208 Parallel Session TICKET, cont.

At the conclusion of this session, participants should be better able to:
1. Explain the mechanisms or circuits of basal ganglia responsible for motor function and behavioral performance
2. Describe the clinical features of behavioral disorders in relation to motor symptoms
3. Explain how to manage the behavioral and motor symptoms in basal ganglia disorders

4309 Teaching Course TICKET

Uncommon Treatable Movement Disorders Not to Be Missed
15:00 – 17:00

Location: Room 109
Chairs: Carlos Cosentino
Lima, Peru
Aurelie Meneret
Paris, France

15:00 Movement Disorder in Toxic and Infectious Diseases
Carlos Cosentino
Lima, Peru

15:40 Autoimmune Movement Disorders
Shekeeb Mohammad
Sydney , NSW, Australia

16:20 Metabolic Diseases Presenting with Movement Disorders in Adults
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. Improve recognition, diagnosis and treatment of toxic and infectious diseases causing movement disorders
2. Discuss the diagnosis and treatment of autoimmune movement disorders
3. Describe the diagnosis and treatment of metabolic diseases presenting with movement disorders in adulthood

4310 Teaching Course TICKET

Diagnosis and Management of Atypical Parkinsonian Syndromes
15:00 – 17:00

Location: Room 119
Chairs: Andrew Lees
London, United Kingdom
Eduardo Tolosa
Barcelona, Spain

4310 Teaching Course TICKET, cont.

15:00 Progressive Supranuclear Palsy (PSP) and Corticobasal Degeneration (CBD)
Andrew Lees
London, United Kingdom

15:40 Multiple System Atrophy (MSA)
Johannes Levin
Munich, Germany

16:20 Dementia with Lewy Bodies (DLB)
Bradley Boeve
Rochester, MN, 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 clinical features, diagnostic criteria, clinical investigations, and treatments of Progressive Supranuclear Palsy and Corticobasal Degeneration
2. Discuss clinical features, diagnostic criteria, clinical testing, and treatments of Multiple System Atrophy
3. Recognize clinical features, diagnostic criteria, clinical investigations, and treatments of Dementia with Lewy Bodies

4411 Skills Workshop TICKET

Novel Insights Into Bladder and Sexual Dysfunction in Parkinson's Disease
17:30 – 19:00

Location: Room 119
Gila Bronner
Ramat-Gan, Israel
Ryuji Sakakibara
Sakura, Japan

This interactive session will provide the latest update on our understanding of sexual and bladder dysfunction in Parkinson's disease and discuss possible treatment and management approaches. It is aimed to facilitate an open discussion between the health professional and the patient in these areas of functioning and to appreciate the great impact of these problems on patients' quality of life.

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 the neurophysiological basis of bladder and sexual dysfunction in Parkinson's disease
2. Determine evidence-based and state-of-the-art management strategies of bladder and sexual dysfunction
3. Recognize the impact of bladder and sexual dysfunction on quality of life for patient and partner

4412 Skills Workshop TICKET

From Phenotype to Genotype and Back: The MDSGene Database
17:30 – 19:00

Location: Room 204
Kishore Kumar
St. Leonards, NSW, Australia
Joanne Trinh
Vancouver, BC, Canada

This interactive session is intended to provide the participant with an understanding of phenotype-genotype relations in hereditary movement disorders and provide practical and interactive training on the MDSGene database.

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 limitations of current databases
2. Use the MDSGene
3. Recognize phenotype-genotype correlations and data gaps

4413 Skills Workshop TICKET

How to Become a Successful Movement Disorder Specialist
17:30 – 19:00

Location: Room 109
Stanley Fahn
New York, NY, USA
Claudia Trenkwalder
Kassel, Germany

This skills workshop will provide the participant the opportunity to meet and discuss how to successfully approach becoming a movement disorders specialist. The goals will include an interactive review of steps to take to pursue a career in movement disorders as well as how to become an effective leader.

Recommended Audience: Clinical Academicians, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Develop a clear view of the steps needed to pursue specialization in movement disorders
2. Recognize the importance of searching for good mentors when pursuing specialization
3. Identify essential aspects of becoming an effective leader

Wednesday, June 7, 2017

4414 Skills Workshop TICKET

New Molecular Techniques That are Changing the Clinical Landscape
17:30 – 19:00

Location: Room 221
Richard Myers
Boston, MA, USA
Richard Wade-Martins
Oxford, United Kingdom

This interactive session is intended to provide the participant with a basic understanding of emerging state-of the-art molecular tools that will play a crucial role in the upcoming years to biomarker discovery, identification of physiopathological pathways and development of novel therapeutic strategies in the field of Movement Disorders.

Recommended Audience: Basic Scientists, Clinical Academicians, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Identify emerging experimental methodologies, including next-generation sequencing, novel gene-editing techniques and iPS cell development
2. Identify potential applications of these techniques to the field of Movement Disorders
3. Interpret the results obtained by the use of these techniques in the context of movement disorders

4515 Video Session TICKET

Psychogenic Movement Disorders
17:30 – 19:00

Location: Room 302
Hubert Fernandez
Cleveland, OH, USA
Jon Stone
Edinburgh, United Kingdom

This interactive session is designed to facilitate a clinician's approach in answering those questions, considering the "mimics," the psychological disturbances as they impact on the physical manifestations (i.e. movement disorders), and the challenge to sort out and manage accordingly.

Recommended Audience: Non-Physician Health Professionals, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Recognize, in a systematic way, the clinical profiles of hyperkinetic psychogenic movement disorders
2. Describe, in a methodological way, the clinical characteristics of psychogenic parkinsonism and other hypokinetic psychogenic movement disorders
3. Identify the common social, psychological, medical, and legal circumstances associated with the appearance of psychogenic movement disorders

4516 Video Session TICKET

Minerals in the Brain
17:30 – 19:00

Location: Room 207
Petr Dušek
Prague, Czech Republic
Susan Hayflick
Portland, OR, USA

In this interactive session, experts will demonstrate clinical symptoms and characteristic CT/ MRI changes of the most common diseases associated with mineral depositions in the brain, and they will describe treatment approaches.

Recommended Audience: Basic Scientists, Clinical Academicians, Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Recognize clinical symptoms of patients with brain mineral (iron, calcium and manganese) deposition
2. Plan investigations and identify specific changes on brain CT/MRI for diagnostic purposes and for tracking disease progression and treatment effects
3. Describe the current status of management of the most common diseases associated with accumulation of minerals in the brain

4517 Video Session TICKET

Movement Disorder Emergencies
17:30 – 19:00

Location: Room 211
Roberto Ceravolo
Pisa, Italy
Sun Ju Chung
Seoul, Korea

In this interactive session, experts will describe how to recognize common and unusual movement disorder emergencies, and how to effectively treat them.

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 and manage Parkinson's disease-related emergencies
2. Recognize common and uncommon hyperkinetic disorders, which may present at the emergency room
3. Manage emergencies related to Deep Brain Stimuation

4518 Video Session TICKET

Recently Described Rare Disorders
17:30 – 19:00

Location: Ballroom C
Victor Fung
Sydney, NSW, Australia
Dan Healy
Dublin, Ireland

In recent years, many entirely new movement disorders have been described. Further, novel manifestations of previously described disorders have been discovered. This interactive session is intended to provide a survey of some of the most recently described disorders, some of which are treatable.

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 newly described hyperkinetic disorders
2. Recognize newly described hypokinetic disorders
3. Describe the diagnostic and therapeutic strategies for newly described disorders

Basic Science Meet the Experts Networking Session #2
17:00 – 19:00

Location: Room 306
Attendance to this event required pre-registration.

MDS Video Challenge Pre-Event Gathering
19:00 – 20:00

Location: Ballroom Foyer

MDS Video Challenge
20:00 – 22:00

Location: Ballroom A
See International Congress Mobile App for more information.

Thursday, June 8, 2017

5101 Plenary Session

Challenges in Clinicogenetic Correlations: One Gene - Many Phenotypes; One Phenotype - Many Genes
8:00 – 9:30

Location: Ballroom A
Chairs: Kailash Bhatia
London, United Kingdom
Victor Fung
Sydney, NSW, Australia

8:00 One Gene – Many Phenotypes
Kailash Bhatia
London, United Kingdom

8:30 One Phenotype – Many Genes
Vincenzo Bonifati
Rotterdam, Netherlands

9:00 Clinical Implications – Diagnosis and Treatment
Hyder Jinnah
Atlanta, GA, 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 sometimes different and complex phenotypes of monogenic mutations
2. Recognize similar clinical phenotypes resulting from different genetic mutations
3. Discuss the complexity of the evolving role of genetics in movement disorders

5102 Plenary Session

Controversies in Movement Disorders
10:00 – 11:00

Location: Ballroom A
Chairs: Charles Adler
Scottsdale, AZ, USA
Tim Anderson
Christchurch, New Zealand

10:00 Immunization Therapies for Proteinopathies: More Hype Than Hope? (Hope)
Jeffrey Kordower
Chicago, IL, USA

10:15 Immunization Therapies for Proteinopathies: More Hype Than Hope? (Hype)
Simone Engelender
Haifa, Israel

10:30 ICD and Parkinson's Disease: Drug or Disease? (Drug)
Celeste Napier
Chicago, IL, USA

5102 Plenary Session, cont.

10:45 ICD and Parkinson's Disease: Drug or Disease? (Disease)
Thomas Münte
Lübeck, 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:

Topic 1:
1. Recognize the immunization therapies proposed for proteinopathies
2. Identify the mechanisms for immunization therapies in proteinopathies
3. Determine whether immunization therapy for proteinopathies is expected to be effective as a disease-modifying treatment

Topic 2:
1. Recognize the spectrum of ICDs that occur in Parkinson's disease
2. Identify the frequency of ICDs in Parkinson's disease before and after treatment
3. Discuss whether ICDs in Parkinson's disease are more likely due to the disease or the treatment

5103 Plenary Session

Blue Ribbon Highlights
11:00 – 12:00

Location: Ballroom A
Chairs: David John Burn
Newcastle upon Tyne, United Kingdom
Claudia Trenkwalder
Kassel, Germany

Presenters: Paolo Calabresi
Perugia, Italy
Oksana Suchowersky
Edmonton, AB, Canada

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.

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, Hyperkinetic Movement Disorders and Other
13:15 - 14:45

Guided Poster Tour 14: Parkinson's Disease: Pharmacology
13:15 - 14:45

Guided Poster Tour 15: Parkinson's Disease: Neuroimaging
13:15 - 14:45

Guided Poster Tour 16: Clinical Trials
13:15 - 14:45

Location: Exhibit Hall C

Poster Session

13:15 - 14:45
Abstract Numbers: 1168 - 1576
Location: Exhibit Hall C

5204 Parallel Session TICKET

Hereditary Spastic Paraplegias: An Expanding and Challenging Field
15:00 – 17:00

Location: Room 204
Chairs: Giovanni Stevanin
Paris, France
Carolyn Sue
Sydney, NSW, Australia

15:00 Autosomal Dominant Forms
Toshitaka Kawarai
Tokushima, Japan

15:40 Autosomal Recessive and X-Linked Forms
Giovanni Stevanin
Paris, France

16:20 Pathogenic Pathways and Therapeutic Insights
John Fink
Ann Arbor, MI, USA

Recommended Audience: Basic Scientists, Clinical Academicians, Practitioners, Students/Residents/Trainees

Thursday, June 8, 2017

5204 Parallel Session TICKET, cont.

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

1. Describe genotypes and phenotypes of dominant forms of hereditary spastic paraplegias
2. Describe genotypes and phenotypes of recessive and X-linked forms of hereditary spastic paraplegias
3. Discuss emerging pathogenetic pathways and implications for the development of rational therapies

5205 Parallel Session TICKET

Novel Insights From Inherited Dyskinesias
15:00 – 17:00

Location: Room 207
Chairs: Alexander Münchau
Gainesville, FL, USA
Zhi-Ying Wu
Shanghai, People's Republic of China

15:00 Isolated Dystonias: From Gene to Network
Brian Berman
Aurora, CO, USA

15:40 Paroxysmal Dyskinesias
Zhi-Ying Wu
Shanghai, People's Republic of China

16:20 Basal Ganglia-Related Dystonias: XDP, DRD, and Others
Alexander Münchau
Hamburg, 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 structural and functional imagine findings from patients with inherited and sporadic dystonias
2. Summarize the varied clinical phenotypes of the paroxysmal dyskinesias and their genes
3. Explain some of the biological mechanisms responsible for causing some types of dystonia

5206 Parallel Session TICKET

Clinical Role of Neuropathology
15:00 – 17:00

Location: Room 221
Chairs: Ian MacKenzie
Vancouver, BC, Canada
Eng-King Tan
Singapore

15:00 Neuropathology for the Clinicians: The Nuts and Bolts
Ian MacKenzie
Vancouver, BC, Canada

5206 Parallel Session TICKET, cont.

15:40 Clinico-Pathological Correlations of Neurodegenerative Diseases
Holly Shill
Phoenix, AZ, USA

16:20 Imaging-Pathological Correlations of Parkinson's Disease
Makoto Higuchi
Chiba, Japan

Recommended Audience: Basic Scientists, Clinical Academicians, Practitioners, Students/Residents/Trainees

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

1. Discuss the nuts and bolts of neuropathology (neuroanatomy, sampling techniques, etc.)
2. Discuss and correlate neuropathology features with clinical symptoms in neurodegenerative diseases
3. Discuss correlation of neuroimaging findings with pathology of Parkinson's disease

5207 Parallel Session TICKET

'Atypical' Atypical Parkinsonism
15:00 – 17:00

Location: Room 211
Chairs: Jeffrey Kordower
Chicago, IL, USA
Gregor Wenning
Innsbruck, Austria

15:00 Corticobasal Degeneration and Its Look-Alikes
Carmela Tartaglia
Toronto, ON, Canada

15:40 Progressive Supranuclear Palsy and Its Look-Alikes
Gesine Respondek
Munich, Germany

16:20 Multiple System Atrophy and Its Look-Alikes
Gregor Wenning
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. Identify clinical, imaging and laboratory clues to the differential diagnosis of Corticobasal Degeneration
2. Identify clinical, imaging and laboratory clues to the differential diagnosis of Progressive Supranuclear Palsy
3. Identify clinical, imaging and laboratory clues to the differential diagnosis of Multiple System Atrophy

5208 Parallel Session TICKET

Complementary and Alternative Medicine in Movement Disorders
15:00 – 17:00

Location: Room 302
Chairs: Beomseok Jeon
Seoul, Korea
Aikaterini Kompoliti
Chicago, IL, USA

15:00 The Landscape of Options
Aikaterini Kompoliti
Chicago, IL, USA

15:40 The Science of Placebo Effects and Complementary Medicine
Fabrizio Benedetti
Turin, Italy

16:20 Incorporating Complementary Medicine into Movement Disorders Care
Benzi Kluger
Denver, CO, 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 breadth of complementary and alternative treatment options and their evidence base in managing movement disorders
2. Incorporate considerations of placebo influences in the treatment of movement disorders
3. Formulate strategies for integrating complementary and alternative treatments with an evidence base into the comprehensive management of movement disorder patients

5209 Parallel Session TICKET

The Ataxias: The Spinocerebellar Ataxias, Recessive Ataxias and Secondary Ataxias
15:00 – 17:00

Location: Ballroom C
Chairs: Joaquim Ferreira
Lisbon, Portugal
Helio Teive
Curitiba, Brazil

15:00 Classifications and Etiologies of Ataxias: A Clinical Approach
Helio Teive
Curitiba, Brazil

15:40 Genetic Testing in Spinocerebellar Ataxias in Clinics: Challenges and Limitations
Yih-Ru Wu
Taipei, Taiwan

Thursday, June 8, 2017

5209 Parallel Session TICKET, cont.

16:20 Clinical and Experimental Therapies in Ataxias
Stefan Pulst
Salt Lake City, UT, 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 etiologies and classifications of ataxias
2. Recognize the challenges and limitations of genetic testing in ataxias
3. Identify the clinical and experimental therapies in ataxias

5310 Teaching Course TICKET

Classification and Management of Tremor
15:00 – 17:00

Location: Room 119
Chairs: Günther Deuschl
Kiel, Germany
Yoshikazu Ugawa
Fukushima, Japan

15:00 Evolving Classification of Tremor with Updates on New Tremor Entities
Günther Deuschl
Kiel, Germany

15:40 Clinical Examination of Tremor
Alexander Rajput
Saskatoon, SK, Canada

16:20 Current Treatment Options for Tremor
Matej Skorvanek
Kosice, Slovakia

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 current definition and classification of tremor and recognize new tremor entities, for example dystonic tremor and the 'current' concept of essential tremor
2. Identify different examination techniques in patients with tremor that will lead to a structured clinical approach
3. Discuss different therapeutic options for tremor including pharmacologic and surgical treatments

5311 Teaching Course TICKET

Management of Advanced Parkinson's Disease
15:00 – 17:00

Location: Room 109
Chairs: Nir Giladi
Tel Aviv, Israel
Lars Timmermann
Cologne, Germany

15:00 Pharmacological Strategies for Managing Motor Complications
Angelo Antonini
Venice, Italy

15:40 Surgery and Other Invasive Therapies for Managing Motor Complications
Thomas Kimber
Adelaide, SA, Australia

16:20 Management of Levodopa-Unresponsive Symptoms
Nir Giladi
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. Describe the different oral medications and pharmacologic strategies that can be used to manage dyskinesias and motor fluctuations in advanced Parkinson's disease
2. Recognize which patients with advanced Parkinson's disease need more invasive therapies, such as: Deep Brain Stimulation, continuous subcutaneous apomorphine and levodopa intestinal gel, including an assessment of the risks and benefits of each therapy for individual patients
3. Discuss the treatment options for disabling levodopa-unresponsive symptoms in the advanced Parkinson's disease patient, including dysautonomia, dysphagia, dysarthria, and falls

See International Congress mobile app for full faculty listing

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** St. Jude Medical™ neurostimulation systems are available by prescription only. Clinicians should discuss the benefits and risk of using this system with their patients.

1. Rebelo, R.; Forrow, B.; Fletcher, C... & Cheeran, B. (2017, January). *Treatment of Tremor using the Infinity™ Directional Deep Brain Stimulation System: The Oxford Experience.* Poster presented at the North American Neuromodulation Society (NANS). Las Vegas, NV.

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Corporate Therapeutic Symposia

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

Sunday, June 4, 2017

Teva

Addressing Unmet Needs in Hyperkinetic Movement Disorders
13:15-14:15
Location: Room 119

Sunovion

Off States in Parkinson's Disease: Options Beyond Oral Medications
13:15-14:15
Location: Room 211

Monday, June 5, 2017

Britannia

A Landmark Year for Apomorphine: Advancing PD Management with New Clinical Evidence
12:45-13:45
Location: Room 211

Neurocrine

New Treatment for Tardive Dyskinesia: A Case Based Approach
12:45-13:45
Location: Room 221

Corporate Therapeutic Symposia

Tuesday, June 6, 2017

Acorda

Off Periods: Are We Assessing What Matters
12:45-13:45

Location: Room 221

Zambon

Safinamide as Add-On Therapy: Moving Beyond Dopamine for a Multifaceted Approach in Parkinson's Disease
12:45-13:45

Location: Room 119

Teva

Update on the Management of Huntington's Disease Chorea
12:45-13:45

Location: Room 211

Young Delegates Reception

Tuesday, June 6

Sponsored by Lundbeck

19:30 – 21:00

Location: Room 223

See International Congress mobile app for more information.

Wednesday, June 7, 2017

AbbVie

The Tipping Point in Advanced Parkinson's Disease: How to Maintain Patient's Quality of Life
12:15-13:15

Location: Room 211

Lundbeck

Doctor, I'm Dizzy: Clinical and Patient Perspectives of Neurogenic Orthostatic Hypotension
12:15-13:15

Location: Room 119

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Off States in Parkinson's Disease: Options Beyond Oral Medications

Sunday, June 4, 2017
13:15 – 14:15
Lunch to be provided - optional

Vancouver Convention Centre – West
Room 211

Symposium Schedule:

- Understanding and appreciating the OFF spectrum in Parkinson's Disease (Kelvin Chou, MD)
- Challenges of current oral 'first-pass' therapies for OFF states in Parkinson's Disease (Janis Miyasaki, MD, MEd, FRCPC, FAAN)
- Treatment options and approaches for OFF states in Parkinson's Disease (Fabrizio Stocchi, MD, PhD)
- Panel Discussion (Fabrizio Stocchi, MD, PhD; Kelvin Chou, MD; Janis Miyasaki, MD)

This is a non-CME program sponsored by Sunovion Pharmaceuticals Inc. and the speakers are consultants of Sunovion.

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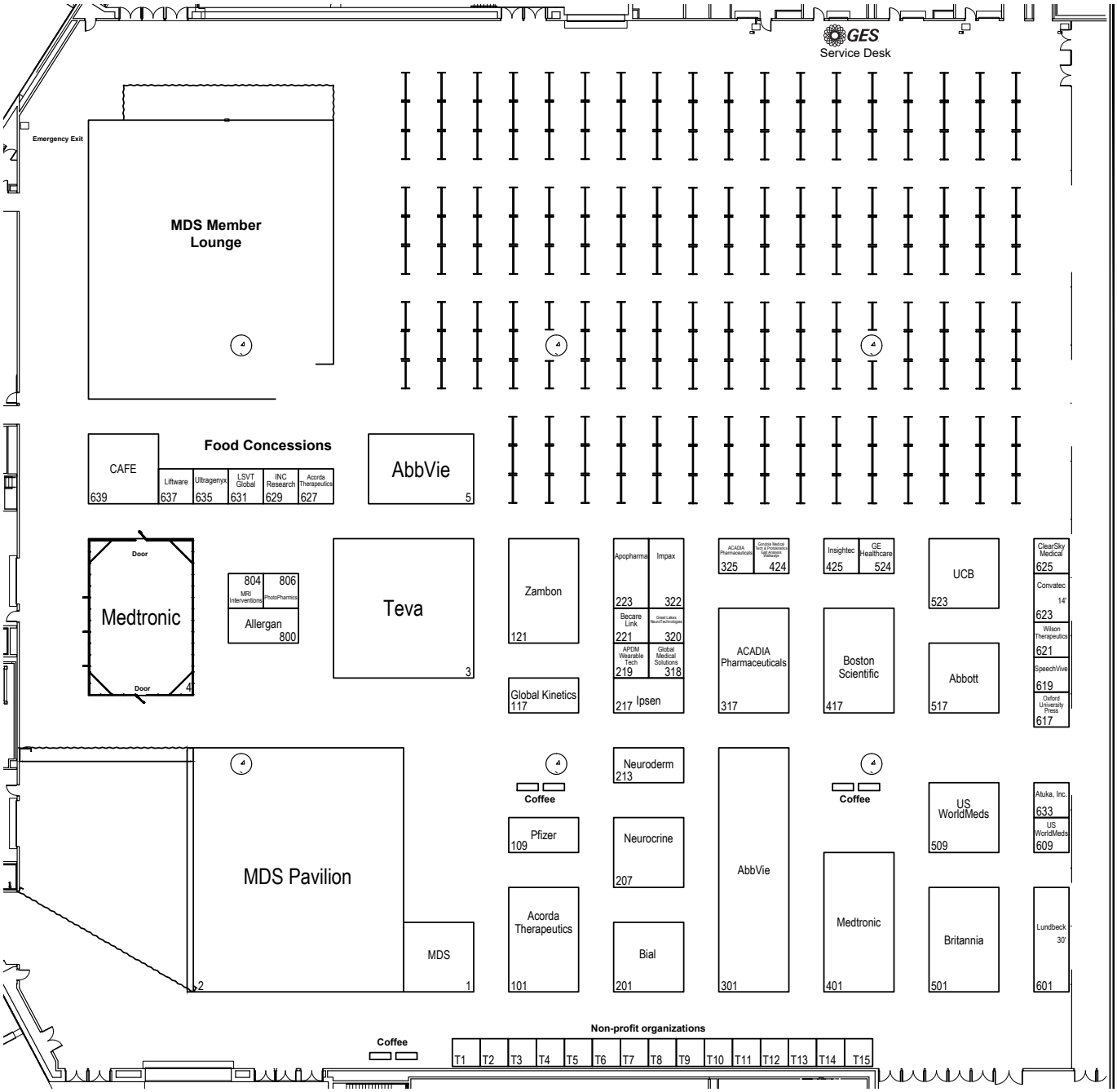

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Education Grant Supporters

MDS acknowledges the supporters of the following 21st International Congress activities through unrestricted educational grants:

Therapeutic Plenary Session 1101

Treating Motor Complications of Parkinson's Disease, Supported by Adamas Pharmaceuticals

Therapeutic Plenary Session 1102

Treatment of Dystonia, Supported by Boston Scientific, Ipsen & Merz North America

Therapeutic Plenary Session 1104

Update on Neurosurgical Interventions for Movement Disorders, Supported by Boston Scientific

Teaching Course 2310

Practical Management of Common Non-Motor Symptoms in Parkinson's Disease, Supported by ACADIA Pharmaceuticals & Lundbeck

Skills Workshop 2412

Which Targeting Technique for Botulinum Toxin Injections? Supported by Allergan, Ipsen & Merz North America

Skills Workshop 2413

Post-Surgical Management of Deep Brain Stimulation Therapies, Supported by Boston Scientific

Plenary Session 3102

Huntington's Disease Molecular and Therapeutic Advances, Supported by Lundbeck

Parallel Session 3205

Breaking News in Movement Disorders, Supported by Impax

Teaching Course 3310

Classification, Pathogenesis, and Management of Dystonia, Supported by Ipsen & Merz North America

Plenary Session 5102

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Notes

Notes

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Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. NUPLAZID is not approved for the treatment of patients with dementia-related psychosis unrelated to the hallucinations and delusions associated with Parkinson's disease psychosis.

QT Interval Prolongation: NUPLAZID prolongs the QT interval. The use of NUPLAZID should be avoided in patients with known QT prolongation or in combination with other drugs known to prolong QT interval including Class 1A antiarrhythmics or Class 3 antiarrhythmics, certain antipsychotic medications, and certain antibiotics. NUPLAZID should also be avoided in patients with a history of cardiac arrhythmias, as well as other circumstances that may increase the risk of the occurrence of torsade de pointes and/or sudden death, including symptomatic bradycardia, hypokalemia or hypomagnesemia, and presence of congenital prolongation of the QT interval.

Adverse Reactions: The most common adverse reactions (≥2% for NUPLAZID and greater than placebo) were peripheral edema (7% vs 2%), nausea (7% vs 4%), confusional state (6% vs 3%), hallucination (5% vs 3%), constipation (4% vs 3%), and gait disturbance (2% vs <1%).

Drug Interactions: Strong CYP3A4 inhibitors (eg, ketoconazole) increase NUPLAZID concentrations. Reduce the NUPLAZID dose by one-half.

NUPLAZID®
(pimavanserin) tablets

Strong CYP3A4 inducers may reduce NUPLAZID exposure, monitor for reduced efficacy. Increase in NUPLAZID dosage may be needed.

Renal Impairment: No dosage adjustment for NUPLAZID is needed in patients with mild to moderate renal impairment. Use of NUPLAZID is not recommended in patients with severe renal impairment.

Hepatic Impairment: Use of NUPLAZID is not recommended in patients with hepatic impairment. NUPLAZID has not been evaluated in this patient population.

Pregnancy: Use of NUPLAZID in pregnant women has not been evaluated and should therefore be used in pregnancy only if the potential benefit justifies the potential risk to the mother and fetus.

Pediatric Use: Safety and efficacy have not been established in pediatric patients.

Dosage and Administration

Recommended dose: 34 mg per day, taken orally as two 17-mg tablets once daily, without titration.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch or call 1-800-FDA-1088. You can also call ACADIA Pharmaceuticals Inc. at 1-844-4ACADIA (1-844-422-2342).

NUPLAZID (pimavanserin) is not available for sale in Canada.

See Brief Summary of Prescribing Information on adjacent pages.

Reference: 1. NUPLAZID® (pimavanserin) prescribing information, ACADIA.

ACADIA® Pharmaceuticals

NUPLAZID™ (pimavanserin) tablets, for oral use.
Rx only
Brief Summary: This information is not comprehensive. Visit www.NUPLAZID.com to obtain the FDA-approved product labeling or call 1-844-422-2342.

WARNING: INCREASED MORTALITY IN ELDERLY PATIENTS WITH DEMENTIA-RELATED PSYCHOSIS

Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. NUPLAZID is not approved for the treatment of patients with dementia-related psychosis unrelated to the hallucinations and delusions associated with Parkinson's disease psychosis.

1 INDICATIONS AND USAGE

NUPLAZID™ is an atypical antipsychotic indicated for the treatment of hallucinations and delusions associated with Parkinson's disease psychosis.

2 DOSAGE AND ADMINISTRATION

The recommended dose of NUPLAZID is 34 mg, taken orally as two 17-mg strength tablets once daily, without titration.

- **Coadministration with Strong CYP3A4 Inhibitors**
  The recommended dose of NUPLAZID when coadministered with strong CYP3A4 inhibitors (e.g., ketoconazole) is 17 mg, taken orally as one tablet once daily.
- **Coadministration with Strong CYP3A4 Inducers**
  Monitor patients for reduced efficacy if NUPLAZID is used concomitantly with strong CYP3A4 inducers; an increase in NUPLAZID dosage may be needed.

4 CONTRAINDICATIONS

None.

5 WARNINGS AND PRECAUTIONS

Increased Mortality in Elderly Patients with Dementia-Related Psychosis

Antipsychotic drugs increase the all-cause risk of death in elderly patients with dementia-related psychosis. Analyses of 17 dementia-related psychosis placebo-controlled trials (modal duration of 10 weeks and largely in patients taking atypical antipsychotic drugs) revealed a risk of death in the drug-treated patients of between 1.6- to 1.7-times that in placebo-treated patients. Over the course of a typical 10-week controlled trial, the rate of death in drug-treated patients was about 4.5%, compared to a rate of about 2.6% in placebo-treated patients.

Although the causes of death were varied, most of the deaths appeared to be either cardiovascular (e.g., heart failure, sudden death) or infectious (e.g., pneumonia) in nature. NUPLAZID is not approved for the treatment of patients with dementia related psychosis unrelated to the hallucinations and delusions associated with Parkinson's disease psychosis.

QT Interval Prolongation

NUPLAZID prolongs the QT interval. The use of NUPLAZID should be avoided in patients with known QT prolongation or in combination with other drugs known to prolong QT interval including Class 1A antiarrhythmics (e.g., quinidine, procainamide) or Class 3 antiarrhythmics (e.g., amiodarone, sotalol), certain antipsychotic medications (e.g., ziprasidone, chlorpromazine, thioridazine), and certain antibiotics (e.g., gatifloxacin, moxifloxacin). NUPLAZID should also be avoided in patients with a history of cardiac arrhythmias, as well as other circumstances that may increase the risk of the occurrence of torsade de pointes and/or sudden death, including symptomatic bradycardia, hypokalemia or hypomagnesemia, and the presence of congenital prolongation of the QT interval.

6 ADVERSE REACTIONS

The following serious adverse reactions are discussed elsewhere in the labeling:

- Increased Mortality in Elderly Patients with Dementia-Related Psychosis
- QT Interval Prolongation

Clinical Trial Experience

The clinical trial database for NUPLAZID consists of over 1200 subjects and patients exposed to one or more doses of NUPLAZID.

Adverse reactions that occurred in 6-week, placebo-controlled studies and that were reported at an incidence of ≥2%, and >placebo are presented in the following table.

Adverse Reactions (≥2% and >Placebo)		
Preferred Term	**NUPLAZID 34 mg**	**Placebo**
	N = 202	**N = 231**
Nausea	7%	4%
Peripheral edema	7%	2%
Confusional state	6%	3%
Hallucination	5%	3%
Constipation	4%	3%
Gait disturbance	2%	<1%

[a]Hallucination includes visual, auditory, tactile, and somatic hallucinations

7 DRUG INTERACTIONS

QT Interval Prolongation

Concomitant use of drugs that prolong the QT interval may add to the QT effects of NUPLAZID and increase the risk of cardiac arrhythmia. Avoid the use of NUPLAZID in combination with other drugs known to prolong QT interval.

Strong CYP3A4 Inhibitors

Concomitant use of NUPLAZID with a strong CYP3A4 inhibitor increases pimavanserin exposure. If NUPLAZID is used with a strong CYP3A4 inhibitor, reduce the dosage of NUPLAZID.

Strong CYP3A4 Inducers

Concomitant use of a strong CYP3A4 inducer may reduce pimavanserin exposure resulting in a potential decrease in efficacy. Patients should be monitored for reduced efficacy and an increase in dosage may be needed if NUPLAZID is used concomitantly with strong CYP3A4 inducers.

8 USE IN SPECIFIC POPULATIONS

Pregnancy: There are no data on NUPLAZID use in pregnant women that would allow assessment of the drug-associated risk of major congenital malformations or miscarriage.
In animal reproduction studies, no adverse developmental effects were seen when pimavanserin was administered orally to rats or rabbits during the period of organogenesis at doses up to 10- or 12-times the maximum recommended human dose (MRHD) of 34 mg/day, respectively. Administration of pimavanserin to pregnant rats during pregnancy and lactation resulted in maternal toxicity and lower pup survival and body weight at doses which are 2-times the MRHD of 34 mg/day.

Lactation: There is no information regarding the presence of pimavanserin in human milk, the effects on the breastfed infant, or the effects on milk production. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for NUPLAZID and any potential adverse effects on the breastfed infant from NUPLAZID or from the underlying maternal condition.

Pediatric Use
Safety and effectiveness of NUPLAZID have not been established in pediatric patients.

Geriatric Use
No dose adjustment is required for elderly patients. Parkinson's disease is a disorder occurring primarily in individuals over 55 years of age. The mean age of patients enrolled in the 6-week clinical studies with NUPLAZID was 71 years, with 49% 65-75 years old and 31% >75 years old. In the pooled population of patients enrolled in 6-week, placebo-controlled studies (N=614), 27% had MMSE scores from 21 to 24 compared to 73% with scores ≥25. No clinically meaningful differences in safety or effectiveness were noted between these two groups.

Renal Impairment
No dosage adjustment for NUPLAZID is needed in patients with mild to moderate (CrCL ≥30 mL/min, Cockcroft-Gault) renal impairment. Use of NUPLAZID is not recommended in patients with severe renal impairment (CrCL <30 mL/min, Cockcroft-Gault). NUPLAZID has not been evaluated in this patient population.

Hepatic Impairment
Use of NUPLAZID is not recommended in patients with hepatic impairment. NUPLAZID has not been evaluated in this patient population.

9 DRUG ABUSE AND DEPENDENCE
Controlled Substance
NUPLAZID is not a controlled substance.

Abuse
NUPLAZID has not been systematically studied in humans for its potential for abuse, tolerance, or physical dependence. While short-term, placebo-controlled and long-term, open-label clinical trials did not reveal increases in drug-seeking behavior, the limited experience from the clinical trials do not predict the extent to which a CNS-active drug will be misused, diverted, and/or abused once marketed.

10 OVERDOSAGE
Human Experience
The pre-marketing clinical trials involving NUPLAZID in approximately 1200 subjects and patients do not provide information regarding symptoms with overdose. In healthy subject studies, dose limiting nausea and vomiting were observed.

Management of Overdose
There are no known specific antidotes for NUPLAZID. In managing overdose, cardiovascular monitoring should commence immediately and should include continuous ECG monitoring to detect possible arrhythmias. If antiarrhythmic therapy is administered, disopyramide, procainamide, and quinidine should not be used, as they have the potential for QT-prolonging effects that might be additive to those of NUPLAZID. Consider the long plasma half-life of pimavanserin (about 57 hours) and the possibility of multiple drug involvement.

17 PATIENT COUNSELING INFORMATION
Concomitant Medication
Advise patients to inform their healthcare providers if there are any changes to their current prescription or over-the-counter medications, since there is a potential for drug interactions.

CAUTION: Federal law prohibits dispensing without prescription.

Distributed by: ACADIA Pharmaceuticals Inc. San Diego, CA 92130
NU-0381 09/16.

A CORPORATE THERAPEUTIC SYMPOSIUM ON PARKINSON'S DISEASE

OFF PERIODS: ARE WE ASSESSING WHAT MATTERS?

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Philadelphia, PA, USA

with

RAJESH PAHWA, MD
Kansas City, KS, USA

CONNIE MARRAS, MD, PhD
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C WARREN OLANOW, MD, FRCPC, FRCP(hon)
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SUSTAINED AND SMOOTH COMT INHIBITION COMPARED TO ENTACAPONE [3,4]
ONgentys® ONCE-DAILY ENABLES TAILORING OF EXISTING L-DOPA REGIMENS TO MAXIMIZE ITS CLINICAL BENEFIT [5]

1 . Bonifacio MJ, Sutcliffe JS, Torrao L, Wright LC , Soares-da- Silva P. Brain and peripheral pharmacokinetics of levodopa in the cynomolgus monkey following administration of opicapone, a third generation nitrocatechol COMT inhibitor. Neuropharmacology 2014; 77: 334-41. **2.** Nuno P, Kiss L and Soares-da-Silva P. Catechol-O-Methyl-Transferase Inhibitors: Present Problems and Relevance of the New Ones. RSC Drug Discovery Series, Royal Society of Chemistry. Book chapter 4. Vol. 34, 83-109, 2013. **3.** Rocha J., Falcao A., Santos A., Pinto R., Lopes N., Nunes T., Wright L., Vaz da Silva M. & Soares da Silva P. Effect of opicapone and entacapone upon levodopa pharmacokinetics during three daily levodopa administrations. Eur J Clin Pharmacol 2014; 70:1059–1071. **4.** Rocha J., Falcao A., Pinto R., Nunes T., Soares-da-Silva P. Effect of opicapone and entacapone on levodopa pharmacokinetics when administered with immediate release 100/25 mg levodopa/carbidopa in healthy subjects. Abstract in Journal of the Neurological Sciences 333 (2013) e109–e151. Poster in XXI World Congress of Neurology - Vienna, Austria (WCN 2013). **5.** Ferreira J., Lees A., Rocha J., Poewe W., Rascol O. & Soares da Silva P for the Bi-Park 1 investigators. Opicapone as an adjunct to levodopa in patients with Parkinson's disease and end of dose motor fluctuations: a randomized, double-blind, controlled trial. The Lancet Neurology 2016; 15; 2:154 – 165.

PRESCRIBING INFORMATION
Ongentys® Opicapone▼
Please refer to the SPC before prescribing. **Presentation:** Ongentys 50 mg hard capsules. **Indication:** Ongentys is indicated as adjunctive therapy to preparations of levodopa/ DOPA decarboxylase inhibitors (DDCI) in adult patients with Parkinson's disease and end-of-dose motor fluctuations who cannot be stabilised on those combinations. **Posology and method of administration:** The recommended dose of opicapone is 50 mg. Ongentys should be taken once-daily at bedtime at least one hour before or after levodopa combinations. *Dose adjustments of antiparkinsonian therapy:* Opicapone enhances the effects of levodopa. Hence, it is often necessary to adjust levodopa dosage within the first days to first weeks after initiating the treatment with opicapone. *Missed dose:* If one dose is missed, the next dose should be taken as scheduled. The patient should not take an extra dose to make up for the missed dose. **Elderly:** No dose adjustment is needed for elderly patients. Caution must be exercised in patients ≥ 85 years of age as there is limited experience in this age group. *Renal impairment:* No dose adjustment is necessary in patients with renal impairment, as opicapone is not excreted by the kidney. **Hepatic impairment:** No dose adjustment is necessary in patients with mild hepatic impairment (Child Pugh Class A). There is limited clinical experience in patients with moderate hepatic impairment (Child-Pugh Class B). Caution must be exercised in these patients and dose adjustment may be necessary. There is no clinical experience in patients with severe hepatic impairment (Child Pugh Class C), therefore, Ongentys is not recommended in these patients. **Paediatric population:** There is no relevant use of Ongentys in the paediatric population with Parkinson's disease and motor fluctuations. **Method of administration:** Oral use. The capsules should be swallowed whole with water. **Contraindications:** Hypersensitivity to the active substance or to any of the excipients. Phaeochromocytoma, paraganglioma, or other catecholamine secreting neoplasms.History of neuroleptic malignant syndrome and/or non-traumatic rhabdomyolysis. Concomitant use with monoamine oxidase (MAO-A and MAO-B) inhibitors (e.g. phenelzine, tranylcypromine and moclobemide) other than those for the treatment of Parkinson's disease. **Special warnings and precautions for use:** *Dose adjustments of antiparkinsonian therapy:* Ongentys is to be administered as an adjunct to levodopa treatment. Hence, the precautions valid for levodopa treatment should also be taken into account for Ongentys. Opicapone enhances the effects of levodopa. To reduce levodopa-related dopaminergic adverse reactions (e.g. dyskinesia, hallucinations, nausea, vomiting and orthostatic hypotension), it is often necessary to adjust the daily dose of levodopa by extending the dosing intervals and/or reducing the amount of levodopa per dose within the first days to first weeks after initiating treatment with Ongentys, according to the clinical condition of the patient. If Ongentys is discontinued it is necessary to adjust the dosing of the other antiparkinsonian treatments, especially levodopa, to achieve a sufficient level of control of the symptoms. *Psychiatric disorders:* Patients and care-givers should be made aware that impulse control disorders including pathological gambling, increased libido, hypersexuality, compulsive spending or buying, binge eating and compulsive eating can occur in patients treated with dopamine agonists and/or other dopaminergic treatments. Patients should be monitored regularly for the development of impulse control disorders and review of treatment is recommended if such symptoms develop. *Others:* Increases in liver enzymes were reported in studies with nitrocatechol inhibitors of catechol-O-methyltransferase (COMT). For patients who experience progressive anorexia, asthenia and weight decrease within a relatively short period of time, a general medical evaluation including liver function should be considered. *Intolerance to excipients:* Ongentys contains lactose. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take Ongentys. **Interaction with other medicinal products and other forms of interaction:** *Monoamino oxidase (MAO) inhibitors:* Combination of opicapone and MAO inhibitors could result in inhibition of the majority of the pathways responsible for the metabolism of catecholamines. Because of this, concomitant use of opicapone with MAO inhibitors (e.g. phenelzine, tranylcypromine and moclobemide) other than those for the treatment of Parkinson's disease is contraindicated. Concomitant use of opicapone and MAO inhibitors for the treatment of Parkinson's disease, e.g. rasagiline (up to 1 mg/day) and selegiline (up to 10 mg/day in oral formulation or 1.25 mg/day in buccal absorption formulation), is permissible. There is *no experience with opicapone when used concomitantly with the MAO-B inhibitor safinamide. Therefore, their concomitant use should be considered with appropriate caution. Medicinal products metabolised by COMT:* Opicapone may interfere with the metabolism of medicinal products containing a catechol group that are metabolised by COMT, e.g. rimiterole, isoprenaline, adrenaline, noradrenaline, dopamine, dopexamine or dobutamine, leading to potentiated effects of these medicinal products. Careful monitoring of patients being treated with these medicinal products is advised when opicapone is used. *Tricyclic antidepressants and noradrenaline re-uptake inhibitors*: There is limited experience with opicapone when used concomitantly with tricyclic antidepressants and noradrenaline re-uptake inhibitors (e.g. venlafaxine, maprotiline and desipramine). Thus, their concomitant use should be considered with appropriate caution. *Repaglinide*: Opicapone is a weak inhibitor of CYP2C8. A study in healthy subjects using a dose of 25 mg, and a less than optimal formulation, showed an average increase of 30 % in the rate, but not the extent, of exposure to repaglinide when co-administered (i.e. given at the same time) with opicapone most likely caused by an inhibition of CYP2C8. Thus, particular consideration should be given to medicinal products metabolised by CYP2C8 and their co-administration must be avoided. *OATP1B1 substrates*: Opicapone is a weak inhibitor of OATP1B1. There is no experience with opicapone when used concomitantly with OATP1B1 substrates. Thus, particular consideration should be given to medicinal products transported by OATP1B1 and their concomitant use should be considered with appropriate caution. **Fertility, pregnancy and lactation:** *Pregnancy:* There are no or limited amount of data from the use of opicapone in pregnant women. Animal studies are insufficient with respect to reproductive toxicity (see section 5.3). Ongentys is not recommended during pregnancy and in women of childbearing potential not using contraception. *Breast-feeding:* It is unknown whether opicapone or its metabolites are excreted in human milk. A risk to the newborns/infants cannot be excluded. Breast-feeding should be discontinued during treatment with Ongentys. *Fertility*: The effects of opicapone on fertility in humans have not been studied. Animal studies with opicapone do not indicate harmful effects with respect to fertility. **Effects on ability to drive and use machines:** Opicapone in association with levodopa may have major influence on the ability to drive and use machines. Opicapone may, together with levodopa, cause dizziness, symptomatic orthostatism and somnolence. Therefore, caution should be exercised when driving or using machines. **Undesirable effects:** *Summary of the safety profile:* The most common adverse reactions reported were nervous system disorders. Dyskinesia was the most frequently reported treatment-emergent adverse reaction (17.7%). *List of adverse reactions: Very common* (≥ 1/10): Dyskinesia. *Common* (≥ 1/100 to < 1/10): Abnormal dreams, Hallucination, Hallucination visual, Insomnia, Dizziness, Headache, Somnolence, Orthostatic Hypotension, Constipation, Dry mouth, Vomiting, Muscle spasms, Blood creatine phosphokinase increased; *Uncommon* (≥ 1/1,000 to < 1/100) Decreased appetite, Hypertriglyceridaemia, Anxiety, Depression, Hallucination auditory, Nightmare, Sleep disorder., Dysgeusia, Hyperkinesia, Syncope, Dry eye, Ear congestion, Palpitations, Hypertension, Hypotension, Dyspnoea, Abdominal distention, Abdominal pain, Abdominal pain upper, Dyspepsia, Muscle twitching, Musculoskeletal stiffness, Myalgia, Pain in extremity, Chromaturia, Nocturia, Weight decreased. **Reporting of suspected adverse reactions:** Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via local regulations. **Overdose** There is no known specific antidote. Symptomatic and supportive treatment should be administered as appropriate. Removal of opicapone by gastric lavage and/or inactivation by administering activated charcoal should be considered. **PHARMACEUTICAL PARTICULARS. List of excipients:** *Capsule content:* Lactose monohydrate; Sodium starch glycolate, Type A; Maize starch, pregelatinized; Magnesium stearate. *Capsule shell*: Gelatin; Indigo carmine aluminium lake (E132); Erythrosine (E127); Titanium dioxide (E171). *Printing ink*: Shellac, titanium dioxide (E171), propylene glycol, ammonia, simethicone. **Special precautions for storage:** This medicinal product does not require any special temperature storage conditions. Blisters: Store in the original blister in order to protect from moisture. **Nature and contents of container:** OPA/Al/PVC//Al blisters containing 10, 30 or 90 capsules. **MARKETING AUTHORISATION HOLDER:** Bial - Portela & Cª, S.A. A Av. da Siderurgia Nacional. 4745-457 S. Mamede do Coronado. Portugal. Tel:+351 22 986 61 00. Fax: +351 22 986 61 90. e-mail: info@bial.com. **MARKETING AUTHORISATION NUMBER(S):** EU/1/15/1066/002-004. **DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION:** Date of first authorisation: 24th June 2016. ON/NOV16/G/028

ON/DEZ16/G/032 Ongentys obtained Marketing Authorization Approval from the European Commission on 24th June 2016. Currently it´s not available in all European Union countries.

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Vercise DBS Lead-only system (before Stimulator is implanted) is MR conditional. An MRI examination can be conducted safely when all instructions in the supplemental manual ImageReady™ MRI Guidelines for Boston Scientific DBS Systems are followed.

The Vercise™ PC Deep Brain Stimulation (DBS) System is indicated for use in unilateral or bilateral stimulation of the subthalamic nucleus (STN) or internal globus pallidus (GPi) for treatment of levodopa-responsive Parkinson's disease which is not adequately controlled with medication and also for treatment of intractable primary and secondary dystonia, for persons 7 years of age and older.

Thalamic stimulation using the Boston Scientific Vercise™ PC DBS System is indicated for the suppression of tremor not adequately controlled by medications in patients diagnosed with Essential Tremor or Parkinson's disease.

Not for distribution in France.