

International Parkinson and  
Movement Disorder Society

# MDS *Virtual* *Congress* 2021

SEPTEMBER 17-22, 2021

[www.mdscongress.org](http://www.mdscongress.org)

## PRELIMINARY PROGRAM

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## WELCOME

Dear Colleagues,

We are excited to share the program of the MDS Virtual Congress 2021 with you. The MDS Leadership, along with the International Congress Oversight Committee, made the decision to host the 2021 International Congress in a primarily virtual format on September 17-22, 2021. We are confident that this decision will help the Society continue to reach all corners of the world and meet the needs of the changing global climate.

MDS has been working on ways to make the Virtual Congress even more successful for 2021 including: high quality movement disorders education, opportunities for post-session discussion, networking opportunities for participants, electronic posters with opportunities to engage with presenters, and an innovative technology platform.

We look forward to virtually welcoming you to the MDS Virtual Congress 2021 in September for no fee (complimentary).

Sincerely,



Claudia Trenkwalder  
President, International Parkinson  
and Movement Disorder  
Society, 2019-2021



Oscar Gershanik  
Chair, International Congress  
Oversight Committee, 2019-2021



Vincenzo Bonifati  
Chair, Congress Scientific Program  
Committee, 2019-2021

## ABOUT MDS

The International Parkinson and Movement Disorder Society (MDS) is a professional society of clinicians, scientists, and other healthcare professionals who are interested in Parkinson's disease, related neurodegenerative and neurodevelopmental disorders, hyperkinetic movement disorders, and abnormalities in muscle tone and motor control.

### PURPOSE, MISSION AND GOALS

#### Purpose:

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

#### Mission and Goals:

To disseminate knowledge about Movement Disorders by:

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

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

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

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

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

### MDS OFFICERS (2019-2021)



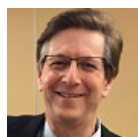
President  
Claudia Trenkwalder  
*Germany*



President-Elect  
Francisco Cardoso  
*Brazil*



Secretary  
Bastiaan Bloem  
*Netherlands*



Secretary-Elect  
Charles Adler  
*USA*



Treasurer  
Louis Tan  
*Singapore*



Treasurer-Elect  
Irene Litvan  
*USA*



Past-President  
Christopher Goetz  
*USA*

### MDS INTERNATIONAL EXECUTIVE COMMITTEE

Shengdi Chen, *People's Republic of China*  
Mark Edwards, *United Kingdom*  
Cristian Falup-Pecurariu, *Romania*  
Joaquim Ferreira, *Portugal*  
Marina de Koning-Tijssen, *Netherlands*  
Alice Nieuwboer, *Belgium*  
D. James Surmeier, *USA*  
Pille Taba, *Estonia*  
Mayela Rodriguez-Violante, *Mexico*  
Ruey-Meei Wu, *Taiwan*



## ABOUT MDS

### INTERNATIONAL CONGRESS OVERSIGHT COMMITTEE

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Chair: Oscar Gershanik, *Argentina*  
Vincenzo Bonifati, *Netherlands*  
Francisco Cardoso, *Brazil*  
Christopher Goetz, *USA*  
Tove Henriksen, *Denmark*  
Matthew Stern, *USA*  
Louis Tan, *Singapore*  
Claudia Trenkwalder, *Germany*

### CONGRESS SCIENTIFIC PROGRAM COMMITTEE

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Chair: Vincenzo Bonifati, *Netherlands*  
Co-Chair: Tove Henriksen, *Denmark*  
Orlando Barsottini, *Brazil*  
Roongroj Bhidayasiri, *Thailand*  
Per Borghammer, *Denmark*  
Francisco Cardoso, *Brazil*  
Pietro Cortelli, *Italy*  
Terry Ellis, *USA*  
Alberto Espay, *USA*  
Jennifer Friedman, *USA*  
Steven Frucht, *USA*  
Oscar Gershanik, *Argentina*  
Jennifer Goldman, *USA*  
Etienne Hirsch, *France*  
Hyder Jinnah, *USA*  
Beomseok Jeon, *South Korea*  
Andrea Kühn, *Germany*  
Shen-Yang Lim, *Malaysia*  
Karen Marder, *USA*  
Wassilios Meissner, *France*  
Njideka Okubadejo, *Nigeria*  
Tiago Outeiro, *Germany*  
Ron Postuma, *Canada*  
Veronica Santini, *USA*  
Andrew Siderowf, *USA*  
Maria Stamelou, *Greece*  
Carolyn Sue, *Australia*  
Ryosuke Takahashi, *Japan*  
Claudia Trenkwalder, *Germany*

### PAST-PRESIDENTS

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2017-2019 Christopher Goetz, *USA*  
2015-2017 Oscar Gershanik, *Argentina*  
2013-2015 Matthew Stern, *USA*  
2011-2013 Günther Deuschl, *Germany*  
2009-2011 Philip Thompson, *Australia*  
2007-2009 Anthony Lang, *Canada*  
2005-2006 Andrew Lees, *United Kingdom*  
2003-2004 C. Warren Olanow, *USA*  
2001-2002 Werner Poewe, *Austria*  
1999-2000 Mark Hallett, *USA*  
1997-1998 Eduardo Tolosa, *Spain*  
1995-1996 Joseph Jankovic, *USA*  
1991-1994 C. David Marsden, *United Kingdom*  
1988-1991 Stanley Fahn, *USA*

### INTERNATIONAL MEDICAL SOCIETY FOR MOTOR DISTURBANCES PAST-PRESIDENTS

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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

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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  
Email: [info@movementdisorders.org](mailto:info@movementdisorders.org)  
Website: [www.movementdisorders.org](http://www.movementdisorders.org)

## VIRTUAL CONGRESS INFORMATION

### ABSTRACT POSTER INFORMATION

Beginning on September 10, 2021, Virtual Congress participants can view e-posters in the Poster Hall. Additionally, all abstracts will be published in the *Movement Disorders* journal e-supplement.

### EXHIBITION

Manufacturers, distributors and suppliers of products and services for physicians and researchers involved with Movement Disorders are invited to participate in the Virtual Congress exhibition. To receive a copy of the Exhibitor Prospectus, please visit the International Congress section of the MDS website at <https://www.mdscongress.org/Congress/Sponsorship--Exhibiting.htm>. The exhibition is open to all registered delegates.

### OFFICIAL LANGUAGE

The official language of the MDS Virtual Congress 2021 is English.

### REGISTRATION

Registration will open June 7, 2021 for no fee (complimentary) for participants. The MDS Virtual Congress 2021 scientific sessions, sponsored symposia, exhibits and the Poster Hall will be available on demand for free until October 1, 2021. After October 1, 2021, the Virtual Congress will continue to be available on demand for MDS Members for a limited time.

### PHOTOGRAPHY AND VIDEO RECORDING POLICY

Photography, video or audio recording (including screen capture) of these sessions, materials, speaker likenesses or MDS graphics without written permission from MDS is strictly prohibited. Please note that photographs and video taken by or on behalf of MDS shall be property of MDS.

## Visit the Young Delegate's Hub

on the Virtual Congress Platform after September 10, 2021 to find resources for career development, network with peers and MDS leadership and to learn about how to get more involved with the Society.



International Parkinson and  
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### Highlights include:

- On Demand discussions with leaders in the field
- Discussion board to connect with peers
- Ask Me Anything: 30 minute sessions with leaders
- MDS volunteer opportunities
- Upcoming courses of interest to Young Delegates
- MDS membership information
- Photo wall





## VIRTUAL CONGRESS 2021 EVENTS

### WELCOME CEREMONY

Friday, September 17, 2021  
10:00 EDT / 16:00 CEST / 18:00 GST / 23:00 JST

All Virtual Congress delegates are warmly invited to attend the Welcome Ceremony. MDS President Claudia Trenkwalder and other MDS leaders will introduce this event and give a preview of what to expect throughout the meeting.

In celebration of achievements of leaders in the field of Movement Disorders, awards will also be presented during the Welcome Ceremony.

### MDS BUSINESS MEETING

Saturday, September 18, 2021  
8:00 EDT / 14:00 CEST / 16:00 GST / 21:00 JST

Open to all International Congress delegates, the Society encourages Members to attend the MDS Business Meeting to receive updates from the MDS President and other MDS Officers on the Society and the various Regional Sections, to participate in the Officers' and International Executive Committee (IEC) election and to discuss other Society activities.

### CLOSING REMARKS

Wednesday, September 22, 2021  
10:30 EDT / 16:30 CEST / 18:30 GST / 23:30 JST

### MDS VIDEO CHALLENGE

Sunday, September 19, 2021  
13:00 EDT / 19:00 CEST / 21:00 GST / 2:00 JST (+1)



Master of Ceremony  
Anthony Lang  
Canada

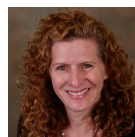


Master of Ceremony  
Kailash Bhatia  
United Kingdom

Please join Masters of Ceremony, Anthony Lang and Kailash Bhatia, as they host a world-renowned panel of Movement Disorders experts in guiding participants through unique Movement Disorder cases. The cases will be presented by representatives of Movement Disorder Centers from around the world. The phenomenology, differential diagnosis and preferential diagnosis will be discussed by an assigned Expert Discussant after which the diagnosis will be revealed. Following this, the highlights and critical learning points/take-home messages will be discussed by one of four Faculty Discussants: Jennifer Friedman, Christine Klein, Manju Kurian and Marina De Koning-Tijssen. Awards will be given for the most interesting and challenging cases. The goal of this session is for attendees to learn from a series of unusual, very interesting patients and see how senior experts approach these types of challenging cases.

### Meet the Experts of the MDS Video Challenge

#### Faculty Discussants:



Jennifer Friedman  
USA



Christine Klein  
Germany



Manju Kurian  
United Kingdom



Marina De Koning-Tijssen  
Netherlands

#### Expert Discussants:

Zakiyah Aldaajani, Saudi Arabia  
Miriam Carecchio, Italy  
Silke Appel-Cresswell, Canada  
John Duda, USA  
Asha Kishore, India

Anna Latorre, United Kingdom  
Davide Martino, Canada  
Pablo Mir, Spain  
Alex Münchau, Germany  
Ron Postuma, Canada

## CME INFORMATION

### TARGET AUDIENCE

This activity is intended for clinicians, researchers, fellows, residents, medical students, and allied health professionals with an interest in current clinical trends and approaches for the diagnosis and treatment of movement disorders.

### OBJECTIVES

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

### ACCREDITATION STATEMENT

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME). The International Parkinson and Movement Disorder Society is accredited by the ACCME to provide continuing medical education for physicians.

### CREDIT DESIGNATION

The International Parkinson and Movement Disorder Society designates this education activity for a maximum of 34 *AMA PRA Category 1 Credits™*. Physicians should claim only credit commensurate with the extent of their participation in the activity.

### SATISFACTORY COMPLETION

Participants must complete an evaluation for each session they attend to receive continuing medical education credit. Your chosen session(s) must be attended in their entirety. Partial credit of individual sessions is not available.

### CONTENT VALIDITY STATEMENT

All recommendations involving clinical medicine in MDS activities are based on evidence that is accepted within the profession of medicine as adequate justification for their indications and contraindications in the case of patients. All scientific research referred to, reported or used in CME in support or justification of patient care recommendations conforms to the generally accepted standards of experimental design, data collection and analysis. Activities that promote recommendations, treatment or manners of practicing medicine not within the definition of CME or are knowing to have risks or dangers that outweigh the benefits or are knowing to be ineffective in the treatment of patients do not constitute valid CME.

## Network with your colleagues to get the most out of your MDS Virtual Congress 2021 experience.

### New this year:


- Meet the Expert Roundtable Discussions
- Post Session Discussions
- Networking Lounge
- Chat Channels

Log in to the Virtual Platform after September 10, 2021 to learn more.



## SESSION DEFINITIONS

### ACCREDITED SCIENTIFIC SESSIONS

**2021 Themed Sessions:** At each annual MDS Congress, the Congress Scientific Program Committee selects a theme that is highlighted throughout the meeting. This year's theme, *Towards Personalized Medicine for Movement Disorders*, will be showcased with international experts serving as faculty. Meeting participants can elect to attend any or all of these sessions. Themed sessions are designated in the program with .

**Controversies in Movement Disorders:** This Plenary Session is designed 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.

**"Highlights for 2021: Looking Towards 2022" Plenary Session:** In this session, MDS experts present compilations of the hottest clinical and basic research articles published in the past year in the whole field of the Movement Disorders, and expected to impact heavily on the future research.

**Neuroscience Bridges Plenary Session:** In this session, world-renowned neuroscientists provide overviews of their clinical or basic research, on topics of broad interest and relevance for the advancement of knowledge on the nervous system in physiology and pathology.

**Parallel Sessions:** These concurrent sessions provide an in-depth summary of new clinical and basic research findings, state-of-the-art treatment options, and future strategies on a variety of focused topics within the field of Movement Disorders. All 2021 Parallel Sessions will also feature Top Abstracts.

The **Top Abstracts** program gives broader visibility to the best original research presented during the MDS Virtual Congress by integrating select high-scoring abstract presentations into the parallel session presentations. Selected Top Abstract authors will present their findings during the session, and participate in the LIVE discussion amongst the session faculty.

**Plenary Sessions:** These sessions provide an overview of the latest clinical and basic science research findings and state-of-the-art information relating to topics of broad interest within the field of Movement Disorders.

**Skills Workshops:** These concurrent sessions provide practical illustrations of clinical or scientific techniques relevant to the field of Movement Disorders through video examples and equipment demonstrations.

**Special Topics in Movement Disorders:** These interactive sessions address "hot" topics in science or medicine using a variety of different formats that may include lectures, video presentations, and audience interaction.

**Teaching Courses:** These educational programs provide up-to-date information on the clinical and basic science of select 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.

**Therapeutic Plenary Sessions:** These sessions provide an overview of the latest, state-of-the-art options in the diagnosis and management of Parkinson's disease and other movement disorders.

**Video Sessions:** These concurrent sessions focus on video demonstrations to provide an overview of clinical movement disorders.

### NON-ACCREDITED EDUCATIONAL ACTIVITIES AND NETWORKING OPPORTUNITIES

**Abstract Presentations:** All accepted abstract authors are welcome and encouraged to present their work during the Virtual Congress as a PDF poster and a short oral (video) presentation. Attendees can view abstracts on demand at any time during the Virtual Congress. All accepted abstracts are published by MDS.

**Guided Poster Tours:** Guided Poster Tours give delegates an opportunity to hear discussion on a select group of high-scoring abstracts dealing with defined topics.

**NEW in 2021: Meet the Experts Roundtable Discussions:** In an interactive roundtable format, participants of the Meet the Experts Roundtable Discussions will gain practical knowledge from Experts in the field on how to be successful in their careers. Each discussion is limited to a 25-person capacity with advanced sign-up required. More information about the Roundtable Discussions will be available in August.

**NEW in 2021: Post-Session Discussions/Networking:** Post-Session Discussions offer an opportunity for continued conversation to discuss the learnings and highlights of the session. The discussion will be moderated by Young Members, and will encourage open dialogue and networking amongst all attendees. Session faculty are encouraged to attend, but not required.

**Science of Industry Sessions:** These interactive sessions will provide attendees with a non-CME educational opportunity to learn about novel therapeutic agents under development by industry. Sessions may incorporate basic scientists or clinicians working in industry, and topics may address the biological rationale or development process for specific therapeutics in development within the field of Movement Disorders.

### SPONSORED SYMPOSIA

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

### MDS VIDEO CHALLENGE

**MDS Video Challenge:** The goal of this session is for attendees to learn from a series of unusual patients and observe how senior experts approach a challenging case. A world-renowned panel of Movement Disorders experts guide attendees through unique Movement Disorder cases as they are presented by representatives from Movement Disorder centers around the world.

### INTERNATIONAL CONGRESS FACULTY ROLES

**Chair:** Facilitates the learnings of the session, engages the faculty in ongoing discussion with attendees.

**CSPC Liaison:** Develops the session from the onset; provides guidance to ensure that the learning objectives are met; interacts with Speakers / Presenters to ensure presentations are well integrated and overlap is minimized.

**Speaker / Presenter:** Creates and delivers the presentation materials, participates in the dialogue of the session.

## SCHEDULE-AT-A-GLANCE - Central European Summer Time (CEST), Copenhagen

Please note that Therapeutic Plenary Sessions and Plenary Sessions will be launched twice during the Virtual Congress to accommodate participants in both the Western and Eastern Hemispheres. Participants can view the Schedule-at-a-Glance provided in several different time zones on the [Virtual Congress website](#).

CEST	FRIDAY September 17, 2021	SATURDAY September 18, 2021	SUNDAY September 19, 2021
1:30			
2:00			
2:30		Plenary Session 201: Presidential Lectures Eastern Hemisphere	Therapeutic Plenary Session 101 Eastern Hemisphere
3:00			
3:30			
4:00			Post-Session Discussion / Break
4:30			
5:00			Therapeutic Plenary Session 102 Eastern Hemisphere
5:30			
6:00			
6:30			Post-Session Discussion / Break
7:00			
7:30			Therapeutic Plenary Session 103 Eastern Hemisphere
8:00			
8:30			
9:00			Post-Session Discussion / Break
9:30			
10:00			Therapeutic Plenary Session 104 Eastern Hemisphere
10:30			
11:00			
11:30			Post-Session Discussion / Break
12:00			
12:30		Therapeutic Plenary Session 101 Western Hemisphere	Plenary Session 202 Western Hemisphere
13:00			
13:30			
14:00		Post-Session Discussion / Break	Post-Session Discussion / Break
14:30		MDS Business Meeting	
15:00			Parallel Sessions & Teaching Courses
15:30		Therapeutic Plenary Session 102 Western Hemisphere	
16:00	Welcome Ceremony		Post-Session Discussion / Break
16:30			
17:00		Post-Session Discussion / Break	
17:30	Plenary Session 201: Presidential Lectures Western Hemisphere		Skills Workshops, Special Topics in Movement Disorders Sessions & Video Sessions
18:00		Therapeutic Plenary Session 103 Western Hemisphere	
18:30			Break
19:00			
19:30		Post-Session Discussion / Break	
20:00			
20:30		Therapeutic Plenary Session 104 Western Hemisphere	MDS Video Challenge
21:00			
21:30			
22:00		Post-Session Discussion / Break	

COLOR KEY
CME Accredited Sessions
Non-CME Educational Activities
MDS Activities and Events
Breaks



## SCHEDULE-AT-A-GLANCE - Central European Summer Time (CEST), Copenhagen

Participants can view the Schedule-at-a-Glance provided in several different time zones on the [Virtual Congress website](#).

CEST	MONDAY September 20, 2021		TUESDAY September 21, 2021		WEDNESDAY September 22, 2021	THURSDAY September 23, 2021	
1:30							
2:00	Plenary Session 202 Eastern Hemisphere		Plenary Session 203 Eastern Hemisphere		Plenary Session 205 Eastern Hemisphere	Plenary Session 207 Eastern Hemisphere	
2:30							
3:00							
3:30							
4:00	Post-Session Discussion / Break		Post-Session Discussion / Break		Post-Session Discussion / Break	Post-Session Discussion / Break	
4:30			Plenary Session 204: Neuroscience Bridges Eastern Hemisphere		Plenary Session 206 Eastern Hemisphere	Plenary Session 208 Eastern Hemisphere	
5:00			Post-Session Discussion / Break				
5:30							
6:00					Post-Session Discussion / Break		
6:30							
7:00							
7:30							
8:00							
8:30							
9:00							
9:30							
10:00							
10:30							
11:00							
11:30							
12:00	Plenary Session 203 Western Hemisphere		Plenary Session 205 Western Hemisphere		Plenary Session 207 Western Hemisphere		
12:30							
13:00							
13:30							
14:00	Post-Session Discussion / Break		Post-Session Discussion / Break		Post-Session Discussion / Break		
14:30	Plenary Session 204: Neuroscience Bridges Western Hemisphere		Plenary Session 206 Western Hemisphere		Plenary Session 208 Western Hemisphere		
15:00							
15:30							
16:00	Post-Session Discussion / Break		Post-Session Discussion / Break		Congress Closing Remarks		
16:30							
17:00	Parallel Sessions & Teaching Courses	Science of Industry (non-CME) Session	Parallel Sessions & Teaching Courses	Science of Industry (non-CME) Session			
17:30							
18:00							
18:30							
19:00	Post-Session Discussion / Break		Post-Session Discussion / Break				
19:30	Skills Workshops, Special Topics in Movement Disorders Sessions & Video Sessions		Skills Workshops, Special Topics in Movement Disorders Sessions & Video Sessions				
20:00							
20:30							
21:00							
21:30							
22:00							

COLOR KEY

CME Accredited Sessions

Non-CME Educational Activities

MDS Activities and Events

Breaks

COLOR KEY
CME Accredited Sessions
Non-CME Educational Activities
MDS Activities and Events
Breaks

## FRIDAY, SEPTEMBER 17, 2021

All Scientific Program sessions will include 30 minutes of LIVE faculty question and answer unless noted specifically.  
To verify the session time in your local time zone, please use the following link: <https://www.timeanddate.com/worldclock/converter.html>

### Welcome Ceremony

16:00 CEST – 17:00 CEST

All Virtual Congress delegates are warmly invited to attend the Welcome Ceremony. MDS President Claudia Trenkwalder and other MDS leaders will introduce this event and give a preview of what to expect throughout the meeting.

In celebration of achievements of leaders in the field of Movement Disorders, awards will also be presented during the Welcome Ceremony.

### 201 Plenary Session

#### Presidential Lectures

17:00 CEST – 19:00 CEST

This session will feature LIVE discussion amongst the Junior Award recipients and session chairs only.

**Chairs:** Francisco Cardoso, *Brazil*  
Claudia Trenkwalder, *Germany*  
C. David Marsden Lecture Award  
Etienne Hirsch, *France*  
Stanley Fahn Lecture Award  
Oscar Gershanik, *Argentina*  
Junior Award Lecturers  
To Be Announced

**CSPC Liaisons:** Francisco Cardoso, *Brazil*  
Claudia Trenkwalder, *Germany*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

## SATURDAY, SEPTEMBER 18, 2021

### 201 Plenary Session

#### Presidential Lectures

2:00 CEST – 3:30 CEST

This session will not feature LIVE question and answer.

**Chairs:** Francisco Cardoso, *Brazil*  
Claudia Trenkwalder, *Germany*  
C. David Marsden Lecture Award  
Etienne Hirsch, *France*  
Stanley Fahn Lecture Award  
Oscar Gershanik, *Argentina*  
Junior Award Lecturers  
To Be Announced

**CSPC Liaisons:** Francisco Cardoso, *Brazil*  
Claudia Trenkwalder, *Germany*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

### 101 Therapeutic Plenary Session

#### Parkinson's Disease: Early Motor Aspects, Late Motor Aspects, Non-Motor Aspects

12:00 CEST – 14:00 CEST

**Chairs:** Shen-Yang Lim, *Malaysia*  
Matthew Stern, *USA*

Early Motor Aspects  
Jee-Young Lee, *South Korea*  
Late Motor Aspects  
Tove Henriksen, *Denmark*

Non-Motor Aspects  
Maria Cersosimo, *Argentina*

**CSPC Liaisons:** Oscar Gershanik, *Argentina*  
Shen-Yang Lim, *Malaysia*

**Recommended Audience:** Clinician / General Neurology, Fellow / Resident / Student, Health Professional (non-physician), Industry

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Summarize the current management strategies for Parkinson's disease in the early clinical stages
2. Discuss the available management strategies for advanced and complicated Parkinson's disease
3. Describe the range of non-motor symptoms of Parkinson's disease and their management



## SATURDAY, SEPTEMBER 18, 2021

All Scientific Program sessions will include 30 minutes of LIVE faculty question and answer unless noted specifically.  
To verify the session time in your local time zone, please use the following link: <https://www.timeanddate.com/worldclock/converter.html>

### MDS Business Meeting

14:00 CEST – 15:00 CEST

All participants are encouraged to attend.

### 102 Therapeutic Plenary Session

#### Diagnosis and Treatment of Atypical Parkinsonism

15:00 CEST – 17:00 CEST

Chairs: Piu Chan, *People's Republic of China*  
Irene Litvan, *USA*

Clinical Manifestations and Red-Flag Signs of Atypical Parkinsonism  
Han-Joon Kim, *South Korea*

Imaging and Other Biomarkers in Atypical Parkinsonism  
Huw Morris, *United Kingdom*

Management Strategies for Atypical Parkinsonism  
Maria Stamelou, *Greece*

CSPC Liaisons: Shen-Yang Lim, *Malaysia*  
Wassilios Meissner, *France*

Recommended Audience: Clinician / General Neurology, Fellow / Resident / Student, Health Professional (non-physician)

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Differentiate atypical parkinsonism based on clinical features
2. Discuss imaging and other biomarkers in atypical parkinsonism
3. Describe management options for atypical parkinsonism

### 103 Therapeutic Plenary Session

#### Tremor, Dystonia and Ataxia

17:30 CEST – 19:30 CEST

Chairs: Christopher Goetz, *USA*  
Ryuji Kaji, *Japan*

Diagnosis and Management of Tremor  
Peter Bain, *United Kingdom*

Diagnosis and Management of Dystonia  
Joseph Jankovic, *USA*

Diagnosis and Management of Ataxia  
Theresa Zesiewicz, *USA*

CSPC Liaisons: Buz Jinnah, *USA*  
Maria Stamelou, *Greece*

Recommended Audience: Clinician / General Neurology, Fellow / Resident / Student, Health Professional (non-physician), Industry, Researcher / Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Describe the diagnosis and management of tremor
2. Describe the diagnosis and management of dystonia
3. Describe the diagnosis and management of ataxia

### 104 Therapeutic Plenary Session

#### Surgical Interventions for Movement Disorders

20:00 CEST – 22:00 CEST

Chairs: Beomseok Jeon, *South Korea*  
Marie Vidailhet, *France*

Deep Brain Stimulation in Parkinson's Disease: Outcomes and Challenges  
Elena Moro, *France*

Deep Brain Stimulation in Dystonia  
Andrea Kühn, *Germany*

New Imaging Approaches in Deep Brain Stimulation  
Michael Fox, *USA*



CSPC Liaisons: Beomseok Jeon, *South Korea*  
Andrea Kühn, *Germany*

Recommended Audience: Clinician / General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert



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

1. Discuss the outcomes of current challenges of DBS in the management of Parkinson's disease
2. Discuss the role of DBS in the management of dystonia
3. Discuss new imaging-based approaches for optimized DBS

**Symbol Legend:**  2021 Themed Session;  This session will feature Post-Session Discussion/Networking;  This session will feature Top Abstract presentations;  To accommodate participants in both the Western and Eastern Hemispheres, this session will launch twice during the Virtual Congress

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**101 Therapeutic Plenary Session**  

**Parkinson's Disease: Early Motor Aspects, Late Motor Aspects, Non-Motor Aspects**  
2:00 CEST – 4:00 CEST

**Chairs:** Shen-Yang Lim, *Malaysia*  
Matthew Stern, *USA*

Early Motor Aspects  
Jee-Young Lee, *South Korea*

Late Motor Aspects  
Tove Henriksen, *Denmark*

Non-Motor Aspects  
Maria Cersosimo, *Argentina*

**CSPC Liaisons:** Oscar Gershanik, *Argentina*  
Shen-Yang Lim, *Malaysia*

**Recommended Audience:** Clinician/General Neurology, Fellow/Residents/Student, Health Professional (non-physician), Industry

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Summarize the current management strategies for Parkinson's disease in the early clinical stages
2. Discuss the available management strategies for advanced and complicated Parkinson's disease
3. Describe the range of non-motor symptoms of Parkinson's disease and their management

**102 Therapeutic Plenary Session**  

**Diagnosis and Treatment of Atypical Parkinsonism**  
4:30 CEST – 6:30 CEST

**Chairs:** Piu Chan, *People's Republic of China*  
Irene Litvan, *USA*

Clinical Manifestations and Red-Flag Signs of Atypical Parkinsonism  
Han-Joon Kim, *South Korea*

Imaging and Other Biomarkers in Atypical Parkinsonism  
Huw Morris, *United Kingdom*

Management Strategies for Atypical Parkinsonism  
Maria Stamelou, *Greece*



**CSPC Liaisons:** Shen-Yang Lim, *Malaysia*  
Wassilios Meissner, *France*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician)

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Differentiate atypical parkinsonism based on clinical features
2. Discuss imaging and other biomarkers in atypical parkinsonism
3. Describe management options for atypical parkinsonism

**103 Therapeutic Plenary Session**  

**Tremor, Dystonia and Ataxia**  
7:00 CEST – 9:00 CEST

**Chairs:** Christopher Goetz, *USA*  
Ryuji Kaji, *Japan*

Diagnosis and Management of Tremor  
Peter Bain, *United Kingdom*

Diagnosis and Management of Dystonia  
Joseph Jankovic, *USA*

Diagnosis and Management of Ataxia  
Theresa Zesiewicz, *USA*

**CSPC Liaisons:** Buz Jinnah, *USA*  
Maria Stamelou, *Greece*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Describe the diagnosis and management of tremor
2. Describe the diagnosis and management of dystonia
3. Describe the diagnosis and management of ataxia

**104 Therapeutic Plenary Session**  

**Surgical Interventions for Movement Disorders**  
9:30 CEST – 11:30 CEST

**Chairs:** Beomseok Jeon, *South Korea*  
Marie Vidailhet, *France*

Deep Brain Stimulation in Parkinson's Disease: Outcomes and Challenges  
Elena Moro, *France*

Deep Brain Stimulation in Dystonia  
Andrea Kühn, *Germany*

New Imaging Approaches in Deep Brain Stimulation  
Michael Fox, *USA*



**CSPC Liaisons:** Beomseok Jeon, *South Korea*  
Andrea Kühn, *Germany*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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




1. Discuss outcomes and current challenges of DBS in the management of Parkinson's disease
2. Discuss the role of DBS in the management of dystonia
3. Discuss new imaging-based approaches for optimized DBS

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**202 Plenary Session**   

**The Heterogeneity of Parkinson's Disease**  
12:00 CEST – 14:00 CEST

Chairs: Ron Postuma, *Canada*  
Louis Tan, *Singapore*

Evolution of Parkinson's Disease Subtypes from Pre-Motor to Late Disease Stages  
Michele Hu, *United Kingdom*

Defining Parkinson's Disease Subtypes According to Their Biomarker Signature  
Chin-Hsien Lin, *Taiwan*

Precision Medicine for Parkinson's Disease Subtypes  
Connie Marras, *Canada*




CSPC Liaisons: Per Borghammer, *Denmark*  
Wassilios Meissner, *France*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Intermediate/Experienced, Advanced/Expert

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

1. Describe the evolution of Parkinson's disease subtypes from pre-motor to late disease stages
2. Recognize Parkinson's disease subtypes according to their biomarker signature
3. Discuss precision medicine for Parkinson's disease subtypes

**301 Parallel Session**   

**Treatable Rare Movement Disorders Not to Miss**  
14:30 CEST – 16:30 CEST

Chairs: Jennifer Friedman, *USA*  
Yoshiaki Furukawa, *Japan*

Metabolic/Genetic Movement Disorders in Childhood  
Jeff Waugh, *USA*

Metabolic/Genetic Movement Disorders in Adulthood  
Mayela Rodriguez Violante, *Mexico*

Autoimmune Movement Disorders  
Victor Fung, *Australia*




CSPC Liaisons: Jennifer Friedman, *USA*  
Maria Stamelou, *Greece*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced

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

1. Recognize clinical clues and plan diagnostic workup and management in children with a suspected rare, treatable metabolic/genetic movement disorder
2. Recognize clinical clues and plan diagnostic workup and management in adults with a suspected rare, treatable metabolic/genetic movement disorder
3. Recognize clinical clues and plan diagnostic workup and management in patients with a suspected autoimmune movement disorder

**302 Parallel Session**   

**Targets for Disease Modification in Parkinson's Disease**  
14:30 CEST – 16:30 CEST

Chairs: Werner Poewe, *Austria*  
Eduardo Tolosa, *Spain*

Alpha-synuclein as a Target  
Michael Schlossmacher, *Canada*

Targets Based on Genetic Insights  
Valina Dawson, *USA*

Other Targets  
David Devos, *France*




CSPC Liaisons: Oscar Gershanik, *Argentina*  
Andrew Siderowf, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Describe the rationale of targeting alpha-synuclein for disease modification in Parkinson's disease
2. Discuss possible targets for disease modification in Parkinson's disease based on insights from genetics
3. Recognize other putative targets for disease modification in Parkinson's disease

**303 Parallel Session**   

**Functional Movement Disorders: From Neurophysiology to New Management Strategies**  
14:30 CEST – 16:30 CEST

Chairs: Sarah Lidstone, *Canada*  
Francesca Morgante, *United Kingdom*

Exploring the Pathophysiology of Functional Movement Disorders  
Selma Aybek Rusca, *Switzerland*

The Role of Multidisciplinary Care and Rehabilitation Therapies  
Michele Tinazzi, *Italy*

Emerging Management Strategies  
Kai-Hsiang Chen, *Taiwan*




CSPC Liaisons: Oscar Gershanik, *Argentina*  
Jennifer Goldman, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced




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

1. Describe the pathophysiology of functional movement disorders studies
2. Discuss the role and evidence base for multidisciplinary and rehabilitation care in the management of functional movement disorders
3. Discuss new management strategies for functional movement disorders

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**304 Parallel Session**   

**Genetics of Parkinson's Disease: State-of-the-Art and Future Perspectives**  
14:30 CEST – 16:30 CEST

Chairs: Marcelo Kauffman, *Argentina*  
Carolyn Sue, *Australia*

Update on the Monogenic Forms of Parkinson's Disease  
Andreas Puschmann, *Sweden*

Update on the Genome-Wide Association Studies (GWAS) in Parkinson's Disease  
Sara Bandres Ciga, *USA*

Ongoing and Future Global Collaborative Genetic Studies of Parkinson's Disease  
Ignacio Fernandez Mata, *USA*



CSPC Liaisons: Vincenzo Bonifati, *Netherlands*  
Tiago Outeiro, *Germany*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Industry, Researcher/Basic Science

Education Level: Intermediate/Experienced, Advanced/Expert

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

1. Describe the current landscape of highly-penetrant forms of inherited Parkinson's disease
2. Summarize the status of the genome-wide association studies (GWAS) in Parkinson's disease
3. Identify the ongoing and future global collaborative efforts in the field of the genetics of Parkinson's disease

**305 Parallel Session**  

**Huntington's Disease: From Bench to Bedside**  
14:30 CEST – 16:30 CEST

Chairs: Joaquim Ferreira, *Portugal*  
Karen Marder, *USA*

What's New in the Genetics of Huntington's Disease  
Laura Jardim, *Brazil*

The Clinical Continuum from Pre-Manifest to Manifest Huntington's Disease  
Julie Stout, *Australia*

Present and Future of a Multidisciplinary Approach to Huntington's Disease Management  
Anne Rosser, *United Kingdom*

CSPC Liaisons: Francisco Cardoso, *Brazil*  
Karen Marder, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Researcher/Basic Science

Education Level: Intermediate/Experienced, Advanced/Expert

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

1. Describe the recent developments in the genetics of Huntington's disease
2. Describe the clinical features of pre-manifest and manifest Huntington's disease
3. Review the multidisciplinary approach to the pharmacological and non-pharmacological management of Huntington's disease

**306 Parallel Session**  

**Update on MRI Imaging in Movement Disorders**  
14:30 CEST – 16:30 CEST

Chairs: Per Borghammer, *Denmark*  
Jong-Min Kim, *South Korea*

Why Do We Need a Standardized MRI Protocol for Movement Disorders?  
David Vaillancourt, *USA*

Multi-modal MRI in Parkinson's Disease: More Information, More Knowledge?  
Sofia Reimao, *Portugal*

The Role of MRI in Atypical Parkinsonism: Diagnosis, Prognosis, Progression Markers  
Stéphane Lehericy, *France*

CSPC Liaisons: Roongroj Bhidayasiri, *Thailand*  
Per Borghammer, *Denmark*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced

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

1. Explain the need for standardized MRI protocols, which are robust across different imaging centers and MRI platforms
2. Explain how multi-modal imaging protocols amplify the diagnostic potential of MRI in Parkinson's disease
3. Explain how multi-modal MRI can be used for diagnosis, prognostication and as progression markers in atypical parkinsonism

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**401 Teaching Course**

**Ataxia, Stereotypies, and Myoclonus**  
14:30 CEST – 16:30 CEST

Chairs: Ritsuko Hanajima, *Japan*  
Bart Van De Warrenburg, *Netherlands*

Diagnostic Approach to Ataxias  
Hirohisa Watanabe, *Japan*

Stereotypy: The Commonly Missed Movement Disorder  
Manju Kurian, *United Kingdom*

Diagnosis and Treatment of Myoclonus  
Samia Ben Sassi, *Tunisia*

CSPC Liaisons: Ron Postuma, *Canada*  
Carolyn Sue, *Australia*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student  
Education Level: Beginner/Foundational, Intermediate/Experienced

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

1. Summarize the diagnostic approach to patients with ataxia
2. Recognize stereotypies, their associations and how to differentiate them from other movement disorders
3. Propose a diagnostic and management approach to different types of myoclonus

**402 Teaching Course**

**How to Examine Patients with Movement Disorders**  
14:30 CEST – 16:30 CEST

Chairs: Cynthia Comella, *USA*  
Oscar Gershanik, *Argentina*

How to Examine Patients with Hypokinetic Movement Disorders  
Eduardo Tolosa, *Spain*

How to Examine Patients with Hyperkinetic Movement Disorders  
Sanjay Pandey, *India*

How to Examine Pediatric Patients with Movement Disorders  
Jennifer Friedman, *USA*

CSPC Liaisons: Ron Postuma, *Canada*  
Carolyn Sue, *Australia*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician)  
Education Level: Beginner/Foundational, Intermediate/Experienced

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

1. Perform a comprehensive examination of patients with parkinsonism symptoms
2. Perform a comprehensive examination of patients with hyperkinetic movement disorders
3. Perform a comprehensive examination of children with movement disorders

**501 Skills Workshop**

**How to Set Up a Telemedicine Clinic**  
17:00 CEST – 18:30 CEST

Jawad Bajwa, *Saudi Arabia*  
Asha Kishore, *India*  
Meredith Spindler, *USA*

CSPC Liaisons: Roongroj Bhidayasiri, *Thailand*  
Alberto Espay, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student  
Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Recognize the opportunities and challenges of available technology for remote assessment of Parkinson's disease and other movement disorders
2. Discuss the steps necessary to implement a telemedicine clinic for patients with movement disorders

**502 Skills Workshop**

**Management of Autonomic Disturbances**  
17:00 CEST – 18:30 CEST

Elizabeth Coon, *USA*  
Pietro Guaraldi, *Italy*

CSPC Liaisons: Pietro Cortelli, *Italy*  
Veronica Santini, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science  
Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Recognize symptoms, perform a diagnostic workup, and organize management plans for cardiovascular autonomic dysfunctions
2. Recognize symptoms, perform a diagnostic workup, and organize management plans for gastrointestinal and genitourinary autonomic dysfunctions

**601 Special Topics in Movement Disorders**

**How to Become a Successful Movement Disorders Specialist**  
17:00 CEST – 18:30 CEST

Raymond Rosales, *Philippines*  
Kathleen Shannon, *USA*

CSPC Liaisons: Alberto Espay, *USA*  
Oscar Gershanik, *Argentina*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student  
Education Level: Beginner/Foundational

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

1. Define an area of expertise in movement disorders and pursue a career therein
2. Recognize the importance of searching for good mentors when pursuing a career and specialization in movement disorders

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### 602 Special Topics in Movement Disorders

#### Exercise in Parkinson's Disease: Does One Size Fit All?

17:00 CEST – 18:30 CEST

Daniel Corcos, *USA*  
Alice Nieuwboer, *Belgium*

CSPC Liaisons: Terry Ellis, *USA*  
Jennifer Goldman, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Assess the evidence for and against a personalized versus generalized approach to exercise prescription in Parkinson's disease
2. Analyze current evidence to determine optimal dosing of exercise to improve outcomes in Parkinson's disease

### 603 Special Topics in Movement Disorders

#### The Challenges of Parkinson's Disease in Low and Middle-Income Countries

17:00 CEST – 18:30 CEST

Gabriel Arango, *Colombia*  
Augustina Charway-Felli, *Ghana*

CSPC Liaisons: Njideka Okubadejo, *Nigeria*  
Claudia Trenkwalder, *Germany*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Describe the challenges of diagnosing and managing Parkinson's disease in low and middle-income countries
2. Delineate strategies that can improve access to trained healthcare professionals and services for people with Parkinson's disease in low and middle-income countries

### 604 Special Topics in Movement Disorders

#### Emerging Gene and Cell-Based Therapeutic Approaches for Movement Disorders

17:00 CEST – 18:30 CEST

Aristide Merola, *USA*  
Jun Takahashi, *Japan*

CSPC Liaisons: Vincenzo Bonifati, *Netherlands*  
Carolyn Sue, *Australia*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Discuss completed and ongoing clinical trials employing nucleic acids as therapeutic agents for different movement disorders
2. Discuss the different current and future cell-based therapeutic approaches to neurodegenerative movement disorders

### 701 Video Session

#### Neuro-Ophthalmology & Movement Disorders

17:00 CEST – 18:30 CEST

Ji-Soo Kim, *South Korea*  
Janet Rucker, *USA*

CSPC Liaisons: Orlando Barsottini, *Brazil*  
Shen-Yang Lim, *Malaysia*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Researchers/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Perform a bedside neuro-ophthalmological examination relevant to movement disorders
2. Describe clinical ocular and eye movement abnormalities that aid diagnosis of common, as well as uncommon, movement disorders

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### 702 Video Session

#### Pediatric Movement Disorders

17:00 CEST – 18:30 CEST

Belen Perez Duenas, *Spain*

Marcelo Masruha, *Brazil*

CSPC Liaisons: Orlando Barsottini, *Brazil*

Jennifer Friedman, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician)

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Describe the phenotypic spectrum of movement disorders in children
2. Recognize potentially treatable pediatric movement disorders

### MDS Video Challenge

19:00 CEST – 22:00 CEST

Please join Masters of Ceremony, Anthony Lang and Kailash Bhatia, as they host a world-renowned panel of Movement Disorders experts in guiding participants through unique Movement Disorder cases. The cases will be presented by representatives of Movement Disorder Centers from around the world. The phenomenology, differential diagnosis and preferential diagnosis will be discussed by an assigned Discussant after which the diagnosis will be revealed. Following this, the highlights and critical learning points/take-home messages will be discussed by one of 4 Experts: Jennifer Friedman, Christine Klein, Manju Kurian and Marina De Koning-Tijssen. Awards will be given for the most interesting and challenging cases. The goal of this session is for attendees to learn from a series of unusual, very interesting patients and see how senior experts approach these types of challenging cases.



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### 202 Plenary Session

#### The Heterogeneity of Parkinson's Disease

2:00 CEST – 4:00 CEST

Chairs: Ron Postuma, *Canada*  
Louis Tan, *Singapore*

Evolution of Parkinson's Disease Subtypes from Pre-Motor to Late Disease Stages  
Michele Hu, *United Kingdom*

Defining Parkinson's Disease Subtypes According to Their Biomarker Signature  
Chin-Hsien Lin, *Taiwan*

Precision Medicine for Parkinson's Disease Subtypes  
Connie Marras, *Canada*

CSPC Liaisons: Per Borghammer, *Denmark*  
Wassilios Meissner, *France*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Intermediate/Experienced, Advanced/Expert

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

1. Describe the evolution of Parkinson's disease subtypes from pre-motor to late disease stages
2. Recognize Parkinson's disease subtypes according to their biomarker signature
3. Discuss precision medicine for Parkinson's disease subtypes

### 203 Plenary Session

#### Neuro-Infections and Movement Disorders

12:00 CEST – 14:00 CEST

Chairs: Angelo Antonini, *Italy*  
Roongroj Bhidayasiri, *Thailand*

Neurobiology of SARS-CoV-2  
Stanley Perlman, *USA*

Movement Disorders in Patients with COVID-19 Infection Cases  
Hadi Manji, *United Kingdom*

Movement Disorders in Chronic Neuroinfections: Phenomenology and Treatment  
Pramod Pal, *India*

CSPC Liaisons: Francisco Cardoso, *Brazil*  
Claudia Trenkwalder, *Germany*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Summarize the biology of the SARS-CoV-2 and the pathogenesis of COVID-19 with a focus on the neurological aspects
2. Recognize the neurological phenomenology with a focus on movement disorders in patients with COVID-19
3. Discuss the diagnosis and management of chronic neuroinfections associated with movement disorders

### 204 Plenary Session

#### Neuroscience Bridges

14:30 CEST – 16:00 CEST


Chairs: Vincenzo Bonifati, *Netherlands*  
Etienne Hirsch, *France*

Don Cleveland, *USA*  
Madeline Lancaster, *United Kingdom*

CSPC Liaisons: Vincenzo Bonifati, *Netherlands*  
Etienne Hirsch, *France*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science


Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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**307 Parallel Session**   

**Glucocerebrosidase (GBA) Variants and Parkinson's Disease: From Bench to Bedside**  
17:00 CEST – 19:00 CEST

**Chairs:** Ellen Sidransky, *USA*  
Enza Maria Valente, *Italy*

Molecular Pathogenetic Mechanisms Underlying GBA-associated Parkinson's Disease  
Yoshitaka Nagai, *Japan*

Clinical Features in GBA-associated Parkinson's Disease  
Enza Maria Valente, *Italy*

Precision Medicine in GBA-associated Parkinson's Disease  
Alice Chen-Plotkin, *USA*



**CSPC Liaisons:** Andrew Siderowf, *USA*  
Ryosuke Takahashi, *Japan*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Industry, Researcher/Basic Science

**Education Level:** Intermediate/Experienced, Advanced/Expert

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

1. Describe the pathogenetic mechanisms in Parkinson's disease associated with GBA variants
2. Describe the clinical features in Parkinson's disease associated with GBA variants
3. Discuss precision medicine approaches towards the management of Parkinson's disease associated with GBA variants

**308 Parallel Session**   

**Multidisciplinary Care of Movement Disorders via Telehealth**  
17:00 CEST – 19:00 CEST

**Chairs:** Jennifer Goldman, *USA*  
Alice Nieuwboer, *Belgium*

Models of Multidisciplinary Care via Telehealth: Opportunities and Challenges  
Bastiaan Bloem, *Netherlands*

Delivering Telehealth in Underserved Areas  
Njideka Okubadejo, *Nigeria*

Bringing the Multidisciplinary Rehabilitation Team Together via Telehealth  
Lori Quinn, *USA*

**CSPC Liaisons:** Terry Ellis, *USA*  
Jennifer Goldman, *USA*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Describe multidisciplinary models of telehealth care, and discuss their opportunities and challenges
2. Discuss the delivery of telehealth in underserved areas
3. Describe the delivery of rehabilitation care through telehealth

**309 Parallel Session**  

**REM Sleep Behavior Disorder (RBD) and Other Parasomnias in Parkinson's Disease and Other Synucleinopathies**  
17:00 CEST – 19:00 CEST

*This session is offered in collaboration with the European Academy of Neurology (EAN).*

**Chairs:** Claudio Bassetti, *Switzerland*  
Claudia Trenkwalder, *Germany*

Phenomenology  
Alejandro Iranzo, *Spain*

Pathophysiology  
Isabelle Arnulf, *France*

RBD: From Biomarkers to Treatments  
Ron Postuma, *Canada*





**CSPC Liaisons:** Pietro Cortelli, *Italy*  
Tove Henriksen, *Denmark*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician)

**Education Level:** Intermediate/Experienced

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

1. Describe clinical manifestation of RBD and other parasomnias and their relationships with other clinical entities
2. Describe the pathophysiology and neuropathology underlying RBD and other parasomnias
3. Describe the current status of RBD as a biomarker of synucleinopathies and its management

**Symbol Legend:**  2021 Themed Session;  This session will feature Post-Session Discussion/Networking;  This session will feature Top Abstract presentations;  To accommodate participants in both the Western and Eastern Hemispheres, this session will launch twice during the Virtual Congress

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**310 Parallel Session**  

**New Approaches and Pitfalls in the Diagnosis and Management of Tourette Syndrome**  
17:00 CEST – 19:00 CEST

**Chairs:** Alexander Münchau, *Germany*  
Tara Murphy, *United Kingdom*

Pathogenesis of Tourette Syndrome: An Update  
James Leckman, *USA*

Clinical Features Assisting the Differential Diagnosis of Tourette Syndrome  
Kirsten Mueller-Vahl, *Germany*

Medical and Surgical Management of Tourette Syndrome  
Tamara Pringsheim, *Canada*



**CSPC Liaisons:** Francisco Cardoso, *Brazil*  
Alberto Espay, *USA*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced

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

1. Describe the diagnostic clues and pathogenesis of Tourette Syndrome
2. Discuss the differential diagnosis of Tourette syndrome
3. Summarize the medical and surgical management of Tourette syndrome

**311 Parallel Session**  

**Dystonia: From Bench to Bedside**  
17:00 CEST – 19:00 CEST

**Chair:** Patricia De Carvalho Aguiar, *Brazil*  
Buz Jinnah, *USA*

Potential Clinical Implications of Recent Genetic Studies in Dystonia  
Michael Zech, *Germany*

Potential Clinical Implications of Recent Imaging Studies in Dystonia  
Kristina Simonyan, *USA*

Potential Clinical Implications of Recent Pharmacological Studies in Dystonia  
Antonio Pisani, *Italy*



**CSPC Liaisons:** Buz Jinnah, *USA*  
Maria Stamelou, *Greece*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Describe the clinical implications of recent genetic studies in dystonia
2. Describe the clinical implications of recent neuroimaging studies in dystonia
3. Summarize evidence for potential novel management approaches in dystonia

**312 Parallel Session**  

**The Evolving Spectrum of Movement Disorder Tauopathies**  
17:00 CEST – 19:00 CEST

**Chairs:** Charles Adler, *USA*  
Wassilios Meissner, *France*

The Phenotypic Spectrum  
Melissa Armstrong, *USA*

Imaging and Other Biomarkers  
Yaroslau Compta, *Spain*

Current Management, Recent and Ongoing Trials  
Adam Boxer, *USA*


**CSPC Liaisons:** Wassilios Meissner, *France*  
Maria Stamelou, *Greece*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Industry, Researcher/Basic Science

**Education Level:** Intermediate/Experienced, Advanced/Expert

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

1. Describe the phenotypic spectrum of movement disorder tauopathies
2. Describe the current evidence on biomarkers for movement disorder tauopathies
3. Describe current and future management in movement disorder tauopathies

**403 Teaching Course** 

**Genetic Testing and Counseling: What Clinicians Need to Know**  
17:00 CEST – 19:00 CEST

**Chairs:** Rachel Saunders-Pullman, *USA*  
Susanne Schneider, *Germany*

Genetic Testing: Techniques and Pitfalls  
Andrea Nemeth, *United Kingdom*

Strategies in Choosing Genetic Tests for Patients with Movement Disorders  
Kishore Kumar, *Australia*

Genetic Counseling in Movement Disorders: Patients and Unaffected Relatives  
Deborah Raymond, *USA*


**CSPC Liaisons:** Ron Postuma, *Canada*  
Carolyn Sue, *Australia*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced

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

1. Explain the basic concepts of genetic testing and recognize the pitfalls of different genetic testing platforms available
2. Recommend the most appropriate genetic testing platform for patients with movement disorders including considerations for regional differences in genetic testing accessibility
3. Discuss ethical issues and considerations in genetic counseling for patients with movement disorders and their families

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### 404 Teaching Course

#### Gait Disorders: From Pathophysiology to the Clinic

17:00 CEST – 19:00 CEST

Chairs: Mark Hallett, *USA*  
Lynn Rochester, *United Kingdom*

Pathophysiology: The Role of Different Central Nervous System (CNS) Structures  
Anat Mirelman, *Israel*

Phenomenology  
Alfonso Fasano, *Canada*

Common and Rare Neurological Diseases with Prominent Gait Dysfunction  
Pattamon Panyakaew, *Thailand*

CSPC Liaisons: Ron Postuma, *Canada*  
Carolyn Sue, *Australia*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Describe the role of different CNS structures in the pathophysiology of gait disorders
2. Recognize the phenomenology of the different gait disorders
3. Diagnose common and rare neurological diseases with prominent gait dysfunction

### 901 Science of Industry (non-CME)

See page 33 for complete session information.

### 503 Skills Workshop

#### Speech Disorders in Parkinsonism and Their Management

19:30 CEST – 21:00 CEST

Serge Pinto, *France*  
Elina Tripoliti, *United Kingdom*

CSPC Liaisons: Terry Ellis, *USA*  
Veronica Santini, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Distinguish the features and underlying neural correlates of dysarthria in patients with Parkinson's disease and atypical parkinsonism
2. Assess behavioral, pharmacological, and non-invasive brain stimulation approaches to improve speech intelligibility and functional communication

### 504 Skills Workshop

#### How to Use the MDS-UPDRS and the MDS-NMS

19:30 CEST – 21:00 CEST

Cristian Falup-Pecurariu, *Romania*  
Veronica Santini, *USA*

CSPC Liaisons: Nijdeka Okubadejo, *Nigeria*  
Veronica Santini, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced

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

1. Evaluate patients and participants with the MDS-Unified Parkinson's Disease Rating Scale (MDS-UPDRS) and the MDS-Non-motor Rating Scale (MDS-NMS) in clinical and research settings
2. Practice using the MDS-Unified Parkinson's Disease Rating Scale (MDS-UPDRS) and the MDS-Non-motor Rating Scale (MDS-NMS) through interactive exercises and test cases

### 605 Special Topics in Movement Disorders

#### Nuclear Medicine in the Management of Movement Disorders

19:30 CEST – 21:00 CEST

Nicola Pavese, *United Kingdom*  
Jennifer Whitwell, *USA*

CSPC Liaisons: Per Borghammer, *Denmark*  
Karen Marder, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced

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

1. Describe the role played by PET and SPECT methods in Parkinson's disease research and in the clinical setting – with emphasis on diagnosis, prognostication, and progression markers
2. Describe the role played by PET and SPECT methods in atypical parkinsonism research and in the clinical setting – with emphasis on diagnosis, prognostication, and progression markers

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### 606 Special Topics in Movement Disorders

#### Hereditary Spastic Paraplegia: Clinical Spectrum and Genetic Advances

19:30 CEST – 21:00 CEST

John Fink, *USA*  
Giovanni Stevanin, *France*

CSPC Liaisons: Jennifer Friedman, *USA*  
Buz Jinnah, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Discuss the clinical spectrum and approach to diagnosis of hereditary spastic paraplegias
2. Discuss emerging pathogenetic pathways and implications for the development of rational management strategies for hereditary spastic paraplegias

### 607 Special Topics in Movement Disorders

#### Health Disparities in Movement Disorders

19:30 CEST – 21:00 CEST

Roland Dominic Jamora, *Philippines*  
Allison Willis, *USA*

CSPC Liaisons: Nijdeka Okubadejo, *Nigeria*  
Veronica Santini, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Examine existing racial, gender, and other health disparities in patients with movement disorders
2. Apply methods to combat health disparities and improve access and quality of movement disorders care

### 608 Special Topics in Movement Disorders

#### Movement Disorders and Internal Medicine

19:30 CEST – 21:00 CEST

Annu Aggarwal, *India*  
José Luiz Pedrosa, *Brazil*

CSPC Liaisons: Roongroj Bhidayasiri, *Thailand*  
Buz Jinnah, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician)

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Recognize the phenomenology of the most common movement disorders associated with general medical conditions
2. Describe the management of common movement disorders associated with general medical conditions

### 703 Video Session

#### A Case Based Approach to Dystonia: What Would You Do?

19:30 CEST – 21:00 CEST

Sun Ju Chung, *South Korea*  
Francesca Morgante, *United Kingdom*

CSPC Liaisons: Beomseok Jeon, *South Korea*  
Buz Jinnah, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Recognize unusual presentations of various forms of dystonia
2. Discuss current options (oral medications, botulinum toxin, Deep Brain Stimulation, rehabilitation) in the management of individual patients with different forms of dystonia

### 704 Video Session

#### Neuromodulation in Parkinson's Disease: A Case-Based Approach

19:30 CEST – 21:00 CEST

Patricia Krause, *Germany*  
Stephen Tisch, *Australia*

CSPC Liaisons: Beomseok Jeon, *South Korea*  
Andrea Kühn, *Germany*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry

Education Level: Beginner/Foundational, Intermediate/Experienced

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

1. Discuss inclusion and exclusion criteria for Deep Brain Stimulation in Parkinson's disease
2. Discuss troubleshooting and parameter setting for optional Deep Brain Stimulation in Parkinson's disease

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### 203 Plenary Session

#### Neuro-Infections and Movement Disorders

2:00 CEST – 4:00 CEST

Chairs:

Angelo Antonini, *Italy*

Roongroj Bhidayasiri, *Thailand*

Neurobiology of SARS-CoV-2

Stanley Perlman, *USA*

Movement Disorders in Patients with COVID-19

Infection Cases

Hadi Manji, *United Kingdom*

Movement Disorders in Chronic Neuroinfections:

Phenomenology and Treatment

Pramod Pal, *India*

CSPC Liaisons:

Francisco Cardoso, *Brazil*

Claudia Trenkwalder, *Germany*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Summarize the biology of the SARS-CoV-2 and the pathogenesis of COVID-19 with a focus on the neurological aspects
2. Recognize the neurological phenomenology with a focus on movement disorders in patients with COVID-19
3. Discuss the diagnosis and management of chronic neuroinfections associated with movement disorders

### 204 Plenary Session

#### Neuroscience Bridges

4:30 CEST – 6:00 CEST

*This session will not feature LIVE faculty question and answer.*

Chairs:

Vincenzo Bonifati, *Netherlands*

Etienne Hirsch, *France*

Don Cleveland, *USA*

Madeline Lancaster, *United Kingdom*

CSPC Liaisons:

Vincenzo Bonifati, *Netherlands*

Etienne Hirsch, *France*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

### 205 Plenary Session

#### Update on Alpha-Synuclein Protein: Biology and Pathophysiology

12:00 CEST – 14:00 CEST

Chairs:

Tiago Outeiro, *Germany*

Eng-King Tan, *Singapore*

Alpha-synuclein Structures

Michel Goedert, *United Kingdom*

Update on the Lewy Body

Henning Stahlberg, *Switzerland*

Mechanisms of Alpha-synuclein Related

Neurodegeneration

Veerle Baekelandt, *Belgium*

CSPC Liaisons:

Per Borghammer, *Denmark*

Tiago Outeiro, *Germany*

Recommended Audience: Fellow/Resident/Student, Industry, Researcher/Basic Science

Education Level: Intermediate/Experienced

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

1. Describe the structures of alpha-synuclein and the relationships with clinical manifestations
2. Discuss the nature and composition of the alpha-synuclein inclusions in the human brain
3. Summarize current knowledge on the mechanisms of alpha-synuclein related neurodegeneration

### 206 Plenary Session

#### Update on Recent Clinical Trials in Parkinson's Disease

14:30 CEST – 16:30 CEST

Chairs:

Olivier Rascol, *France*

Yih-Ru Wu, *Taiwan*

Motor Features

Susan Fox, *Canada*

Neuropsychiatric and Other Non-Motor Features

Simon Lewis, *Australia*

Disease Modifications

Thomas Foltynie, *United Kingdom*

CSPC Liaisons:

Wassilios Meissner, *France*





Andrew Siderowf, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Discuss recent clinical trials for symptomatic control of motor features of Parkinson's disease
2. Review recent clinical trials for neuropsychiatric and other non-motor features of Parkinson's disease
3. Discuss recent clinical trials and future prospects for disease modification in Parkinson's disease

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### 313 Parallel Session

#### **Parkinson's Disease: Neuroimaging Beyond Dopamine**

17:00 CEST – 19:00 CEST

Chairs: Marios Politis, *United Kingdom*  
A. Jon Stoessl, *Canada*

Acetylcholine: From Cognitive Functions to Gait?  
Hitoshi Shimada, *Japan*

Serotonin: Motor and Non-Motor Aspects, From Dyskinesias to Mood Disorder  
Heather Wilson, *United Kingdom*

Noradrenaline: REM Sleep Behavior Disorder (RBD), Cognition and Other Non-motor Aspects  
Michael Sommerauer, *Denmark*

CSPC Liaisons: Tove Henriksen, *Denmark*  
Maria Stamelou, *Greece*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced

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

1. Describe the role of the cholinergic systems in the pathophysiology of cognitive and gait disturbances in Parkinson's disease, and the translational implications
2. Describe the role of the serotonergic systems in the pathophysiology of motor and non-motor aspects of Parkinson's disease, and the translational implications
3. Describe the role of the noradrenergic systems in the pathophysiology of RBD, cognitive and other non-motor disturbances in Parkinson's disease, and the translational implications

### 314 Parallel Session

#### **Modifiers of Penetrance in Hereditary Movement Disorders**

17:00 CEST – 19:00 CEST

Chairs: Caroline Tanner, *USA*  
Ruey-Meei Wu, *Taiwan*

The Genetic Modifiers of Penetrance  
Ziv Gan-Or, *Canada*

The Non-genetic Modifiers of Penetrance  
Alastair Noyce, *United Kingdom*

Reduced Penetrance: Mechanisms and Translational Insights  
Christine Klein, *Germany*

CSPC Liaisons: Vincenzo Bonifati, *Netherlands*  
Claudia Trenkwalder, *Germany*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Industry, Researcher/Basic Science

Education Level: Intermediate/Experienced, Advanced/Expert

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

1. Describe the known genetic modifiers of penetrance of inherited movement disorders
2. Describe the known non-genetic modifiers of penetrance of inherited movement disorders
3. Discuss the mechanisms and potential translational implications of reduced penetrance

### 315 Parallel Session

#### **Towards Precision Medicine in Multiple System Atrophy with Revised Diagnostic Criteria**

17:00 CEST – 19:00 CEST

Chairs: Tetsutaro Ozawa, *Japan*  
Gregor Wenning, *Austria*

Diagnostic Algorithms  
Horacio Kaufmann, *USA*

Personalized Approach to Optimized Care  
Alessandra Fanciulli, *Austria*

Current Status of Disease Modifying Therapies  
Wolfgang Singer, *USA*





CSPC Liaisons: Wassilios Meissner, *France*  
Veronica Santini, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced



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

1. Apply a stepwise diagnostic algorithm to patients with suspected multiple system atrophy
2. Create a comprehensive, multidisciplinary, patient-centered care plans, including telemedicine infrastructures
3. Discuss the current status of approaches aimed at disease modification in multiple system atrophy

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**316 Parallel Session**  

**Palliative Medicine in Parkinson's Disease**  
17:00 CEST – 19:00 CEST

**Chairs:** Victor McConvey, *Australia*  
Pille Taba, *Estonia*

What Are the Palliative Care Needs of People Living with Parkinson's Disease?  
Indu Subramanian, *USA*

The Evidence for Palliative Care in Parkinson's Disease  
Benzi Kluger, *USA*

Integrative Palliative Care into the Routine Care of the People Living with Parkinson's Disease  
Janis Miyasaki, *Canada*



**CSPC Liaisons:** Shen-Yang Lim, *Malaysia*  
Claudia Trenkwalder, *Germany*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician)

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Recognize the palliative care needs of people living with Parkinson's disease
2. Describe the evidence base for palliative medicine in Parkinson's disease
3. Integrate palliative care approaches into Parkinson's disease management

**317 Parallel Session**  

**Cognitive and Neuropsychiatric Aspects of Selected Movement Disorders**  
17:00 CEST – 19:00 CEST

**Chairs:** Priya Jagota, *Thailand*  
Irena Rektorova, *Czech Republic*

Parkinson's Disease – Lewy Body Dementia Continuum  
Jaime Kulisevsky, *Spain*

Dystonia  
Kathryn Peall, *United Kingdom*

Cerebellar Disorders  
Jeremy Schmahmann, *USA*



**CSPC Liaisons:** Steven Frucht, *USA*  
Karen Marder, *USA*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Identify cognitive and neuropsychiatric features associated with the Parkinson's disease – Lewy body dementia continuum, and discuss management approaches
2. Describe cognitive and neuropsychiatric impairments associated with dystonia and discuss management approaches
3. Define cognitive and neuropsychiatric features associated with cerebellar disorders and discuss management approaches

**318 Parallel Session**  

**Paroxysmal and Episodic Movement Disorders**  
17:00 CEST – 19:00 CEST

**Chairs:** Roberto Erro, *Italy*  
Aurelie Meneret, *France*

Clinical Spectrum, Evaluation and Management  
Laura Silveira-Moriyama, *Brazil*

Genetic Etiologies and Biological Mechanisms  
Jong Hee Chae, *South Korea*

Non-Genetic Etiologies and Disease Mechanisms  
Russell Dale, *Australia*

**CSPC Liaisons:** Buz Jinnah, *USA*  
Maria Stamelou, *Greece*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Describe the clinical spectrum, evaluation and management of intermittent movement disorders, including paroxysmal dyskinesias and episodic ataxias
2. Describe the genetic causes and pathophysiology of intermittent movement disorders, including paroxysmal dyskinesias and episodic ataxias
3. Describe the non-genetic causes and pathophysiology of intermittent movement disorders, including paroxysmal dyskinesias and episodic ataxias

**405 Teaching Course**

**Tremor: Differential Diagnosis and Management**  
17:00 CEST – 19:00 CEST

**Chairs:** Günther Deuschl, *Germany*  
Claudia Testa, *USA*

Clinical and Electrophysiological Approaches to Differential Diagnosis in Tremor  
Tabish Saifee, *United Kingdom*

Pathophysiology of Tremor: Perspectives for Clinical Practice  
Ming-Kai Pan, *Taiwan*

Current and Future Management Options for Tremor  
Anhar Hassan, *USA*



**CSPC Liaisons:** Ron Postuma, *Canada*  
Carolyn Sue, *Australia*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Differentiate the diagnosis of tremor using clinical assessment and electrophysiological studies
2. Discuss the pathophysiology of tremor and the insights for the clinical practice
3. Summarize current and future management options for tremor

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<p><b>406 Teaching Course</b></p> <p><b>Non-Motor Aspects of Parkinson's Disease</b> 17:00 CEST – 19:00 CEST</p> <p>Chairs: Anette Schrag, <i>United Kingdom</i> Ali Shalash, <i>Egypt</i></p> <p>Diagnosis and Management of Bowel and Bladder Dysfunction Ai Huey Tan, <i>Malaysia</i></p> <p>Pain K. Ray Chaudhuri, <i>United Kingdom</i></p> <p>The MDS Non-Motor Rating Scale (MDS-NMS) Carmen Rodriguez Blazquez, <i>Spain</i></p> <p>CSPC Liaisons: Ron Postuma, <i>Canada</i> Carolyn Sue, <i>Australia</i></p> <p>Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science</p> <p>Education Level: Beginner/Foundational, Intermediate/Experienced</p> <p>At the conclusion of this session, participants should be better able to:</p> <ol style="list-style-type: none"> <li>1. Describe and manage bowel and bladder dysfunction in Parkinson's disease</li> <li>2. Summarize the causes, types, and management of pain in Parkinson's disease</li> <li>3. Discuss the characteristics of the MDS Non-motor Rating Scale (MDS-NMS) and its role in the assessment of patients with Parkinson's disease</li> </ol>	<p><b>506 Skills Workshop</b></p> <p><b>Device-aided Treatment for Advanced Parkinson's Disease</b> 19:30 CEST – 21:00 CEST</p> <p>Dag Nyholm, <i>Sweden</i> Onanong Phokaewvarangkul, <i>Thailand</i></p> <p>CSPC Liaisons: Tove Henriksen, <i>Denmark</i> Jennifer Goldman, <i>USA</i></p> <p>Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician)</p> <p>Education Level: Beginner/Foundational, Intermediate/Experienced</p> <p>At the conclusion of this session, participants should be better able to:</p> <ol style="list-style-type: none"> <li>1. Recognize the different types of device-aided treatments for advanced Parkinson's disease</li> <li>2. Discuss the indications and contraindications for each device-aided treatment option</li> </ol>
<p><b>902 Science of Industry (non-CME)</b></p> <p>See page 33 for complete session information.</p>	<p><b>609 Special Topics in Movement Disorders</b></p> <p><b>Lessons From My Patients</b> 19:30 CEST – 21:00 CEST</p> <p>Marcelo Merello, <i>Argentina</i> Huifang Shang, <i>People's Republic of China</i></p> <p>CSPC Liaisons: Tove Henriksen, <i>Denmark</i> Njideka Okubadejo, <i>Nigeria</i></p> <p>Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Researcher/Basic Science</p> <p>Education Level: Beginner/Foundational, Intermediate/Experienced</p> <p>At the conclusion of this session, participants should be better able to:</p> <ol style="list-style-type: none"> <li>1. Interpret and critique the pertinent historical and examination elements that may be advantageous when diagnosis and management are elusive</li> <li>2. Identify common pitfalls in the evaluation of movement disorders</li> </ol>
<p><b>505 Skills Workshop</b></p> <p><b>Botulinum Toxin: A Case-Based Approach</b> 19:30 CEST – 21:00 CEST</p> <p>Gonzalo Gomez Arevalo, <i>Argentina</i> Shivam Mittal, <i>United Arab Emirates</i></p> <p>CSPC Liaisons: Roongroj Bhidayasiri, <i>Thailand</i> Beomseok Jeon, <i>South Korea</i></p> <p>Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry</p> <p>Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert</p> <p>At the conclusion of this session, participants should be better able to:</p> <ol style="list-style-type: none"> <li>1. Describe optimal strategies for the application of botulinum toxins for hemifacial spasm, cranial dystonia, cervical dystonia, and limb dystonia</li> <li>2. Describe the optimal strategies for the application of botulinum toxins for the treatment of spasticity affecting the upper and lower limb</li> </ol>	<p><b>610 Special Topics in Movement Disorders</b></p> <p><b>Unraveling the Role of Autophagy in Parkinsonism: From Bench to Bedside</b> 19:30 CEST – 21:00 CEST</p> <p>Hideki Mochizuki, <i>Japan</i> Maria Xilouri, <i>Greece</i></p> <p>CSPC Liaisons: Etienne Hirsch, <i>France</i> Ryosuke Takahashi, <i>Japan</i></p> <p>Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Industry, Researcher/Basic Science</p> <p>Education Level: Intermediate/Experienced, Advanced/Expert</p> <p>At the conclusion of this session, participants should be better able to:</p> <ol style="list-style-type: none"> <li>1. Discuss the mechanisms of autophagy in synucleinopathies and tauopathies</li> <li>2. Identify the therapeutic potential of modulating autophagy</li> </ol>



## TUESDAY, SEPTEMBER 21, 2021

All Scientific Program sessions will include 30 minutes of LIVE faculty question and answer unless noted specifically.  
To verify the session time in your local time zone, please use the following link: <https://www.timeanddate.com/worldclock/converter.html>

### 611 Special Topics in Movement Disorders

#### Non-Invasive Stimulation in Movement Disorders

19:30 CEST – 21:00 CEST

Rubens Gisbert Cury, *Brazil*  
Teresa Kimberley, *USA*

CSPC Liaisons: Steven Frucht, *USA*  
Andrea Kühn, *Germany*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced

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

1. Summarize the current knowledge and the potential of non-invasive stimulation as a management modality in movement disorders
2. Describe the current evidence and clinical trials on the effects of non-invasive stimulation in Parkinson's disease, dystonia, and ataxia

### 612 Special Topics in Movement Disorders

#### Metabolic Movement Disorders

19:30 CEST – 21:00 CEST

Serena Galosi, *Italy*  
Buz Jinnah, *USA*

CSPC Liaisons: Jennifer Friedman, *USA*  
Steven Frucht, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Recognize the phenotypic spectrum of movement disorders caused by metabolic diseases that may present in childhood
2. Recognize the phenotypic spectrum of movement disorders caused by metabolic diseases that may present in adulthood

### 705 Video Session

#### Movement Disorders Emergencies

19:30 CEST – 21:00 CEST

Miryam Carecchio, *Italy*  
Thien Thien Lim, *Malaysia*

CSPC Liaisons: Roongroj Bhidayasiri, *Thailand*  
Shen-Yang Lim, *Malaysia*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician)

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Recognize and discuss management strategies for the various Parkinson's disease-related, other hypokinetic, and hyperkinetic emergencies
2. Identify movement disorder emergencies related to Deep Brain Stimulation and other device-aided therapies

### 706 Video Session

#### Unusual Presentations of Movement Disorders

19:30 CEST – 21:00 CEST

Orlando Barsottini, *Brazil*  
Lucia Ricciardi, *United Kingdom*

CSPC Liaisons: Orlando Barsottini, *Brazil*  
Alberto Espay, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student



Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Recognize unusual presentation of selected common movement disorders
2. Develop and approach to the expanding phenotypic presentations of movement disorders

## WEDNESDAY, SEPTEMBER 22, 2021

All Scientific Program sessions will include 30 minutes of LIVE faculty question and answer unless noted specifically.  
To verify the session time in your local time zone, please use the following link: <https://www.timeanddate.com/worldclock/converter.html>

**205 Plenary Session**  

**Update on Alpha-Synuclein Protein: Biology and Pathophysiology**  
2:00 CEST – 4:00 CEST

Chairs: Tiago Outeiro, *Germany*  
Eng-King Tan, *Singapore*

Alpha-synuclein Structures  
Michel Goedert, *United Kingdom*

Update on the Lewy Body  
Henning Stahlberg, *Switzerland*

Mechanisms of Alpha-synuclein Related Neurodegeneration  
Veerle Baekelandt, *Belgium*



CSPC Liaisons: Per Borghammer, *Denmark*  
Tiago Outeiro, *Germany*

Recommended Audience: Fellow/Resident/Student, Industry, Researcher/Basic Science

Education Level: Intermediate/Experienced

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

1. Describe the structures of alpha-synuclein and the relationships with clinical manifestations
2. Discuss the nature and composition of the alpha-synuclein inclusion in the human brain
3. Summarize current knowledge on the mechanisms of alpha-synuclein related neurodegeneration

**206 Plenary Session**  

**Update on Recent Clinical Trials in Parkinson's Disease**  
4:30 CEST – 6:30 CEST

Chairs: Olivier Rascol, *France*  
Yih-Ru Wu, *Taiwan*

Motor Features  
Susan Fox, *Canada*

Neuropsychiatric and Other Non-motor Features  
Simon Lewis, *Australia*

Disease Modifications  
Thomas Foltynie, *United Kingdom*



CSPC Liaisons: Wastilios Meissner, *France*  
Andrew Siderowf, *USA*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Discuss recent clinical trials for symptomatic control of motor features of Parkinson's disease
2. Review recent clinical trials for neuropsychiatric and other non-motor features of Parkinson's disease
3. Discuss recent clinical trials and future prospects for disease modification in Parkinson's disease

**207 Plenary Session**  

**Controversies in Movement Disorders**  
12:00 CEST – 14:00 CEST

Chairs: Francisco Cardoso, *Brazil*  
Glenda Halliday, *Australia*

Is clearing of alpha-synuclein aggregates an adequate therapeutic strategy in Parkinson's disease? (YES)  
Patrik Brundin, *USA*

Is clearing of alpha-synuclein aggregates an adequate therapeutic strategy in Parkinson's disease? (NO)  
Alberto Espay, *USA*

Should DBS be offered to dystonia patients regardless of etiology? (YES)  
Joachim Krauss, *Germany*

Should DBS be offered to dystonia patients regardless of etiology? (NO)  
Marie Vidailhet, *France*





CSPC Liaisons: Vincenzo Bonifati, *Netherlands*  
Francisco Cardoso, *Brazil*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Debate whether clearing of alpha-synuclein aggregates is an adequate therapeutic strategy in Parkinson's disease
2. Debate whether DBS should be offered to dystonia patients regardless of etiology

**Symbol Legend:**  2021 Themed Session;  This session will feature Post-Session Discussion/Networking;  This session will feature Top Abstract presentations;  To accommodate participants in both the Western and Eastern Hemispheres, this session will launch twice during the Virtual Congress

## WEDNESDAY, SEPTEMBER 22, 2021

All Scientific Program sessions will include 30 minutes of LIVE faculty question and answer unless noted specifically.  
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208

Plenary Session 

### Highlights from 2021: Looking Toward 2022

14:30 CEST – 16:30 CEST

*This session will not feature LIVE faculty discussion.*

Chairs:

Vincenzo Bonifati, *Netherlands*

Claudia Trenkwalder, *Germany*

Basic Science: Parkinson's Disease

Tiago Outeiro, *Germany*

Basic Science: Other Movement Disorders

Per Svenningsson, *Sweden*

Clinical Studies: Parkinson's Disease

Beomseok Jeon, *South Korea*

Clinical Studies: Other Movement Disorders

Steven Frucht, *USA*

CSPC Liaisons:

Vincenzo Bonifati, *Netherlands*

Claudia Trenkwalder, *Germany*

Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

Education Level: Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

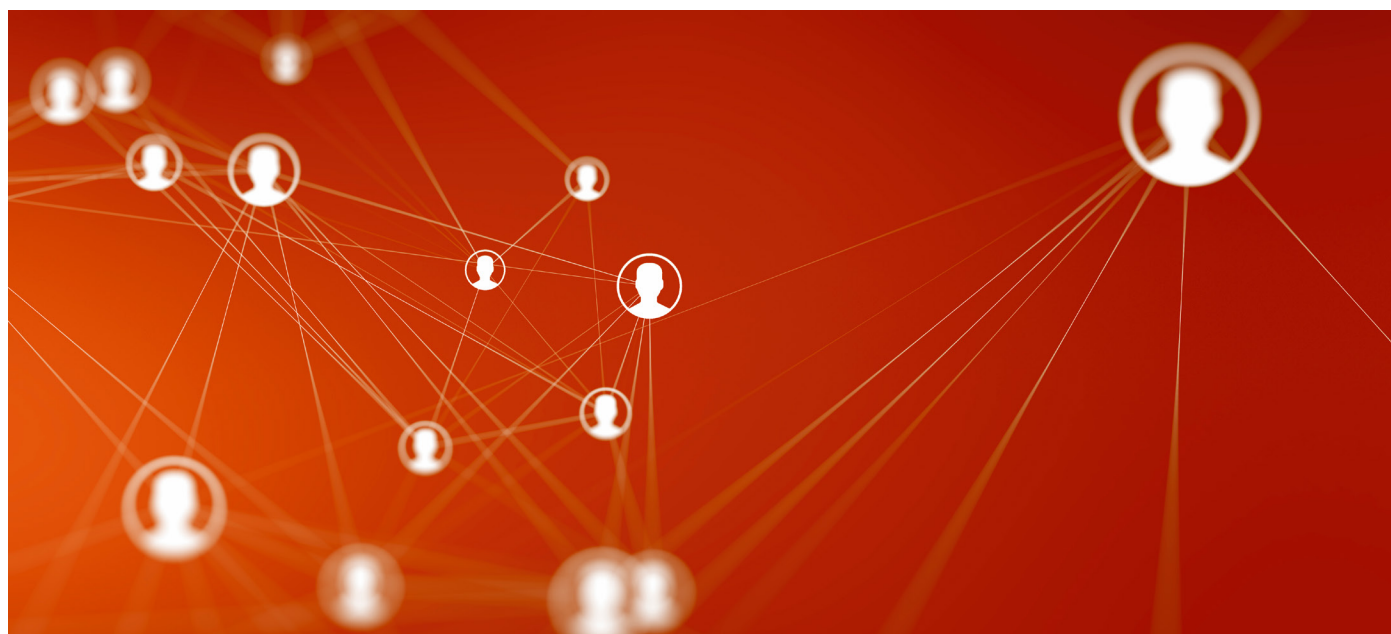
At the conclusion of this session, participants should be better able to:


1. Critically review high-impact scientific discoveries in the field of Movement Disorders published in the past year, and important areas of scientific focus for 2021 and 2022 research
2. Critically review high-impact clinical studies in the field of Movement Disorders published in the past year, and important ongoing trials with anticipated completion in 2021 and 2022

### Congress Closing Remarks

16:30 CEST – 17:00 CEST

All participants are encouraged to attend.





**Symbol Legend:**  2021 Themed Session;  This session will feature Post-Session Discussion/Networking;  This session will feature Top Abstract presentations;  To accommodate participants in both the Western and Eastern Hemispheres, this session will launch twice during the Virtual Congress



## THURSDAY, SEPTEMBER 23, 2021

All Scientific Program sessions will include 30 minutes of LIVE faculty question and answer unless noted specifically.  
To verify the session time in your local time zone, please use the following link: <https://www.timeanddate.com/worldclock/converter.html>

**207 Plenary Session**  

**Controversies in Movement Disorders**  
2:00 CEST – 4:00 CEST

**Chairs:** Francisco Cardoso, *Brazil*  
Glenda Halliday, *Australia*

Is clearing of alpha-synuclein aggregates an adequate therapeutic strategy in Parkinson's disease? (YES)  
Patrik Brundin, *USA*

Is clearing of alpha-synuclein aggregates an adequate therapeutic strategy in Parkinson's disease? (NO)  
Alberto Espay, *USA*

Should DBS be offered to dystonia patients regardless of etiology? (YES)  
Joachim Krauss, *Germany*

Should DBS be offered to dystonia patients regardless of etiology? (NO)  
Marie Vidailhet, *France*

**CSPC Liaisons:** Vincenzo Bonifati, *Netherlands*  
Francisco Cardoso, *Brazil*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

3. Debate whether clearing of alpha-synuclein aggregates is an adequate therapeutic strategy in Parkinson's disease
4. Debate whether DBS should be offered to dystonia patients regardless of etiology

**208 Plenary Session** 

**Highlights from 2021: Looking Toward 2022**  
4:30 CEST – 6:30 CEST

*This session will not feature LIVE faculty discussion.*

**Chairs:** Vincenzo Bonifati, *Netherlands*  
Claudia Trenkwalder, *Germany*

**Basic Science: Parkinson's Disease**  
Tiago Outeiro, *Germany*

**Basic Science: Other Movement Disorders**  
Per Svenningsson, *Sweden*

**Clinical Studies: Parkinson's Disease**  
Beomseok Jeon, *South Korea*

**Clinical Studies: Other Movement Disorders**  
Steven Frucht, *USA*

**CSPC Liaisons:** Vincenzo Bonifati, *Netherlands*  
Claudia Trenkwalder, *Germany*

**Recommended Audience:** Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science

**Education Level:** Beginner/Foundational, Intermediate/Experienced, Advanced/Expert

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

1. Critically review high-impact scientific discoveries in the field of Movement Disorders published in the past year, and important areas of scientific focus for 2021 and 2022 research
2. Critically review high-impact clinical studies in the field of Movement Disorders published in the past year, and important ongoing trials with anticipated completion in 2021 and 2022

## NON-CME EDUCATIONAL ACTIVITIES

All Scientific Program sessions will include 30 minutes of LIVE faculty question and answer unless noted specifically.  
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### SCIENCE OF INDUSTRY (NON-CME)

These interactive sessions will provide participants with a non-CME educational opportunity to learn about novel therapeutic agents under development by industry. Sessions may incorporate basic scientists or clinicians working in industry, and topics may address the biological rationale or development process for specific therapeutics in development within the field of Movement Disorders.

#### Monday, September 20, 2021

901	Science of Industry (non-CME)  
	<b>Recent and Ongoing Industry-led Clinical Trial Top Abstracts</b> 17:00 CEST – 19:00 CEST
Chairs:	Hubert Fernandez, <i>USA</i> Andrew Siderowf, <i>USA</i>
CSPC Liaisons:	Vincenzo Bonifati, <i>Netherlands</i> Andrew Siderowf, <i>USA</i>
Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science	
Education Level: Beginner/Foundational, Experienced, Expert	

#### Tuesday, September 21, 2021

902	Science of Industry (non-CME) 
	<b>Future of Neuromodulation Strategies</b> 17:00 CEST – 19:00 CEST
Chairs:	Helen Bronte-Stewart, <i>USA</i> Andrea Kühn, <i>Germany</i>
	Technical Innovations in Deep Brain Stimulation Wolf-Julian Neumann, <i>Germany</i>
	From Chronic Sensing to Adaptive Stimulation Scott Stanslaski, <i>USA</i>
	From Planning to Programming: The Role of Visualization Nicholas Maling, <i>USA</i>
CSPC Liaisons:	Beomseok Jeon, <i>South Korea</i> Andrea Kühn, <i>Germany</i>
Recommended Audience: Clinician/General Neurology, Fellow/Resident/Student, Health Professional (non-physician), Industry, Researcher/Basic Science	
At the conclusion of this session, participants should be better able to:	
1. Discuss ongoing research and innovation in the technologies for DBS	
2. Discuss ongoing development towards future adaptive DBS	
3. Discuss ongoing development towards new visualization tools in the planning and programming of DBS	

### SPONSORED SYMPOSIA

These company-based informational sessions will provide attendees with non-CME educational opportunities to learn the latest in therapeutics. Sponsored Symposia will be available on demand for the entirety of the meeting starting Friday, September 17, 2021.

AbbVie  
Acadia Pharmaceuticals Inc.  
Allergan, an AbbVie Company  
BIAL  
Boston Scientific  
Medtronic  
Neurocrine Biosciences (ONGENTYS)  
Novo Nordisk  
Sunovion Pharmaceuticals Inc.  
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**Dag Nyholm, Sweden**  
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**Kathryn Peall, United Kingdom**  
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**José Luiz Pedroso, Brazil**  
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**Stanley Perlman, USA**  
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**Belen Perez Duenas, Spain**  
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**Onanong Phokaewvarangkul, Thailand**  
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**Andreas Puschmann, Sweden**  
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**Deborah Raymond, USA**  
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**Irena Rektorova, Czech Republic**  
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**Lucia Ricciardi, United Kingdom**  
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**Lynn Rochester, United Kingdom**  
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**Carmen Rodriguez Blazquez, Spain**  
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**Mayela Rodriguez Violante, Mexico**  
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**Raymond Rosales, Philippines**  
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**Anne Rosser, United Kingdom**  
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**Janet Rucker, USA**  
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**Tabish Saifee, United Kingdom**  
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**Veronica Santini, USA**  
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**Rachel Saunders-Pullman, USA**  
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### DIAMOND LEVEL:

The logo for Abbvie, featuring the word "abbvie" in a lowercase, blue, sans-serif font.

### PLATINUM LEVEL:

The logo for Acadia, featuring a blue circle with a white dot inside, followed by the word "ACADIA" in a blue, sans-serif font.The logo for Adamas, featuring a green triangle with a white mountain-like shape inside, followed by the word "ADAMAS" in a blue, sans-serif font.The logo for Bial, featuring the word "Bial" in a blue, serif font, with a red underline.The logo for Medtronic, featuring the word "Medtronic" in a blue, sans-serif font.The logo for Neurocrine Biosciences, featuring a stylized blue and yellow triangle, followed by the word "neurocrine" in a blue, sans-serif font, and "BIOSCIENCES" in a smaller, blue, sans-serif font below it.The logo for Novo Nordisk, featuring a stylized blue cow, followed by the words "novo nordisk" in a blue, sans-serif font.The logo for Sunovion, featuring a green star-like shape, followed by the word "sunovion" in a green, sans-serif font.The logo for Zambon, featuring a green "Z" with "1906" below it, followed by the word "Zambon" in a green, sans-serif font.

### GOLD LEVEL:

The logo for IPSEN, featuring a stylized blue and white DNA helix, followed by the word "IPSEN" in a blue, sans-serif font, and "Innovation for patient care" in a smaller, blue, sans-serif font below it.The logo for NeuroDerm, featuring a stylized blue and white brain, followed by the word "NeuroDerm" in a blue, sans-serif font, and "A Mitsubishi Tanabe Pharma Group Company" in a smaller, blue, sans-serif font below it.The logo for Mitsubishi Tanabe Pharma, featuring a stylized blue and white wave, followed by the words "Mitsubishi Tanabe Pharma" in a blue, sans-serif font.



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Abbott	EVER Pharma	PD Neurotechnology Ltd.
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in OFF-time<sup>2</sup> with a generally favourable tolerability profile<sup>3</sup>**

## PRESCRIBING INFORMATION

Ongentys® Opicapone. **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 is 50 mg of opicapone. Ongentys should be taken once-daily at bedtime at least one hour before or after levodopa combinations. **Dose adjustments of antiparkinsonian therapy:** Ongentys is to be administered as an adjunct to levodopa treatment and enhances the effects of levodopa. Hence, it is often necessary to adjust levodopa dose by extending the dosing intervals and/or reducing the amount of levodopa per dose within the first days to first weeks after initiating the treatment with opicapone according to the clinical condition of the patient. **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  $\geq 85$  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, opicapone 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. **Excipients:** Ongentys contains lactose. Patients with rare hereditary problems of galactose intolerance, the total lactase deficiency or glucose-galactose malabsorption should not take this medicinal product. **Interaction with other medicinal products and other forms of interaction:** **Monoamine 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. rimetidine, 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. **Quinidine:** A study conducted in healthy volunteers showed that when a single dose of 50 mg opicapone was co-administered (within 1 hour) with a single dose of quinidine (600 mg), systemic exposure of opicapone decreased by 37% ( $AUC_{0-12h}$ ). Thus, particular consideration should be given to cases where quinidine needs to be administered together with opicapone as their co-administration should be avoided. **CYP2C8 and OATP1B1 substrates:** Opicapone is a weak in vitro inhibitor of CYP2C8 and OATP1B1, whereas repaglinide is a sensitive CYP2C8 and OATP1B1 substrate. A study conducted in healthy subjects showed that there were no changes in repaglinide's exposure when repaglinide was administered following multiple once-daily administration of opicapone 50 mg. **Fertility, pregnancy and lactation:** **Pregnancy:** There are no or limited amount of data from the use of opicapone in pregnant women. Opicapone crossed the placenta in rats. Animal studies are insufficient with respect to reproductive toxicity. Ongentys is not recommended during pregnancy and in women of childbearing potential not using contraception. **Breast-feeding:** Opicapone levels in the milk of lactating rats were equivalent to those in plasma. It is unknown whether opicapone or its metabolites are excreted into 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 (177%). **List of adverse reactions:** **Very common** ( $\geq 1/10$ ): Dyskinesia. **Common** ( $\geq 1/100$  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** ( $\geq 1/1,000$  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. **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. **Blister:** 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. 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 /Date of text Revision:** 24th June 2016/18th February 2021. Currently it's not available in all European Union countries. Adverse events must be reported to country Health Authorities following country procedures. ON/MAR21/G/084

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