FINAL PROGRAM

International Parkinson and
Movement Disorder Society

MDS *Virtual Congress* 2020

SEPTEMBER 12–SEPTEMBER 16

www.mdscongress.org

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WELCOME

Dear Colleagues,

We are excited to share this MDS Virtual Congress with you. In this first ever virtual congress on movement disorders, you can expect over 30 hours of educational content through our virtual platform, including plenary sessions, teaching courses and access to the accepted abstracts.

The Society made the difficult decision to replace the in-person meeting in Philadelphia with a virtual meeting, and by doing so, is rising to the occasion after the COVID-19 crisis in order to fulfill its mission. This meeting will be open to healthcare professionals across the globe and will allow delegates an opportunity to access the full International Congress Scientific Program content through a virtual platform without concern for health, welfare or travel.

The MDS Virtual Congress 2020 scientific sessions, sponsored symposia, virtual exhibits, and poster sessions will be available on demand for free until October 1, 2020 for those participants who have registered by September 16, 2020. After October 1, 2020 the Virtual Congress will continue to be available on demand for MDS Members for a limited time.

Although we will not meet together in Philadelphia this September, I am proud to see the MDS community come together virtually to achieve our mission.

Claudia Trenkwalder
President, International Parkinson and Movement Disorder Society, 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

ABOUT MDS

MDS INTERNATIONAL EXECUTIVE COMMITTEE

Shengdi Chen
Mark Edwards
Cristian Falup-Pecurariu
Joaquim Ferreira
Marina de Koning-Tijssen
Alice Nieuwboer
D. James Surmeier
Pille Taba
Mayela Rodriguez-Violante
Ruey-Meei Wu

MDS VIRTUAL CONGRESS 2020 TASK FORCE

Chairs: Vincenzo Bonifati, *Netherlands*
Chairs: Oscar Gershanik, *Argentina*
Chairs: Claudia Trenkwalder, *Germany*
Francisco Cardoso, *Brazil*
Margherita Fabbri, *Italy*
Hyder Jinnah, *USA*
Andrew Siderowf, *USA*
Matthew Stern, *USA*
Louis Tan, *Singapore*

CONGRESS SCIENTIFIC PROGRAM COMMITTEE

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

CONGRESS LOCAL ORGANIZING COMMITTEE

Chair: Matthew Stern, *USA*
Co-Chair: Andrew Siderowf, *USA*
Nabila Dahodwala, *USA*
Andres Deik, *USA*
Jill Farmer, *USA*
Pedro Gonzalez-Alegre, *USA*
Dan Kremens, *USA*
Tsao-Wei Liang, *USA*
Meredith Spindler, *USA*
Dan Weintraub, *USA*
Allison Willis, *USA*

PAST-PRESIDENTS

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

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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Milwaukee, WI 53202-3823 USA
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Email: info@movementdisorders.org
Website: www.movementdisorders.org

VIRTUAL CONGRESS INFORMATION

ACCESS VIRTUAL PLATFORM

Participants can access the virtual platform at https://virtual.mdscongress.org.

In order to log in to the virtual platform, you will need the following information: Email Address and Registration ID

If you have any problems logging in, please contact congress@movementdisorders.org

EXHIBITION

Participants will have the opportunity to visit the Virtual Exhibit Hall beginning on September 12, 2020.

OFFICIAL LANGUAGE

The official language of the MDS Virtual Congress 2020 is English.

REGISTRATION

The MDS Virtual Congress 2020 scientific sessions, sponsored symposia, virtual exhibits, and the virtual poster hall will be available on-demand for free until October 1, 2020 for those participants who have registered by September 16, 2020. After October 1, 2020 the Virtual Congress will continue to be available on demand for MDS Members for a limited time.

VIRTUAL CONGRESS EVENTS

WELCOME CEREMONY

Friday, September 11, 2020
Time: 15:00 - 16:00 GMT

All participants are encouraged to attend the Virtual Congress Welcome Ceremony. MDS President Claudia Trenkwalder and other MDS leaders will introduce this inaugural event and give a preview of what to expect throughout the week.

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

The President's Distinguished Service Award

The President's Distinguished Service Award is chosen directly by the MDS President in recognition of long and distinguished service to MDS.

MDS Honorary Membership Awards

The MDS Honorary Membership Award Program recognizes individuals who have made extraordinary contributions to the field of Movement Disorders or otherwise to the Society. Recipients of this prestigious award shall be entitled to lifetime MDS Membership.

Paper of the Year Awards

The Movement Disorders Research and Review Papers of the Year awards were chosen by the Journal's Editors and Editorial Board to recognize quality work being submitted by authors and the important articles published in the Journal. The winning articles were selected from five finalists for each category, all which shared a high scientific level and interest.

MDS LEAP Program – Class of 2019 Graduates

The MDS LEAP Program has been established to provide leadership training to support the growth, development and success of early career movement disorders specialists, while maximizing their contributions to the goals and objectives of MDS. This 12-month program encompasses the development of leadership skills through mentored development and a two-day didactic skills training program (which takes place immediately prior to the International Congress).

MDS VIRTUAL VIDEO CHALLENGE

Sunday, September 13, 2020
Time: 19:30 - 22:30 GMT

Monday, September 14, 2020
Time: 2:00 - 5:00 GMT

Please join Masters of Ceremony Anthony Lang and Kapil Sethi as they host world-renowned Movement Disorders experts in guiding participants through unique Movement Disorder cases. The cases will be presented by representatives from Movement Disorder Centers around the world and discussed by Movement Disorder Experts. Awards will be given for the most interesting and challenging cases. Country pride will add an enjoyable spirit of competition to this event. The goal of this session is for participants to learn from a series of unusual, very interesting patients and see how senior experts approach these types of challenging cases.

See page 17 for further details on the MDS Virtual Video Challenge.

PLENARY SESSION 204: NEUROSCIENCE BRIDGES

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.

Understanding Disease Associated Microglia in Neurodegeneration

Beth Stevens, *USA*

At the conclusion of this presentation, participants should be better able to understand microglia states and functions in health and disease.

Inner Workings of Channelrhodopsins and Brains

Karl Deisseroth, *USA*

At the conclusion of this presentation, participants should be better able to summarize the evolution of optogenetics, and how this technology can promote understanding of the functions and dysfunctions of the brain.

AWARDS INFORMATION

PRESIDENT'S DISTINGUISHED SERVICE AWARD

The President's Distinguished Service Award is chosen directly by the MDS President in recognition of long and distinguished service to the International Parkinson and Movement Disorder Society (MDS).

Please join MDS in unveiling and congratulating the 2020 President's Distinguished Service Award

recipient(s) during the Welcome Ceremony on September 11, at 15:00 GMT.

MDS HONORARY MEMBERSHIP AWARD

The MDS Honorary Membership Award Program recognizes individuals that have made extraordinary contributions to the field of Movement Disorders or otherwise to The Society. Recipients of this prestigious award shall be entitled to lifetime MDS Membership.

Please join MDS in congratulating the 2020 Honorary Membership Award recipients, Kailash Bhatia and Caroline Tanner, during the Welcome Ceremony launching in the MDS Virtual Congress platform on Friday, September 11 at 15:00 GMT.

MDS LEAP PROGRAM – CLASS OF 2019 GRADUATES

The MDS LEAP Program has been established to provide leadership training to support the growth, development and success of early career movement disorders specialists, while maximizing their contributions to the goals and objectives of MDS. This 12-month program encompasses the development of leadership skills through mentored development and a two-day didactic skills training program (which takes place immediately prior to the International Congress).

Leap Class of 2019

The 2019 LEAP Graduates will be honored at the Welcome Ceremony on Friday, September 11.

MDS-AOS Section:

Roopa Rajan, MD, DM
Hanan Khalil, PhD
Cholpon Shambetova, MD
Woong-Woo Lee, MD

MDS-ES Section:

Gesine Respondek, MD
Aurélie Méneret, MD, PhD
Antonella Macerollo, MD, MRCP
David Breen MRCP, PhD

MDS-PAS Section:

Catalina Cerquera-Cleves, MD, MSc
Christopher Stephen, Mb ChB, MRCP
Malco Rossi, MD, PhD
Michelle Hyczy de Siqueira Tosin, RN, MSN

MDS-Africa

Oluwadamilola Ojo, MBBS
Biniyam Ayele, MD

PAPER OF THE YEAR AWARDS

The *Movement Disorders* Research and Review Papers of the Year awards were chosen by the Journal's

Editors and Editorial Board to recognize quality work being submitted by authors and the important articles published in the Journal. The Paper of the Year Awards will be presented during the Welcome Ceremony on September 11.

Please join MDS in congratulating all contributing authors of the 2019-2020 Paper of the Year Awards.

Research Article of the Year Award

Randomized Controlled Trial of Exercise on Objective and Subjective Sleep in Parkinson's Disease
Amy Amara, Kimberly Wood, Allen Joop, Raima Memon, Jennifer Pilkington, S. Tuggle, John Reams, Matthew Barrett, David Edwards, Arthur Weltman, Christopher Hurt, Gary Cutter, Marcas Bamman

Review Article of the Year Award

Value of in vivo a-synuclein deposits in Parkinson's disease: A systematic review and meta-analysis
Kazuto Tsukita, Haruhi Sakamaki-Tsukita, Kanta Tanaka, Toshihiko Suenaga, Ryosuke Takahashi

AWARDS INFORMATION

PRESIDENTIAL LECTURE AWARDS

Please join MDS in honoring the 2020 Presidential Lecture Award recipients, **Werner Poewe** and **Hiroshi Shibasaki**, during Plenary Session 201: Presidential Lectures, on September 13, from 12:00 – 14:00 GMT.

Stanley Fahn Lecture Award

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

Werner Poewe, *Austria*
Diagnosing Parkinson's Disease - From the Street to the Bench

Learning Objective: Understand the challenges and pitfalls in making a clinical diagnosis of Parkinson's disease and the role of imaging and other biomarkers in enhancing early diagnosis and diagnostic accuracy

C. David Marsden Lecture Award

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

Hiroshi Shibasaki, *Japan*
Myoclonus is Telling How Our Brain Works

Learning Objective: Understand the physiological mechanism of cortical myoclonus.

JUNIOR AWARDS

MDS Junior Awards are presented in recognition of significant contribution to clinical or basic science research in the field of Movement Disorders, to qualified individuals submitting top ranked abstracts for the MDS Congress. Please join us in honoring this year's awardees during the Presidential Lectures session on September 13, from 12:00 – 14:00 GMT.

Rachael Lawson, *United Kingdom*
Predicting dementia in the first 6 years of Parkinson's disease in the ICICLE-PD cohort

ChenChen Zhang, *People's Republic of China*
Neural activity in the subthalamic nucleus in association with reward/loss processing in patients with Parkinson's disease

Full texts of the Junior Award recipient abstracts are available on the 2020 MDS Virtual Congress platform, and in the MDS Congress app.

CME INFORMATION

TARGET AUDIENCE

Clinicians, researchers, post-doctoral fellows, medical residents, medical students, 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 28.5 *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.

EVALUATIONS

Evaluations are considered part of the course. All evaluations must be completed by Thursday, October 1, 2020. The evaluation link is available within the session's description on the MDS Virtual Congress platform and at www.mdscongress.org.

CLAIMING CME

Please visit www.mdscongress.org to claim CME for this activity. Please be advised CME must be claimed by November 16, 2020. You will require the registration ID number found in your confirmation email. Please contact education@movementdisorders.org with any questions.

FACULTY DISCLOSURES

All individuals in control of content for the MDS International Congress are required to disclose all relevant financial relationships with commercial interests as defined by the ACCME. Disclosure information is available online at www.mdscongress.org and via the MDS International Congress app.

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.

SCHEDULE-AT-A-GLANCE

	FRIDAY September 11	SATURDAY September 12	SUNDAY September 13	MONDAY September 14	TUESDAY September 15	WEDNESDAY September 16
2:00			Therapeutic Plenary Session Encore Presentation 2:00 - 4:00 GMT	Virtual MDS Video Challenge Encore Presentation 2:00 - 5:00 GMT		
2:30						
3:00						
3:30						
4:00			Break 4:00 - 4:30 GMT			
4:30			Therapeutic Plenary Session Encore Presentation 4:30 - 6:30 GMT			
5:00						
5:30						
6:00		MDS-AOS Regional Assembly 6:00 - 6:30 GMT				
6:30			Break 6:30 - 7:00 GMT			
7:00			Therapeutic Plenary Session Encore Presentation 7:00 - 9:00 GMT			
7:30						
8:00						
8:30						
9:00			Break 9:00 - 9:30 GMT			
9:30			Therapeutic Plenary Session Encore Presentation 9:30 - 11:30 GMT			
10:00						
10:30						
11:00						
11:30			Break 11:30 - 12:00 GMT			
12:00		Therapeutic Plenary Session 12:00 - 14:00 GMT	Plenary Session 12:00 - 14:00 GMT	Plenary Session 12:00 - 14:00 GMT	Plenary Session 12:00 - 13:45 GMT	Plenary Session 12:00 - 14:00 GMT
12:30						
13:00						
13:30						
14:00		Break 14:00 - 14:30 GMT / MDS Business Meeting 14:00 - 14:30 GMT	MDS-ES Regional Assembly 14:00 - 14:30 GMT	Break 14:00 - 14:30 GMT	Break 13:45 - 14:30 GMT	Break 14:00 - 14:30 GMT
14:30		Therapeutic Plenary Session 14:30 - 16:30 GMT	Parallel Sessions / Teaching Courses 14:30 - 16:30 GMT	Parallel Sessions / Teaching Courses 14:30 - 16:30 GMT / Science of Industry (non-CME) Session 14:30 - 16:30 GMT	Parallel Sessions / Teaching Courses 14:30 - 16:30 GMT / Science of Industry (non-CME) Session 14:30 - 16:30 GMT	Plenary Sessions 14:30 - 16:30 GMT
15:00	Welcome Ceremony 15:00 - 16:00 GMT					
15:30						
16:00						
16:30		Sponsored Symposia 16:30 - 17:30 GMT	Sponsored Symposia 16:30 - 17:30 GMT	Sponsored Symposia 16:30 - 17:30 GMT	Sponsored Symposia 16:30 - 17:30 GMT	
17:00						
17:30		Break 17:30 - 18:00 GMT	MDS-Africa Regional Assembly 17:30 - 18:00 GMT	Break 17:30 - 18:00 GMT	Break 17:30 - 18:00 GMT	
18:00		Therapeutic Plenary Session 18:00 - 20:00 GMT	Skills Workshops / Special Topics in Movement Disorders / Video Sessions 18:00 - 19:30 GMT	Skills Workshops / Special Topics in Movement Disorders / Video Sessions 18:00 - 19:30 GMT	Skills Workshops / Special Topics in Movement Disorders / Video Sessions 18:00 - 19:30 GMT	
18:30						
19:00						
19:30			Virtual MDS Video Challenge 19:30 - 22:30 GMT			
20:00		Break 20:00 - 20:30 GMT				
20:30		Therapeutic Plenary Session 20:30 - 22:30 GMT				
21:00						
21:30						
22:00						MDS-PAS Regional Assembly 22:30 - 23:00 GMT

KEY

- CME Accredited Sessions
- Non-CME Educational Activities
- Sponsored Symposia (non-CME)
- MDS Activities and Events
- Breaks

VIRTUAL CONGRESS SESSION DEFINITIONS

CME Accredited Sessions

2020 Virtual Congress Themed Sessions: At each annual International Congress, the Congress Scientific Program Committee selects a theme that is highlighted throughout the meeting. This year's theme, *The Combined Multidisciplinary Approach to 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 .

NEW in 2020: "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.

Controversies: This Plenary Session is designed to involve all Virtual Congress participants. Content is prepared to stimulate interest and debate among a panel of experts. Views from several angles will be addressed as discussion of pre-selected "hot" topics will be open for debate among the panelists.

"Highlights for 2020: Looking Towards 2021" 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.

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.

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 focused on a single topic. The sessions highlight both the clinical and basic science of topics of relevance to Movement Disorder specialists. The sessions are unique in providing a syllabus that includes a review of the topic and the presentation slides.

Therapeutic Plenary Sessions: These sessions provide an overview of the latest, state-of-the-art treatment 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-CME Accredited Educational Activities

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.

Video Challenge

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.

VIRTUAL CONGRESS FACULTY ROLES

Chair: Facilitates the learnings of the session; ensures that learning objectives are met during the presentation(s), and engages the learners as needed.

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.

Speakers: Creates and delivers the presentation materials, and participates in the dialogue of the session.

2020 VIRTUAL CONGRESS THEME

At each annual International Congress, the Congress Scientific Program Committee selects a theme that is highlighted throughout the meeting. This year's theme is *The Combined Multidisciplinary Approach to Movement Disorders*. International experts will serve as faculty, and the meeting participants can elect to attend any or all of these sessions.

Themed sessions

FRIDAY, SEPTEMBER 11, 2020

Welcome Ceremony

15:00 - 16:00 GMT

All participants are encouraged to attend the Virtual Congress Welcome Ceremony.

SATURDAY, SEPTEMBER 12, 2020

MDS-AOS Regional Assembly

6:00 - 6:30 GMT

All participants from Asia and Oceania are encouraged to attend.

101: Therapeutic Plenary Session

Updates on Medical Management Strategies for Parkinson's Disease: Motor Aspects

12:00 - 14:00 GMT

Chairs: Matthew B. Stern, *USA*
Pille Taba, *Estonia*

Early Pharmacologic Management
Oscar Gershanik, *Argentina*

Rehabilitation Strategies
Alice Nieuwboer, *Belgium*

Medical Management Strategies for Advancing Disease Patients
Regina Katzenschlager, *Austria*

CSPC Liaison: Shen-Yang Lim, *Malaysia*

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

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

1. Discuss current management of early-stage Parkinson's disease
2. Review the role of rehabilitation, including physical, occupational and speech therapies, and exercise in Parkinson's disease
3. Describe current medical management strategies for advancing Parkinson's disease (motor complications and other late-stage features)

MDS Business Meeting

14:00 - 14:30 GMT

All participants are encouraged to attend.

102: Therapeutic Plenary Session

Parkinson's Disease: Non-Motor Aspects

14:30 – 16:30 GMT

Chairs: Angelo Antonini, *Italy*
Daniel Weintraub, *USA*

Neuropsychiatric Features
Anette Schrag, *United Kingdom*

Dysautonomia
Horacio Kaufmann, *USA*

Sleep and Fatigue
Ron Postuma, *Canada*

CSPC Liaison: Jennifer Goldman, *USA*

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

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

1. Describe the neuropsychiatric aspects of Parkinson's disease and their management
2. Discuss the recognition and management of dysautonomia in Parkinson's disease
3. Summarize the symptoms and management of sleep and fatigue in Parkinson's disease

SATURDAY, SEPTEMBER 12, 2020

103: Therapeutic Plenary Session

Therapeutic Approaches to Chorea, Dystonia, and Myoclonus

18:00 – 20:00 GMT

Chairs: Francisco Cardoso, *Brazil*
Eduardo Tolosa, *Spain*

Chorea
Ruth Walker, *USA*

Dystonia
Rachel Saunders-Pullman, *USA*

Myoclonus
Yoshikazu Ugawa, *Japan*

CSPC Liaison: Francisco Cardoso, *Brazil*

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

At the conclusion of this session, participants should be better able to:
1. List the therapeutics options to manage patients with different types of chorea
2. Discuss the therapeutic management of dystonia
3. Summarize the therapeutic options for myoclonus

104: Therapeutic Plenary Session

Neurosurgical Management of Movement Disorders

20:30 – 22:30 GMT

Chairs: Günther Deuschl, *Germany*
Andrea Kühn, *Germany*

Technical Advances for DBS Treatment
Jens Volkmann, *Germany*

Long-term Effects of DBS on Motor and Non-Motor Symptoms in Parkinson's Disease
Patricia Limousin, *United Kingdom*

Alternative Strategies: Focused Ultrasound and Other Lesioning Techniques in Movement Disorders
José Obeso, *Spain*

CSPC Liaison: Andrea Kühn, *Germany*

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

At the conclusion of this session, participants should be better able to:
1. Discuss and apply new DBS techniques such as segmented leads for current steering, imaging guided programming, VTA models
2. Discuss indications of DBS and explain motor and non-motor benefits and risks
3. Discuss the pros and cons of different surgical approaches in movement disorders

SUNDAY, SEPTEMBER 13, 2020

101: Therapeutic Plenary Session (Encore Presentation)

Updates on Medical Management Strategies for Parkinson's Disease: Motor Aspects

2:00 – 4:00 GMT

Chairs: Roongroj Bhidayasiri, *Thailand*
Shengdi Chen, *People's Republic of China*

Early Pharmacologic Management
Oscar Gershanik, *Argentina*

Rehabilitation Strategies
Alice Nieuwboer, *Belgium*

Medical Management Strategies for Advancing Disease Patients
Regina Katzenschlager, *Austria*

CSPC Liaison: Shen-Yang Lim, *Malaysia*

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

At the conclusion of this session, participants should be better able to:
1. Discuss current management of early-stage Parkinson's disease
2. Review the role of rehabilitation, including physical, occupational and speech therapies, and exercise in Parkinson's disease
3. Describe current medical management strategies for advancing Parkinson's disease (motor complications and other late-stage features)

102: Therapeutic Plenary Session (Encore Presentation)

Parkinson's Disease: Non-Motor Aspects

4:30 – 6:30 GMT

Chairs: Huifang Shang, *People's Republic of China*
Louis Tan, *Singapore*

Neuropsychiatric Features
Anette Schrag, *United Kingdom*

Dysautonomia
Horacio Kaufmann, *USA*

Sleep and Fatigue
Ron Postuma, *Canada*

CSPC Liaison: Jennifer Goldman, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Describe the neuropsychiatric aspects of Parkinson's disease and their management
2. Discuss the recognition and management of dysautonomia in Parkinson's disease
3. Summarize the symptoms and management of sleep and fatigue in Parkinson's disease

SUNDAY, SEPTEMBER 13, 2020

103: Therapeutic Plenary Session (Encore Presentation)

Therapeutic Approaches to Chorea, Dystonia, and Myoclonus

7:00 – 9:00 GMT

Chairs: Ruey-Meei Wu, *Taiwan*
Victor Fung, *Australia*

Chorea
Ruth Walker, *USA*

Dystonia
Rachel Saunders-Pullman, *USA*

Myoclonus
Yoshikazu Ugawa, *Japan*

CSPC Liaison: Francisco Cardoso, *Brazil*

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

At the conclusion of this session, participants should be better able to:
1. List the therapeutic options to manage patients with different types of chorea
2. Discuss the therapeutics management of dystonia
3. Summarize the therapeutic options for myoclonus

104: Therapeutic Plenary Session (Encore Presentation)

Neurosurgical Management of Movement Disorders

9:30 - 11: 30 GMT

Chairs: Ritsuko Hanajima, *Japan*
Beomseok Jeon, *South Korea*

Technical Advances for DBS Treatment
Jens Volkmann, *Germany*

Long-term Effects of DBS on Motor and Non-motor Symptoms in Parkinson's Disease
Patricia Limousin, *United Kingdom*

Alternative Strategies: Focused Ultrasound and Other Lesioning Techniques in Movement Disorders
José Obeso, *Spain*

CSPC Liaison: Andrea Kühn, *Germany*

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

At the conclusion of this session, participants should be better able to:
1. Discuss and apply new DBS techniques such as segmented leads for current steering, imaging guided programming, VTA models
2. Discuss indications of DBS and explain motor and non-motor benefits and risks
3. Discuss the pros and cons of different surgical approaches in movement disorders

201: Plenary Session

Presidential Lectures

12:00 – 14:00 GMT

Chairs: Francisco Cardoso, *Brazil*
Claudia Trenkwalder, *Germany*

Stanley Fahn Lecture: Diagnosing Parkinson's Disease - From the Street to the Bench
Werner Poewe, *Austria*

C. David Marsden Lecture: Myoclonus is Telling How Our Brain Works
Hiroshi Shibasaki, *Japan*

Junior Award Lecture: Predicting dementia in the first 6 years of Parkinson's disease in the ICICLE-PD cohort
Rachael Lawson, *United Kingdom*

Junior Award Lecture: Neural activity in the subthalamic nucleus in association with reward/loss processing in patients with Parkinson's disease
ChenChen Zhang, *People's Republic of China*

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

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

At the conclusion of this session, participants should be better able to:
1. Understand the challenges and pitfalls in making a clinical diagnosis of Parkinson's disease and the role of imaging and other biomarkers in enhancing early diagnosis and diagnostic accuracy
2. Understand the physiological mechanism of cortical myoclonus

MDS-ES Regional Assembly

14:00 - 14:30 GMT

All participants from Europe are encouraged to attend.

SUNDAY, SEPTEMBER 13, 2020

301: Parallel Session

COVID -19 and Movement Disorders
14:30 – 16:30 GMT

Chairs: Huifang Shang, *People's Republic of China*
Indu Subramanian, *USA*

Neurological Manifestations in patients with COVID-19
Elena Moro, *France*

COVID-19 in Patients with Parkinson's Disease or Movement Disorders
Alfonso Fasano, *Canada*

Caring of Patients with Movement Disorders in the COVID-19 Era
Esther Cubo, *Spain*

CSPC Liaison: Buz Jinnah, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Summarize the current knowledge about the neurological manifestations and neuropathology in subjects affected by the COVID-19
2. Summarize the clinical phenomenology and outcomes of the COVID-19 disease in patients with Parkinson's disease and other movement disorders
3. Discuss the impact of the COVID-19 pandemic on the clinical care of patients with movement disorders, and the available strategies to ensure continuity of care and best outcomes

302: Parallel Session

MSA and Pure Autonomic Failure
14:30 – 16:30 GMT

Chairs: Howard Hurtig, *USA*
Ryosuke Takahashi, *Japan*

Molecular Mechanisms
Virginia Lee, *USA*

The Challenge of Early Diagnosis
Wassilios Meissner, *France*

Pure / Isolated Autonomic Failure
Lucy Norcliffe-Kaufmann, *USA*

CSPC Liaisons: Pietro Cortelli, *Italy*
Ryosuke Takahashi, *Japan*

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

At the conclusion of this session, participants should be better able to:
1. Discuss the role of alpha-synuclein in the initiation and progression of neurodegeneration across Parkinson's disease and atypical parkinsonism
2. Recognize Multiple System Atrophy at an early stage
3. Recognize Pure/Isolated Autonomic failure and discuss its role in predicting the onset of other synucleinopathies (MSA, DLB, PD)

303: Parallel Session

Update on Functional Movement Disorders
14:30 – 16:30 GMT

Chairs: Mark Edwards, *United Kingdom*
Mark Hallett, *USA*

Phenomenology
Francesca Morgante, *United Kingdom*

Electrophysiology and Imaging
Tereza Serranova, *Czech Republic*

Psychological Aspects to Aetiology and Management
Timothy Nicholson, *United Kingdom*

CSPC Liaison: Beomseok Jeon, *South Korea*

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

At the conclusion of this session, participants should be better able to:
1. Recognize the phenomenology of functional movement disorders
2. Summarize the electrophysiological and imaging features of functional movement disorders
3. Discuss the psychopathology and management of functional movement disorders

304: Parallel Session

Update on Genetics of Movement Disorders
14:30 – 16:30 GMT

Chairs: Christine Klein, *Germany*
Carolyn Sue, *Australia*

Parkinsonism
Chin-Hsien Lin, *Taiwan*

Dystonia
Patricia Maria Carvalho Aguiar, *Brazil*

Ataxia
Martin Paucar Arce, *Sweden*

Top Abstracts: Top Abstracts presented in this session can be found on page 32.

CSPC Liaison: Carolyn Sue, *Australia*

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

At the conclusion of this session, participants should be better able to:
1. Summarize recently identified genes related to Parkinson's disease and parkinsonism
2. Summarize recently identified genes related to dystonia
3. Summarize recently identified genes related to ataxia

SUNDAY, SEPTEMBER 13, 2020

305: Parallel Session

Heterogeneity of Parkinson's Disease: Clinical Phenotypes and Progression

14:30 – 16:30 GMT

Chairs: Nabila Dahodwala, *USA*
Connie Marras, *Canada*

Influence of the Genetic Determinants
Clemens Scherzer, *USA*

Role of Environment, Lifestyle and Comorbidities
Connie Marras, *Canada*

Lessons from Large Cohort Studies
Rodolfo Savica, *USA*

Top Abstracts: Top Abstracts presented in this session can be found on page 32.

CSPC Liaison: Claudia Trenkwalder, *Germany*

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

At the conclusion of this session, participants should be better able to:
1. Discuss the influence of different genetic variants (rare/Mendelian, intermediate-effects variants such as GBA and LRRK2-G2019S, and common GWAS variants) on phenotypes and progressions of Parkinson's disease
2. Discuss the influence of environment, diet, exercise, comorbidities and inflammation on the heterogeneity of Parkinson's disease
3. Discuss the potential of ongoing large longitudinal cohorts-studies to understand Parkinson's disease heterogeneity

306: Parallel Session

Huntington's Disease Continuum and Non-Huntington's Choreas

14:30 – 16:30 GMT

Chairs: Joaquim Ferreira, *Portugal*
Amanda Krause, *South Africa*

The Natural History of Huntington's Disease
G. Bernhard Landwehrmeyer, *Germany*

When Genetic Testing is Negative: Huntington's Phenocopies
Amanda Krause, *South Africa*

A Critical Appraisal of Clinical Trials in Huntington's Disease
Joaquim Ferreira, *Portugal*

CSPC Liaison: Francisco Cardoso, *Brazil*

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

At the conclusion of this session, participants should be better able to:
1. Discuss the natural history of Huntington's Disease
2. List the differential diagnosis of Huntington's Disease phenocopies
3. Appraise recent clinical trials in Huntington's Disease

401: Teaching Course

Cognitive and Psychiatric Issues in the Parkinsonian Spectrum

14:30 – 16:30 GMT

Chairs: Cristian Falup-Pecurariu, *Romania*
James Morley, *USA*

Apathy: Why, Who, and What to Do About It
Marcelo Merello, *Argentina*

It's Not Just MCI / Dementia: The Many Cognitive Changes in Parkinsonism
Madeleine Sharp, *Canada*

Parkinson's Disease Treatments: How do They Change Neuropsychiatric Symptoms?
Daniel Weintraub, *USA*

CSPC Liaison: Ron Postuma, *Canada*

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

At the conclusion of this session, participants should be better able to:
1. Discuss the pathophysiology, disease spectrum and management of apathy in parkinsonian conditions
2. Evaluate the broad spectrum of non-dementia cognitive changes in parkinsonian conditions
3. Differentiate treatment vs. disease-related effects on neuropsychiatric symptoms in Parkinson's disease

402: Teaching Course

Dystonia, Ataxia, and Tics

14:30 – 16:30 GMT

Chairs: Cynthia Comella, *USA*
Susanne Schneider, *Germany*

My Approach to Dystonia
Susanne Schneider, *Germany*

My Approach to Ataxia
José Luiz Pedroso, *Brazil*

My Approach to Tic Disorders
Tamara Pringsheim, *Canada*

CSPC Liaison: Ron Postuma, *Canada*

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

At the conclusion of this session, participants should be better able to:
1. Describe the phenomenology and diagnostic approach to dystonia
2. Describe the phenomenology and diagnostics approach to ataxia
3. Summarize the phenomenology and diagnostic approach to tic disorders

MDS-Africa Regional Assembly

17:30 - 18:00 GMT

All participants from the African continent are encouraged to attend.

SUNDAY, SEPTEMBER 13, 2020

501: Skills Workshop

A Multidisciplinary Approach for Palliative Care
18:00 – 19:30 GMT

This session aims to help providers identify and manage palliative care needs, collaborate with other allied healthcare team members, and develop advance care planning with patients, families and their caregivers.

Stefan Lorenzl, *Germany*
Janis Miyasaki, *Canada*

CSPC Liaison: Claudia Trenkwalder, *Germany*

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

At the conclusion of this session, participants should be better able to:
1. Recognize the relevance of palliative care in movement disorders
2. Develop a multidisciplinary approach to the management of patients in advanced care

502: Skills Workshop

DBS and Functional Communication in Parkinson's Disease: Insights and Intervention
18:00 – 19:30 GMT

In this interactive session, the faculty will examine the impact of Deep Brain Stimulation on speech intelligibility in Parkinson's disease. Evidence-based interventions will be compared to optimize functional communication.

Elina Tripoliti, *United Kingdom*
Michelle Troche, *USA*

CSPC Liaison: Terry Ellis, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Examine the impact of Deep Brain Stimulation on speech intelligibility in Parkinson's disease
2. Compare treatment strategies to optimize functional communication in Parkinson's disease

503: Skills Workshop

Imaging in Parkinson's Disease
18:00 – 19:30 GMT

In this interactive session, the faculty will review the nuts and bolts of how radioisotope imaging, MRI, and ultrasonography are used for diagnosis and prognostication in Parkinson's disease.

Marios Politis, *United Kingdom*
Klaus Seppi, *Austria*

CSPC Liaison: Per Borghammer, *Denmark*

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

At the conclusion of this session, participants should be better able to:
1. Describe how PET and SPECT are used for the diagnosis, prognostication, and as progression markers of Parkinson's disease
2. Describe the application of anatomical and functional MRI, and ultrasonography in the diagnosis, prognostication, and as progression markers of Parkinson's disease

504: Skills Workshop

Phenomenology of Movement Disorders for Young Neurologists: Semiological Tricks and Pitfalls
18:00 – 19:30 GMT

In this interactive session, the faculty will discuss tricks and maneuvers they employ in clinical practice for the detection and examination of movement disorders.

Mona Obaid, *Saudi Arabia*
Mayela Rodriguez Violante, *Mexico*

CSPC Liaison: Oscar Gershanik, *Argentina*

Recommended Audience: Practitioners, Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Explore the phenomenology of movement disorders
2. Apply semiological tricks to better detect and examine movement disorders

601: Special Topics in Movement Disorders

Big Data Analytics in Clinical Research for Movement Disorders
18:00 – 19:30 GMT

In this session the Faculty will discuss the impact of big data analytics in the current clinical research on Parkinson's disease and other movement disorders, as well as the potential implications of the research findings in the clinical management.

Ivo Dinov, *USA*
Allison Willis, *USA*

CSPC Liaison: Roongroj Bhidayasiri, *Thailand*

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

At the conclusion of this session, participants should be better able to:
1. Describe the concept of big data analytics and the impact in clinical research in the field of Movement Disorders
2. Discuss findings from studies based on big data analytics, and their potential implications in the clinical management

602: Special Topics in Movement Disorders

Revisiting the Role of Non-Neuronal Cells in Parkinson's Disease
18:00 – 19:30 GMT

In this interactive session, the faculty will discuss recent data suggesting that brain non-neuronal cells, including glial and inflammatory cells, are involved in the pathogenesis and pathophysiology of Parkinson's disease .

Antonella Consiglio, *Spain*
David Sulzer, *USA*

CSPC Liaison: Etienne Hirsch, *France*

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

At the conclusion of this session, participants should be better able to:
1. Discuss the roles for non-neuronal cells in the pathophysiology of Parkinson's disease
2. Describe the putative roles for non-neuronal cells in the pathogenesis

SUNDAY, SEPTEMBER 13, 2020

701: Video Session

Gait Disorders

18:00 – 19:30 GMT

In this interactive session, participants will gain knowledge on different gait disorders through illustrative videos. Key features of gait disorders and different treatment strategies will be discussed, including surgical interventions.

Nir Giladi, *Israel*
Evzen Ruzicka, *Czech Republic*

CSPC Liaison: Andrea Kühn, *Germany*

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

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

1. Review the clinical features of normal gait and recognize key abnormalities of gait disorders
2. Recognize specific dysfunction in gait disorders, discuss differential diagnosis and the respective therapeutic management

702: Video Session

Tardive Syndromes and Other Drug Induced Movement Disorders

18:00 – 19:30 GMT

In this interactive session, the faculty will demonstrate iatrogenic movement disorders in a case-based format, highlighting acute, chronic, and tardive syndromes, emphasizing phenotypic features that can be overlooked or misattributed to other disorders. Pearls and pitfalls of drug-related complications will be discussed.

Hubert Fernandez, *USA*
Deborah Hall, *USA*

CSPC Liaison: Alberto Espay, *USA*

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

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

1. Recognize typical and atypical forms of tardive syndromes and distinguish from mimics
2. Identify clinical clues associated with drug-induced movement disorders

MDS Video Challenge (non CME)

19:30 – 22:30 GMT

Please join Masters of Ceremony Anthony Lang and Kapil Sethi as they host world-renowned Movement Disorders experts in guiding participants through unique Movement Disorder cases. The cases will be presented by representatives from Movement Disorder Centers around the world and discussed by Movement Disorder Experts. Awards will be given for the most interesting and challenging cases. Country pride will add an enjoyable spirit of competition to this event. The goal of this session is for participants to learn from a series of unusual, very interesting patients and see how senior experts approach these types of challenging cases.

Featured Experts:
Bettina Balint, *Germany*
Orlando Barsottini, *Brazil*
Kailash Bhatia, *United Kingdom*
Francisco Cardoso, *Brazil*
Roberto Erro, *Italy*
Alberto Espay, *USA*
Alfonso Fasano, *Canada*
Jennifer Friedman, *USA*
Victor Fung, *Australia*
Christos Ganos, *Germany*
Dan Healy, *Ireland*
Marina de Koning-Tijssen, *Netherlands*
Manju Kurian, *United Kingdom*
Tim Lynch, *Ireland*
Stephen Reich, *USA*
Maria Stamelou, *Greece*

MONDAY, SEPTEMBER 14, 2020

MDS Video Challenge (Non-CME) (Encore Presentation)

2:00 – 5:00 GMT

Please see page 17 for complete description.

202: Plenary Session

Treatable, Rare Movement Disorders Not to Miss

12:00 – 14:00 GMT

Chairs: Victor Fung, *Australia*
Mayela Rodriguez-Violante, *Mexico*

Clinical Approach
Jennifer Friedman, *USA*

Diagnostic Workup
Manju Kurian, *United Kingdom*

Current and Future Treatments
Buz Jinnah, *USA*

CSPC Liaison: Maria Stamelou, *Greece*

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

At the conclusion of this session, participants should be better able to:
1. Appraise clinically a patient with a suspected treatable, rare movement disorder and recognize clinical clues not to be missed
2. Decide, determine and interpret the necessary investigations for a patient with a suspected treatable, rare movement disorder
3. Apply current therapies and identify upcoming new therapy options for rare movement disorders

203: Plenary Session

Parkinson's Disease Biomarkers: A Multidisciplinary Approach

12:00 – 14:00 GMT

Chairs: Per Borghammer, *Denmark*
Andrew Siderowf, *USA*

Update on Imaging Biomarkers for Parkinson's Disease
A. Jon Stoessl, *Canada*

Clinical Utility of Fluid Biomarkers for Parkinson's Disease
Brit Mollenhauer, *Germany*

Peripheral Pathology as a Parkinson's Disease Biomarker
Charles Adler, *USA*

CSPS Liaison: Andrew Siderowf, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Evaluate the clinical value of imaging biomarkers, including emerging PET and SPECT ligands and MRI
2. Describe current status of biochemical biomarkers for Parkinson's disease
3. Summarize recent developments in peripheral tissue assays for alpha-synuclein pathology in Parkinson's disease

307: Parallel Session

Innovative Models in the Integrated Management of Parkinson's Disease

14:30 – 16:30 GMT

Chairs: Bastiaan Bloem, *Netherlands*
Terry Ellis, *USA*

Interdisciplinary Team Models of Care in Parkinson's Disease
Jennifer Goldman, *USA*

An Integrated Telemedicine Approach in Parkinson's Disease
Mark Guttman, *Canada*

Integrated Palliative Care in Parkinson's Disease: Timing Matters
Maya Katz, *USA*

CSPC Liaison: Terry Ellis, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Describe interdisciplinary team models of care to optimize the management of Parkinson's disease
2. Discuss innovative models on integrated care using telehealth in Parkinson's disease
3. Describe a palliative care model integrated over the disease continuum in Parkinson's disease

308: Parallel Session

Sleep Disorders in Parkinsonism: Science and Clinical Aspects

14:30 – 16:30 GMT

Chairs: Roongroj Bhidayasiri, *Thailand*
Ron Postuma, *Canada*

Basic Science Aspects of RBD
Pierre Luppi, *France*

Clinical Aspects of RBD
Ambra Stefani, *Austria*

Sleep Disorders in Atypical Parkinsonism
Federica Provini, *Italy*

CSPC Liaison: Per Borghammer, *Denmark*

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

At the conclusion of this session, participants should be better able to:
1. Describe the pathophysiology and neuropathology underlying RBD
2. Describe clinical manifestations of RBD, their relationship with other clinical features, and management
3. Describe prominent sleep disorders in atypical parkinsonisms, their relation with other clinical features, and management

MONDAY, SEPTEMBER 14, 2020

309: Parallel Session

Update on Recent Clinical Trials
14:30 – 16:30 GMT

Chairs: Hubert Fernandez, *USA*
Oscar Gershanik, *Argentina*

Parkinson's Disease
Tatyana Simuni, *USA*

Atypical Parkinsonian Disorders
Günter Höglinger, *Germany*

Huntington's Disease
Blair Leavitt, *Canada*

Top Abstracts: Top Abstracts presented in this session can be found on page 32.

CSPC Liaison: Wassilios Meissner, *France*

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

At the conclusion of this session, participants should be better able to:
1. Discuss recent clinical trials in Parkinson's disease
2. Review recent clinical trials for atypical parkinsonian disorders
3. Discuss recent clinical trials for hyperkinetic movement disorders

310: Parallel Session

The Crossroads of Spasticity and Ataxia
14:30 – 16:30 GMT

Chairs: Orlando Barsottini, *Brazil*
Brent Fogel, *USA*

Clinical Syndromes and Diagnostic Evaluation
Helio Teive, *Brazil*

Biological Basis
Brent Fogel, USA

Management
Carlos Henrique Camargo, *Brazil*

CSPC Liaison: Buz Jinnah, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Describe the clinical features and diagnostic workup of syndromes that feature spasticity and ataxia
2. Summarize the pathogenesis of spasticity and ataxia
3. Describe management strategies for clinical syndromes that combine spasticity and ataxia

311: Parallel Session

Advanced Multi-Modal Imaging and Big Imaging Data in Parkinson's Disease
14:30 – 16:30 GMT

Chairs: A. Jon Stoessl, *Canada*
Antonio Strafella, *Canada*

Multi-Modal Imaging of the Braak Stages and Parkinson's Disease Subtypes
Per Borghammer, *Denmark*

Multi-Modal Imaging for Diagnosis, Prognosis and Progression
Jee-Young Lee, *South Korea*

Simulating Parkinson's Disease in Computer Models and Using A.I. for Big Imaging Data
Alain Dagher, *Canada*

Top Abstracts: Top Abstracts presented in this session can be found on page 32.

CSPC Liaison: Per Borghammer, *Denmark*

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

At the conclusion of this session, participants should be better able to:
1. Describe how multi-modal imaging enables visualization of damage to distinct neurotransmitter systems in Parkinson's disease
2. Describe how multi-modal MRI and other imaging techniques are used for diagnosis, prognostication, and as progression markers
3. Describe computer simulations of Parkinson's disease and how artificial intelligence algorithms allow in-depth analysis of very large imaging datasets

403: Teaching Course

Atypical Parkinsonisms: Clinical Overview
14:30 – 16:30 GMT

Chairs: Carlo Colosimo, *Italy*
John Duda, *USA*

PSP/CBD
Marina Picillo, *Italy*

MSA
Han-Joon Kim, *South Korea*

Clinical Look-Alikes
Kailash Bhatia, *United Kingdom*

CSPC Liaison: Ron Postuma, *Canada*

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

At the conclusion of this session, participants should be better able to:
1. Evaluate the clinical spectrum and imaging features of PSP/CBS
2. Evaluate the clinical spectrum and imaging features of MSA
3. Discuss the disorders which can clinically mimic PSP, CBD, and MSA

MONDAY, SEPTEMBER 14, 2020

404: Teaching Course

Update on Neurosurgery for Movement Disorders

14:30 – 16:30 GMT

Chairs: Elena Moro, *France*
Michael Okun, *USA*

DBS for Parkinson's Disease: Who, Where, and How?
Michael Okun, *USA*

DBS for Dystonia: Who, Where, and How?
Andrea Kühn, *Germany*

DBS and Lesioning in Tremor
Günther Deuschl, *Germany*

CSPC Liaison: Ron Postuma, *Canada*

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

At the conclusion of this session, participants should be better able to:
1. Identify good candidates for DBS surgery in PD, the best surgical target, and novel types of segmented lead technology
2. Identify good candidates for DBS in dystonia, the outcome over the long term, and novel types of adaptive stimulation
3. Identify how to select candidates for surgery in tremor, how to use DBS, and when surgical vs. ultrasound lesioning should be used

901: Science of Industry (non-CME)

Antisense Oligonucleotides for Treating Movement Disorders

14:30 – 16:30 GMT

See 28 for complete session information.

505: Skills Workshop

Managing Comorbidities and Polypharmacy Issues in Parkinson's Disease

18:00 – 19:30 GMT

In this interactive session, the faculty will discuss common comorbidities and the polypharmacy these lead to in the management of Parkinson's disease.

David Burn, *United Kingdom*
Tove Henriksen, *Denmark*

CSPC Liaison: Tove Henriksen, *Denmark*

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

At the conclusion of this session, participants should be better able to:
1. Recognize the most common comorbidities in Parkinson's disease
2. Manage the comorbidities and the related polypharmacy in Parkinson's disease

506: Skills Workshop

Botulinum Toxins: A Case-Based Approach

18:00 – 19:30 GMT

In this interactive session, the faculty will use a case-based approach to describe the use of botulinum toxins for the most common forms of dystonia and spasticity.

Carlo Colosimo, *Italy*
Andres Deik, *USA*

CSPC Liaison: Buz Jinnah, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Describe optimal strategies for the application of botulinum toxins for the more common forms of dystonia such as cervical dystonia, blepharospasm, and limb dystonia
2. Describe the optimal strategies for the application of botulinum toxins for the treatment of the more common forms of spasticity affecting the upper and lower limb

507: Skills Workshop

New Perspectives on Phenotype-Genotype Relationships

18:00 – 19:30 GMT

In this interactive session, faculty will describe various types of genotype-phenotype relationships, how to apply genetic testing for diagnosis in different movement disorders, and several online tools available for understanding the outcomes of genetic testing.

Pedro Gonzalez-Alegre, *USA*
Joanne Trinh, *Germany*

CSPC Liaison: Buz Jinnah, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Describe the sometimes complex relationships between various genotypes and their associated phenotypes
2. Describe some of the tools available to help the clinician make better use of the results of genetic testing for diagnosis

MONDAY, SEPTEMBER 14, 2020

603: Special Topics in Movement Disorders

Physical Exercise and Parkinson's Disease
18:00 – 19:30 GMT

In this interactive session, the faculty will discuss the role of physical exercise in modifying the risk of developing Parkinson's disease and the disease progression.

Terry Ellis, *USA*
Priya Jagota, *Thailand*

CSPC Liaison: Beomseok Jeon, *South Korea*

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

At the conclusion of this session, participants should be better able to:
1. Discuss the role of physical exercise in modifying the risk for developing Parkinson's disease
2. Discuss the role of exercise in modifying Parkinson's disease progression

604: Special Topics in Movement Disorders

Setting Up Your Telemedicine Clinic
18:00 – 19:30 GMT

In this interactive session, participants will gain practical knowledge on the resources needed to set up a telemedicine clinic. Faculty will also discuss both the advantages and disadvantages of this interface for delivery of care and highlight obstacles, potential pitfalls, and opportunities for future enhancements.

Piu Chan, *People's Republic of China*
Nijdeka Okubadejo, *Nigeria*
Meredith Spindler, *USA*

CSPC Liaison: Alberto Espay, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Apply readily available technology resources into an interface for telemedicine
2. Recognize the challenges and opportunities of a telemedicine clinic

605: Special Topics in Movement Disorders

How to Become a Successful Movement Disorders Specialist
18:00 – 19:30 GMT

In this interactive session, participants will gain insight on the best approaches to pursue a career in Movement Disorders.

Beomseok Jeon, *South Korea*
Pille Taba, *Estonia*

CSPC Liaison: Oscar Gershanik, *Argentina*

Recommended Audience: Students/Residents/Trainees

At the conclusion of this session, participants should be better able to:
1. Choose the right career path, and acquire the necessary skills to become a successful Movement Disorders Specialist
2. Recognize the importance of searching for good mentors when pursuing specialization

703: Video Session

Eye Movement Disorders
18:00 – 19:30 GMT

In this interactive session, attendees will learn bedside examination techniques, recognize categories of abnormal eye movements, and become familiar with ocular and oculomotor abnormalities in many movement disorders.

Tim Anderson, *New Zealand*
Joyce Liao, *USA*

CSPC Liaison: Shen-Yang Lim, *Malaysia*

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

At the conclusion of this session, participants should be better able to:
1. Undertake a bedside neuro-opthalmological examination relevant to movement disorders
2. Describe characteristic clinical ocular and eye movement abnormalities that aid diagnosis in common and uncommon movement disorders

704: Video Session

Movement Disorder Emergencies
18:00 – 19:30 GMT

In this interactive session, the faculty will show videos of hypokinetic and hyperkinetic movement disorder emergencies, and discuss the practical management of these conditions

Steven Frucht, *USA*
Asha Kishore, *India*

CSPC Liaison: Roongroj Bhidayasiri, *Thailand*

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

At the conclusion of this session, participants should be better able to:
1. Recognize clinical settings and signs of hypokinetic and hyperkinetic movement disorder emergencies, including those related to device-aided therapies
2. Outline management strategies of various movement disorder emergencies

TUESDAY, SEPTEMBER 15, 2020

204: Plenary Session

Neuroscience Bridges
12:00 – 13:45 GMT

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.

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

Understanding Disease Associated Microglia in Neurodegeneration
Beth Stevens, *USA*

Inner workings of channelrhodopsins and brains
Karl Deisseroth, *USA*

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

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

At the conclusion of this session, participants should be better able to:
1. Understand microglia states and functions in health and disease
2. To summarize the evolution of optogenetics, and how this technology can promote understanding of the functions and dysfunctions of the brain

312: Parallel Session

The Evolving Spectrum of Movement Disorder Tauopathies
14:30 – 16:30 GMT

Chairs: Adam Boxer, *USA*
Maria Stamelou, *Greece*

Clinical Spectrum
Maria Stamelou, *Greece*

Biomarkers
James Rowe, *United Kingdom*

Therapeutic Pipeline
Adam Boxer, *USA*

CSPC Liaison: Wassilios Meissner, *France*

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

At the conclusion of this session, participants should be better able to:
1. Recognize the spectrum of movement disorder tauopathies
2. Discuss biomarkers for movement disorder tauopathies
3. Describe the therapeutics pipeline for movement disorder tauopathies

313: Parallel Session

Essential Tremor, Dystonia and Their Relationships
14:30 – 16:30 GMT

Chairs: Kailash Bhatia, *United Kingdom*
Louis Tan, *Singapore*

The Phenotypic Spectrum of Essential Tremor-Plus Syndromes
Franziska Hopfner, *Germany*

The Phenotypic Spectrum of Tremor in Dystonias
Aasef Shaikh, *USA*

Differentiating Essential Tremor-Plus and Dystonic Tremor: Neurophysiological Tools
Maja Kojovic, *Slovenia*

Top Abstracts: Top Abstracts presented in this session can be found on page 32.

CSPC Liaison: Maria Stamelou, *Greece*

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

At the conclusion of this session, participants should be better able to:
1. Describe and recognize the phenotypic spectrum of essential tremor-plus syndromes
2. Examine and identify the characteristics of tremor in a patient with dystonia
3. Evaluate neurophysiological tools for the differential diagnosis of essential tremor and dystonia syndromes

314: Parallel Session

Microbiome and the Gut-Brain Axis
14:30 – 16:30 GMT

Chairs: Carolyn Sue, Australia
Ruey-Meei Wu, *Taiwan*

The Gut Microbiome in Health and Disease
Filip Scheperjans, *Finland*

The Gut Microbiome in the Pathogenesis of Parkinson's Disease
Heinz Reichmann, *Germany*

Perspectives for Clinical Management
Ai Huey Tan, *Malaysia*

CSPC Liaison: Carolyn Sue, *Australia*

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

At the conclusion of this session, participants should be better able to:
1. Summarize the scientific evidence for the role of the gut microbiome in health and disease
2. Appraise animal studies investigating the role of the gut microbiome in the pathogenesis of Parkinson's disease
3. Appraise clinical studies investigating the role of the gut microbiome in the pathogenesis of Parkinson's disease

TUESDAY, SEPTEMBER 15, 2020

315: Parallel Session

DNA Repeat Expansions: Old and New Forms
14:30 – 16:30 GMT

Chairs: Thomas Klockgether, *Germany*
Henry Paulson, *USA*

Genotypes and Phenotypes
Thomas Klockgether, *Germany*

Molecular Mechanisms
Henry Paulson, *USA*

Emerging Therapeutics Avenues
Edward Wild, *United Kingdom*

CSPC Liaison: Jennifer Friedman, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Recognize the genetic and clinical spectrum of repeat expansions in movement disorders
2. Describe the molecular mechanisms of repeat expansion disorders
3. Describe the emerging therapeutic avenues for repeat expansion disorders

316: Parallel Session

Dementia with Lewy Bodies (DLB)
14:30 – 16:30 GMT

Chairs: Melissa Armstrong, *USA*
Karen Marder, *USA*

Genetics Insights to the Pathogenesis
Rita Guerreiro, *USA*

Imaging
Kejal Kantarci, *USA*

Diagnosis and Management
Melissa Armstrong, *USA*

Top Abstracts: Top Abstracts presented in this session can be found on page 32.

CSPC Liaison: Karen Marder, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Recognize the role of genetic variants in the pathogenesis of Lewy body disorders
2. Discuss the role of imaging in differential diagnosis of Lewy body disorders
3. Identify multidisciplinary approaches to Lewy body disorders

317: Parallel Session

Gene-Driven Therapies Under Development for Parkinson's Disease
14:30 – 16:30 GMT

Chairs: Etienne Hirsch, *France*
Dan Kremens, *USA*

At the Crossroads Between Gaucher's and Parkinson's Disease
Ellen Sidransky, *USA*

LRRK2 Inhibition as a Target for Intervention in Parkinson's Disease
Elisa Greggio, *USA*

Alpha-synuclien Aggregation as a Target for Therapeutic Intervention
Daniel Otzen, *Denmark*

CSPC Liaison: Tiago Outeiro, *Germany*

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

At the conclusion of this session, participants should be better able to:
1. Discuss the role of GBA1 as a genetic risk factor and target for intervention in Parkinson's disease
2. Discuss the current status of LRRK2 inhibition as a therapeutic strategy for Parkinson's disease
3. Compare different possible therapeutic strategies targeting alpha-synuclein aggregation

405: Teaching Course

Parkinson's Disease Biomarkers
14:30 – 16:30 GMT

Chairs: Shengdi Chen, *People's Republic of China*
Brit Mollenhauer, *Germany*

What Makes a Good Biomarker?
Michele Hu, *United Kingdom*

Key Updates in Fluid and Tissue Biomarkers of Parkinson's Disease
Alice Chen-Plotkin, *USA*

Key Updates in Imaging Biomarkers
Kathleen Poston, *USA*

CSPC Liaison: Ron Postuma, *Canada*

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

At the conclusion of this session, participants should be better able to:
1. Discuss different types and uses of biomarkers in Parkinson's disease
2. Summarize key updates in the field of Parkinson's disease fluid and tissue biomarkers
3. Summarize updates in the field of Parkinson's disease neuroimaging biomarkers

TUESDAY, SEPTEMBER 15, 2020

406: Teaching Course

Autonomic Disturbances in Movement Disorders

14:30 – 16:30 GMT

Chairs: Pietro Cortelli, *Italy*
David Goldstein, *USA*

Physiology and Pathophysiology
David Goldstein, *USA*

Clinical Evaluation and Diagnostic Tests
Valeria Iodice, *United Kingdom*

Management
Pietro Cortelli, *Italy*

CSPC Liaison: Ron Postuma, *Canada*

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

At the conclusion of this session, participants should be better able to:
1. Recognize the important movement disorders associated with autonomic dysfunction
2. Discuss clinical testing for autonomic dysfunction in movement disorders
3. Evaluate pathophysiology and treatment options for autonomic dysfunction in movement disorders

902: Science of Industry (non-CME)

Immunotherapy for Proteinopathies

14:30 - 16:30 GMT

See 28 for complete session information.

508: Skills Workshop

Genetic Testing, Counseling and Ethical Issues

18:00 – 19:30 GMT

In this interactive session, the faculty will discuss basic issues regarding genetic testing and counseling for movement disorders, including the rationale, process, challenges and ethical concerns, such as privacy and testing minors, that may arise. Faculty will provide insights regarding ethical aspects of genetics in movement disorders in the next generation sequencing era. Case examples will be used to illustrate the pros and cons of genetic testing, ethical considerations, and challenges faced by clinicians, geneticists, and patients and their families.

Roy Alcalay, *USA*
Christine Klein, *Germany*
Avi Orr-Urtreger, *Israel*

CSPC Liaisons: Jennifer Goldman, *USA*
Karen Marder, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Discuss genetic testing and counseling for movement disorders, including the "when, what, why, and how"
2. Recognize the ethical issues relevant to genetic testing and the management of patients with movement disorders

509: Skills Workshop

How to Use the MDS-UPDRS

18:00 – 19:30 GMT

In this interactive session, movement disorders experts will facilitate the understanding of participants on the core elements of the MDS-UPDRS and enable them to become fluent in the grading system. Participants will have an opportunity to practice on test cases and determine how to use this standardized measure to optimize clinical and research evaluations, train others in a standardized assessment of Parkinson's disease, and increase communication amongst providers.

Emilia Gatto, *Argentina*
Matej Skorvanek, *Slovakia*

CSPC Liaison: Veronica Santini, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Evaluate patients and participants in clinical and research settings with the MDS-UPDRS
2. Practice using the MDS-UPDRS through interactive exercises and test cases

510: Skills Workshop

Lessons From My Patients

18:00 – 19:30 GMT

In this interactive session, experienced clinical specialists will discuss important lessons they have learned from patients, analyzing the important clinical features of the history and examination that aided in the diagnosis, as well as pitfalls of the evaluation process. Faculty will also discuss approaches to management and key features that assist in determining appropriate strategies.

Cynthia Comella, *USA*
Marie Vidailhet, *France*

CSPC Liaisons: Tove Henriksen, *Denmark*
Veronica Santini, *USA*

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

At the conclusion of this session, participants should be better able to:
1. Interpret and critique the pertinent historical and examination elements that may be advantageous when diagnosis and management are elusive
2. Identify common pitfalls in the evaluation of movement disorders

TUESDAY, SEPTEMBER 15, 2020

606: Special Topics in Movement Disorders

Autonomic Dysfunction: Pathophysiology and Advanced Testing

18:00 – 19:30 GMT

In this interactive session, the pathophysiology and advanced methods for investigating, diagnosing and imaging cardiovascular and urogenital systems in Parkinson's disease and atypical parkinsonism will be illustrated. Participants will be able to discuss the relevance of advanced diagnostic techniques to define and manage neurogenic orthostatic hypotension and urogenital dysfunctions.

Ryuji Sakakibara, *Japan*
Paola Sandroni, *USA*

CSPC Liaison: Pietro Cortelli, *Italy*

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

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

1. Assess the pathophysiology of neurogenic orthostatic hypotension and urogenital autonomic dysfunctions
2. Interpret the results of advanced investigations for planning appropriate management of these autonomic dysfunctions

607: Special Topics in Movement Disorders

IPCs and Organoids for Parkinson's Disease

18:00 – 19:30 GMT

In this session, the technology of induced pluripotent stem cells (iPS) and brain organoids as innovative tools for Parkinson's disease modeling and development of novel therapies will be discussed.

Wado Akamatsu, *Japan*
Eng-King Tan, *Singapore*

CSPC Liaison: Ryosuke Takahashi, *Japan*

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

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

1. Illustrate the application of human pluripotent stem cell technology and brain organoids to study the molecular mechanisms of Parkinson's disease
2. Discuss the potential of human pluripotent stem cell and organoid technologies for the development of novel therapies for Parkinson's disease

608: Special Topics in Movement Disorders

Metals and Calcium in my Brain

18:00 – 19:30 GMT

In this interactive session the presenters will discuss clinical and imaging aspects of movement disorders related to iron, copper, manganese, and calcium brain accumulation. The audience will learn important tips to clinically distinguish different forms of these disorders and the available treatment options.

Annu Aggarwal, *India*
Miryam Carecchio, *Italy*

CSPC Liaison: Orlando Barsottini, *Brazil*

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

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

1. Discuss the phenotypic spectrum of movement disorders associated with brain metal accumulations
2. Recognize different imaging hallmarks of these disorders

609: Special Topics in Movement Disorders

Nutrition and Microbiome in Health and Neurodegenerative Disease

18:00 – 19:30 GMT

In this interactive session, faculty will discuss nutrition and the microbiome in health and disease. They will present research on nutrition and dietary patterns and their effects on maintaining health and the development of disease, cognitive decline, and parkinsonism. Faculty will discuss the microbiome and how it relates to the pathogenesis of Parkinson's disease, different fecal and blood microbiota in animal and human models, and implications for research and clinical care.

John Duda, *USA*
Qin Xiao, *People's Republic of China*

CSPC Liaison: Jennifer Goldman, *USA*

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

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

1. Describe how nutrition and different dietary patterns influence both health and disease
2. Discuss the role of the microbiome in the pathogenesis of Parkinson's disease, highlighting evidence from animal models to human studies

705: Video Session

Pediatric Hyperkinetic Movement Disorders: Approach to a Child Who Moves Too Much

18:00 – 19:30 GMT

In this interactive session, the presenters will demonstrate with illustrative videos the wide phenotypic spectrum of hyperkinetic pediatric movement disorders. The audience will also observe video cases of potentially treatable hyperkinetic pediatric movement disorders that are important not to miss.

Serena Galosi, *Italy*
Toni Pearson, *USA*

CSPC Liaisons: Orlando Barsottini, *Brazil*
Jennifer Friedman, *USA*

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

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

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

WEDNESDAY, SEPTEMBER 16, 2020

205: Plenary Session

Digital Health Technologies in Movement Disorders

12:00 – 14:00 GMT

Chairs: Roongroj Bhidayasiri, *Thailand*
Christopher Goetz, *USA*

Digital Health Technologies: The Toolbox in 2020
Walter Maetzler, *Germany*

Digital Technologies for Diagnosis and Disease Monitoring
Bastiaan Bloem, *Netherlands*

Digital Health Pathway for Personalized and Integrated Care
Alberto Espay, *USA*

CSPC Liaison: Roongroj Bhidayasiri, *Thailand*

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

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

1. Summarize the digital health technologies available for research and clinical care of movement disorders
2. Discuss opportunities and challenges of digital health technologies for diagnosis and disease monitoring in clinical trials and patients management
3. Discuss the concept of digital health pathway for patient-centered integrated care

206: Plenary Session

Translational Insights into New Parkinson's Disease-Modifying Therapies

12:00 – 14:00 GMT

Chairs: Joseph Jankovic, *USA*
Tiago Outeiro, *Germany*

Lysosomal Dysfunction in Parkinson's Disease: From Genetics to the Bedside
Leonidas Stefanis, *Greece*

The Immune System as a Target for Intervention in Parkinson's Disease
Malu Tansey, *USA*

Antibody-Based Therapies: Present and Future
Eliezer Masliah, *USA*

CSPC Liaison: Tiago Outeiro, *Germany*

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

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

1. Discuss the potential of lysosome-targeted therapies in Parkinson's disease
2. Discuss the role of the immune system as a target for intervention in Parkinson's disease
3. Summarize the status of antibody-based therapies for Parkinson's disease

207: Plenary Session

Controversies in Movement Disorders

14:30 - 16:30 GMT

Chairs: Tove Henriksen, *Denmark*
Irene Litvan, *USA*

Antibodies Panels are Under-Utilized in Movement Disorders Diagnosis (YES)
Bettina Balint, *Germany*

Antibodies Panels are Under-Utilized in Movement Disorders Diagnosis (NO)
Francisco Cardoso, *Brazil*

Clinical Judgement vs. A.I. Algorithms: A.I. Will Outperform the Clinical Neurologist in the Near Future (YES)
Roongroj Bhidayasiri, *Thailand*

Clinical Judgement vs. A.I. Algorithms: A.I. Will Outperform the Clinical Neurologist in the Near Future (NO)
Christopher Goetz, *USA*

CSPC Liaison: Vincenzo Bonifati, *Netherlands*

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

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

1. Debate the advantages and disadvantages of antibodies panels in movement disorders diagnosis
2. Debate whether artificial intelligence will outperform clinical judgement in the near future

WEDNESDAY, SEPTEMBER 16, 2020

208: Plenary Session

Highlights from 2020: Looking Toward 2021
14:30 – 16:30 GMT

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

Basic Science: Parkinson's Disease
Ryosuke Takahashi, *Japan*

Basic Science: Other Movement Disorders
Carolyn Sue, *Australia*

Clinical Studies: Parkinson's Disease
Shen-Yang Lim, *Malaysia*

Clinical Studies: Other Movement Disorders
Orlando Barsottini, *Brazil*

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

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

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 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 2020

MDS-PAS Regional Assembly

22:30 - 23:00 GMT

All participants from Pan America are encouraged to attend.

NON-CME EDUCATIONAL ACTIVITIES

SCIENCE OF INDUSTRY SESSION (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 14, 2020

901 Science of Industry (non-CME)

Antisense Oligonucleotides for Treating Movement Disorders

14:30 - 16:30 GMT

Chairs: Stanley Fahn, *USA*
Buz Jinnah, *USA*

Biological Basis
Willeke van Roon-Mom, *Netherlands*

Preclinical Treatment Pipeline
Stefan Pulst, *USA*

Current Status of Clinical Development
Lauren Boak, *Switzerland*

CSPC Liaisons: Wassilios Meissner, *France*
Tiago Outeiro, *Germany*

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

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

1. Discuss the biological basis for using antisense oligonucleotides as treatment for movement disorders
2. Summarize the results of preclinical studies using antisense oligonucleotides for treating movement disorders
3. Discuss the current status of clinical trials using antisense oligonucleotides for treating movement disorders

TUESDAY, SEPTEMBER 15, 2020

902 Science of Industry (non-CME)

Immunotherapy for Proteinopathies

14:30 - 16:30 GMT

Chairs: Wassilios Meissner, *France*
Tiago Outeiro, *Germany*

Biological Basis
Andrew Siderowf, *USA*

Update on Preclinical Studies
Warren Hirst, *USA*

Current Status of Clinical Development
Wagner Zago, *USA*

Top Abstract: Top Abstract presented in this session can be found on page 32.

CSPC Liaisons: Wassilios Meissner, *France*
Tiago Outeiro, *Germany*

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

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

1. Discuss the biological basis for immunotherapy in neurological disease
2. Summarize the results of preclinical studies based on immunotherapy strategies for treating movement disorders
3. Summarize the current status of clinical trials based on immunotherapy strategies for treating movement disorders

NON-CME EDUCATIONAL ACTIVITIES

SPONSORED SYMPOSIA

Join daily at 16:30 GMT for our Sponsored Symposia. These industry-based informational sessions provide participants with non-CME educational opportunities to learn the latest in therapeutics.

SATURDAY, SEPTEMBER 12, 2020

AbbVie

How Technology Can Facilitate the Management of Advancing Parkinson's Disease Patients Amidst COVID-19: Opportunities and Challenges
16:30 – 17:30 GMT

ACADIA Pharmaceuticals, Inc.

A Case of Parkinson's Disease Psychosis: Managing Hallucinations and Delusions Associated with Parkinson's Disease Psychosis
16:30 – 17:30 GMT

Sunovion Pharmaceuticals, Inc.

KYNMOBI™ (apomorphine HCl) Sublingual Film: A Unique Formulation of Apomorphine
16:30 – 17:30 GMT

Zambon SpA

Challenges in the Management of Parkinson's Disease Patients During COVID-19 Pandemic: What Can We Expect?
16:30 – 17:30 GMT

SUNDAY, SEPTEMBER 13, 2020

Acorda Therapeutics

Clinical Considerations for a Therapy Used On-Demand to Treat the Return of Parkinson's Symptoms
16:30 – 17:30 GMT

BIAL

Changing the Paradigm for Treating Motor Fluctuations in Parkinson's: Advancements in COMT Inhibition
16:30 – 17:30 GMT

Genentech, a Member of the Roche Group

A New Horizon: How Will Slowing Disease Progression in Huntington's and Parkinson's Disease Transform Patient Care?
16:30 – 17:30 GMT

Medtronic

BrainSense™ Technology: See DBS From a New Perspective
16:30 – 17:30 GMT

MONDAY, SEPTEMBER 14, 2020

Neurocrine Biosciences, Inc.

A New Once-Daily COMT Inhibitor for OFF Time in Patients With Parkinson's Disease
16:30 – 17:30 GMT

Sanofi Genzyme

The Future of Parkinson's Disease: Genetic Targets and Emerging Treatment Pathways
16:30 – 17:30 GMT

TUESDAY, SEPTEMBER 15, 2020

Teva Medical Affairs

Impact and Treatment of Huntington's Disease Chorea
16:30 – 17:30 GMT

MDS SPECIAL INTEREST GROUP CURATED SESSIONS

The MDS Special Interest Groups have curated lists of scientific sessions to help you direct and navigate your participation in the MDS Virtual Congress.

SPECIAL INTEREST GROUPS

YOUNG MEMBERS GROUP

101: Updates on Medical Management Strategies for Parkinson's Disease: Motor Aspects

Saturday, September 12 at 12:00 - 14:00 GMT
Sunday, September 13 at 2:00 – 4:00 GMT (Encore Presentation)

103: Therapeutic Approaches to Chorea, Dystonia, and Myoclonus

Saturday, September 12 at 18:00 – 20:00 GMT
Sunday, September 13 at 7:00 – 9:00 GMT (Encore Presentation)

104: Neurosurgical Management of Movement Disorders

Saturday, September 12 at 20:30 – 22:30 GMT
Sunday, September 13 at 9:30 – 11:30 GMT (Encore Presentation)

MDS Video Challenge

Sunday, September 13 at 19:30 – 22:30 GMT
Monday, September 14 at 2:00 – 5:00 GMT (Encore Presentation)

304: Update on Genetics of Movement Disorders

Sunday, September 13 at 14:30 – 16:30 GMT

504: Phenomenology of Movement Disorders for Young Neurologists: Semiological Tricks and Pitfalls

Sunday, September 13 at 18:00 – 19:30 GMT

202: Treatable, Rare Movement Disorders Not to Miss

Monday, September 14 at 12:00 – 14:00 GMT

605: How to Become a Successful Movement Disorders Specialist

Monday, September 14 at 18:00 – 19:30 GMT

510: Lessons From my Patients

Tuesday, September 15 at 18:00 – 19:30 GMT

208: Highlights from 2020: Looking Toward 2021

Wednesday, September 16 at 15:30 – 16:30 GMT

BASIC SCIENCE

602: Revisiting the Role of Non-Neuronal Cells in Parkinson's Disease

Sunday, September 13 at 18:00 – 19:30 GMT

203: Parkinson's Disease Biomarkers: A Multidisciplinary Approach

Monday, September 14 at 12:00 – 14:00 GMT

308: Sleep Disorders in Parkinsonism: Science and Clinical Aspects

Monday, September 14 at 14:30 – 16:30 GMT

901: Antisense Oligonucleotides for Treating Movement Disorders

Monday, September 14 at 14:30 – 16:30 GMT

204: Neuroscience Bridges

Tuesday, September 15 at 12:00 – 14:00 GMT

317: Gene-Driven Therapies Under Development for Parkinson's Disease

Tuesday, September 15 at 14:30 – 16:30 GMT

405: Parkinson's Disease Biomarkers

Tuesday, September 15 at 14:30 – 16:30 GMT

902: Immunotherapy for Proteinopathies

Tuesday, September 15 at 14:30 - 16:30 GMT

607: IPCs and Organoids for Parkinson's Disease

Tuesday, September 15 at 18:00 – 19:30 GMT

206: Translational Insights into New Parkinson's Disease-Modifying Therapies

Wednesday, September 16 at 12:00 – 14:00 GMT

208: Highlights from 2020: Looking Toward 2021

Wednesday, September 16 at 15:30 – 16:30 GMT

MDS SPECIAL INTEREST GROUP CURATED SESSIONS

NEUROSURGERY

104: Neurosurgical Management of Movement Disorders

Saturday, September 12 at 20:30 – 22:30 GMT
Sunday, September 13 at 9:30 – 11:30 GMT (Encore Presentation)

502: DBS and Functional Communication in Parkinson Disease: Insights and Intervention

Sunday, September 13 at 18:00 – 19:30 GMT

701: Gait Disorders

Sunday, September 13 at 18:00 – 19:30 GMT

404: Update on Neurosurgery for Movement Disorders

Monday, September 14 at 14:30 – 16:30 GMT

HEALTH PROFESSIONALS

101: Updates on Medical Management Strategies for Parkinson's Disease: Motor Aspects

Saturday, September 12 at 12:00 - 14:00 GMT
Sunday, September 13 at 2:00 – 4:00 GMT (Encore Presentation)

301: COVID-19 and Movement Disorders

Sunday, September 13 at 14:30 – 16:30 GMT

501: A Multidisciplinary Approach for Palliative Care

Sunday, September 13 at 18:00 – 19:30 GMT

307: Innovative Models in the Integrated Management of Parkinson's Disease

Monday, September 14 at 14:30 – 16:30 GMT

403: Teaching Course Atypical Parkinsonisms: Clinical Overview

Monday, September 14 at 14:30 – 16:30 GMT

505: Managing Comorbidities and Polypharmacy Issues in Parkinson's Disease

Monday, September 14 at 18:00 – 19:30 GMT

603: Physical Exercise and Parkinson's Disease

Monday, September 14 at 18:00 – 19:30 GMT

609: Nutrition and Microbiome in Health and Neurodegenerative Disease

Tuesday, September 15 at 18:00 – 19:30 GMT

205: Digital Health Technologies in Movement Disorders

Wednesday, September 16 at 12:00 – 14:00 GMT

ABSTRACT INFORMATION

ABSTRACT POSTER INFORMATION

Beginning on September 11, 2020, Virtual Congress participants can view e-posters in the Virtual Poster Hall. Additionally, all abstracts will be published in the Movement Disorders journal e-supplement.

The MDS Virtual Congress 2020 will also feature sixteen virtual Guided Poster Tours which will be open to all participants.

ABSTRACT INFORMATION

MDS is pleased to provide over 1,500 accepted abstracts in the 2020 MDS Virtual Congress, and over 1,000 abstracts in the Virtual Poster Hall. Abstracts can be located on the Virtual Congress platform, in the MDS Congress app, and on the MDS Congress website: www.mdscongress.org.

To search for an abstract on the Virtual Congress platform, please visit the 'Abstracts' area. Attendees can view abstracts by category, or search by author, keyword or title in the search field.

All accepted MDS Congress abstracts are published in the Movement Disorders journal e-supplement.

MDS Appreciates Support from the following companies for the Virtual Poster Hall:

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TOP ABSTRACT PRESENTATIONS

Top Abstract presentations are a new initiative by MDS intended to give broader visibility to the best original research presented during the Virtual Congress. Top Abstract presentations can be found during the following sessions:

304: Update on Genetics of Movement Disorders
Sunday, September 13 at 14:30 – 16:30 GMT

Difference in distribution between alpha-synuclein oligomers and Lewy bodies in Parkinson's disease brain
Hiroaki Sekiya, *Japan*

Three-year safety and clinical outcomes from the PD-1101 trial of AADC gene therapy for advanced Parkinson's disease
Chad Christine, *USA*

305: Heterogeneity of Parkinson's Disease: Clinical Phenotypes and Progression
Sunday, September 13 at 14:30 – 16:30 GMT

Parkinson's disease determinants, prediction and gene-environment interactions in the UK Biobank
Daniel Belete, *United Kingdom*

Application of a Simple Parkinson's Disease Risk Score in a Longitudinal Population Based Cohort
Kathrin Marini, *Austria*

Genome-wide association studies of progression in Parkinson's disease
Manuela Tan, United Kingdom

309: Update on Recent Clinical Trials
Monday, September 14 at 14:30 – 16:30 GMT

Disease stage and UMSARS progression: Implications for clinical trials
Miguel Perez, *USA*

Determinants of quality of life in a large, online cohort of patients with Parkinson's disease
Meredith Bock, *USA*

Loneliness/Social Isolation as a Risk Factor for Worsened Parkinson Disease Severity
Indu Subramanian, *USA*

311: Advanced Multi-Modal Imaging and Big Imaging Data in Parkinson's Disease
Monday, September 14 at 14:30 – 16:30 GMT

Microglial activation associated with a faster progression of nigrostriatal dysfunction in patients with isolated REM sleep behavior disorder
Kristian Stær, *Denmark*

Visualization of Nigrosome 1 at 3T MRI and 18F-DOPA PET for the diagnosis of Parkinson´s disease
Antonio Martin-Bastida, *Spain*

Distinct compensatory and maladaptive wiring patterns in genotypic Parkinson's disease
Katharina Schindlbeck, *USA*

313: Essential Tremor, Dystonia and Their Relationships
Tuesday, September 15 at 14:30 – 16:30 GMT

Biological and Clinical Manifestations of Huntington's disease in Gene Carriers Very Far from Predicted Onset: The Young Adult Study
Paul Zeun, *United Kingdom*

DystoniaNet: Neural Biomarker-Based Platform for Dystonia Diagnosis using Deep Learning
Davide Valeriani, *USA*

Safety and efficacy of focused ultrasound staged bilateral thalamotomy for Essential tremor
Raul Martinez-Fernandez, *Spain*

316: Dementia with Lewy Bodies (DLB)
Tuesday, September 15 at 14:30 – 16:30 GMT

Minor hallucinations in Parkinson's disease are associated with increased neurofilament plasma levels and reduced white-matter integrity in the inferior longitudinal fasciculus
Helena Bejr-kasem, *Spain*

Rates of Pharmacological Treatment of Neuropsychiatric Symptoms in Early Parkinson's Disease
Catherine Kulick-Soper, *USA*

902: Immunotherapy for Proteinopathies
Tuesday, September 15 at 14:30 – 16:30 GMT

PASADENA: A Phase 2 study to evaluate the safety and efficacy of prasinezumab in early Parkinson's disease; Part 1 Week-52 results
Gennaro Pagano, *Switzerland*

VIRTUAL GUIDED POSTER TOURS

VIRTUAL GUIDED POSTER TOURS

In addition to published abstracts and the Virtual Poster Hall, attendees have the opportunity to hear discussion on a select group of abstracts in several different topics as Guided Poster Tours. Sixteen Virtual Guided Poster Tours featuring top highest scored abstracts will feature 5-minute oral presentations and summary of the tour by the tour leader.

Guided Poster Tour Group:	Guided Poster Tour Title:	Categories Included:
GPT 1:	Atypical Parkinsonism: MSA, PSP, CBD	Parkinsonism, Atypical: MSA Parkinsonism, Atypical: PSP, CBD
GPT 2: *MDS appreciates support from Sunovion for this Guided Poster Tour*	Clinical Trials	Parkinson's Disease: Clinical Trials Parkinson's Disease: Pharmacology and Therapy
GPT 3:	Clinical Trials	Parkinson's Disease: Clinical Trials
GPT 4:	Cognative and Psychiatric Disturbances	Parkinson's Disease: Psychiatric Manifestations Parkinson's Disease: Cognitive functions Parkinson's Disease: Non-Motor Symptoms Parkinson's Disease: Psychiatric Manifestations
GPT 5:	Epidemiology & Rating Scales	Epidemiology Parkinson's Disease: Non-Motor Symptoms Rating Scales
GPT 6: *MDS appreciates support from Genentech, a Member of the Roche Group for this Guided Poster Tour*	Hyperkinetic Movement Disorders	Huntington's Disease Neuroimaging (Non-PD) Rare Genetic and Metabolic Diseases Restless Legs Syndrome and Other Sleep Disorders Tics/Stereotypies Tremor
GPT 7:	Neuroimaging: Parkinsonism, RBD	Parkinsonism, Atypical: MSA Parkinsonism, Atypical: PSP, CBD Parkinson's Disease: Neuroimaging
GPT 8: *MDS appreciates support from Parkinson's Foundation for this Guided Poster Tour*	Parkinson's Disease: Genetics	Parkinson's Disease: Genetics

Guided Poster Tour Group:	Guided Poster Tour Title:	Categories Included:
GPT 9:	Parkinson's Disease: Molecular Mechanisms	Parkinsonism, Atypical: MSA Parkinson's Disease and Lewy Body Dementia Parkinson's Disease: Molecular Mechanisms of Disease Parkinson's Disease: Pathophysiology
GPT 10:	Parkinson's Disease: Neuroimaging	Parkinson's Disease: Neuroimaging
GPT 11:	Quality Of Life/ Caregiver Burden in Movement Disorders	Quality Of Life/Caregiver Burden in Movement Disorders Parkinson's Disease: Clinical Trials
GPT 12:	Surgical Therapy	Dystonia: Clinical Trials and Therapy Parkinson's Disease: Clinical Trials Parkinson's Disease: Neuroimaging Surgical Therapy: Other Movement Disorders Surgical Therapy: Parkinson's Disease Tics/Stereotypies Tremor
GPT 13:	Technology	Technology Parkinsonism, Atypical: MSA
GPT 14:	Late-Breaking Abstracts 1	Late-Breaking Abstracts (various categories)
GPT 15:	Late-Breaking Abstracts 2	Late-Breaking Abstracts (various categories)
GPT 16:	COVID-19 and Movement Disorders	COVID-19 and Movement Disorders

MDS Appreciates Support from the following company for Guided Poster Tour 2: Clinical Trials

MDS Appreciates Support from the following company for Guided Poster Tour 6: Hyperkinetic Movement Disorders

MDS Appreciates Support from the following company for Guided Poster Tour 8: Parkinson's Disease: Genetics

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ACKNOWLEDGEMENTS

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Open to Eligible Virtual Congress Participants

ASSOCIATE MEMBERSHIP

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

Learn more at www.movementdisorders.org/associate-membership.htm or contact the International Secretariat: MDS International Secretariat; 555 East Wells Street, Suite 1100; Milwaukee, WI 53202 USA; Tel:+ 1414-276-2145; Fax:+ 1 414-276-3349; E-mail: membership@movementdisorders.org

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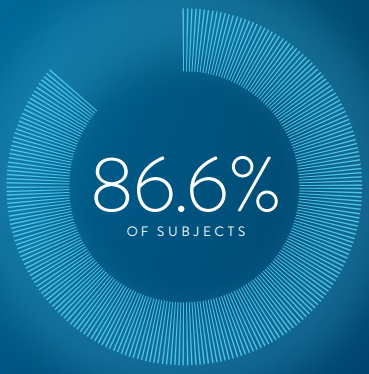
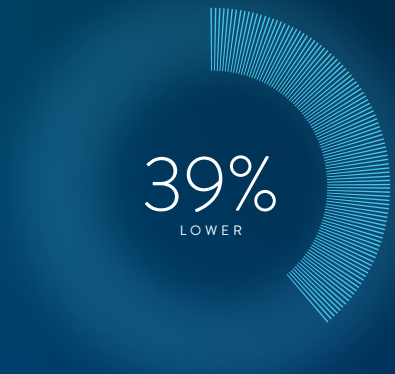
THE ABBOTT INFINITY™ DBS SYSTEM FEATURES SEGMENTED DIRECTIONAL LEADS AND SINGLE SEGMENT ACTIVATION (SSA), LOWERING ENERGY REQUIREMENTS TO ACHIEVE A WIDER THERAPEUTIC WINDOW FOR PATIENTS.[1,2]



HAD A WIDER THERAPEUTIC WINDOW WITH SSA THAN CONVENTIONAL STIMULATION.[1,2*]



THERAPEUTIC CURRENT STRENGTH IS REQUIRED TO ACHIEVE GREATER BENEFIT WITH LIMITED SIDE EFFECTS.[1,2*]

ABBOTT'S SEGMENTED DIRECTIONAL LEAD WITH SSA

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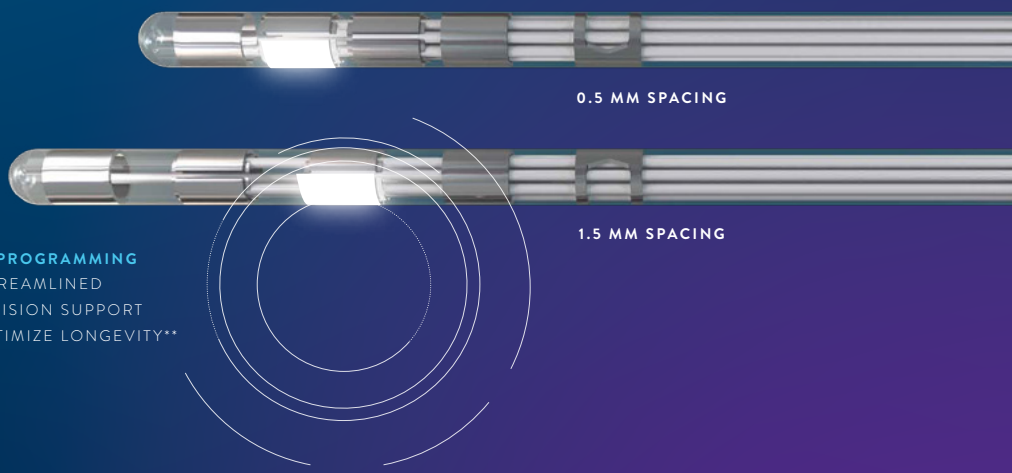

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Post hoc analysis, N = 202. **Informity™ programming software was not used in the PROGRESS study.

1. Vesper J, Mir P, Brodsky M, Verhagen L, Groppa S, Cheeran B, Karst E, Defresne F, Schnitzler A. "Directional versus conventional deep brain stimulation for Parkinson's disease: 3-month results of a prospective, blinded comparison, multi-center study." Oral presentation at: World Society Stereotactic and Functional Neurosurgery Congress; June 26, 2019; New York.
2. Schnitzler A, Mir P, Brodsky M, et al. "Directional or Conventional Deep Brain Stimulation for Parkinson's Disease: Results of a Prospective Blinded-Comparison Multi-Center Crossover Study." Poster presented at: International Congress of Parkinson's Disease and Movement Disorders; September 25, 2019; Nice, France.

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Brief Summary: Prior to using these devices, please review the Instructions for Use for a complete listing of indications, contraindications, warnings, precautions, potential adverse events and directions for use.

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See Important Safety Information, including **Boxed WARNING** below.

International Congress of Parkinson's Disease and Movement Disorders Sponsored Symposia by ACADIA Pharmaceuticals Inc.

A Case of Parkinson's Disease Psychosis: Managing Hallucinations and Delusions Associated With Parkinson's Disease Psychosis With NUPLAZID

FACULTY

Fernando L. Pagan, M.D.
Professor and Vice Chairman of Neurology
Director of Movement Disorders Program
Medical Director of Georgetown University Hospital
Parkinson Foundation Center of Excellence
Translational Neurotherapeutics Program

DATE

Saturday, September 12, 2020

12:30 PM - 1:30 PM EDT

16:30 PM - 17:30 PM GMT

LOCATION

Please Visit:

https://virtual.mdscongress.org/2020/MDS2020/fsPopup.asp?Mode=sessionInfo&PresentationID=764329

LEARNING OBJECTIVES

Discuss educational information about hallucinations and delusions associated with Parkinson's disease (PD) psychosis, including:

- The symptoms of PD psychosis, a non-motor aspect of PD
- The impact and burden of PD psychosis on patients and their caregivers
- The proposed role of serotonergic dysfunction and 5-HT_{2A} receptors, in PD psychosis
- The relevant treatment considerations when addressing PD psychosis

Review the clinical efficacy data and safety profile of NUPLAZID 34 mg, the first and only FDA-approved treatment for delusions and hallucinations associated with PD psychosis

Indication

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

Important Safety Information for NUPLAZID (pimavanserin)

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

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

- **Contraindication:** NUPLAZID is contraindicated in patients with a history of a hypersensitivity reaction to pimavanserin or any of its components. Rash, urticaria, and reactions consistent with angioedema (e.g., tongue swelling, circumoral edema, throat tightness, and dyspnea) have been reported.
- **QT Interval Prolongation:** NUPLAZID prolongs the QT interval.
  - The use of NUPLAZID should be avoided in patients with known QT prolongation or in combination with other drugs known to prolong QT interval including Class 1A antiarrhythmics or Class 3 antiarrhythmics, certain antipsychotic medications, and certain antibiotics.
  - NUPLAZID should also be avoided in patients with a history of cardiac arrhythmias, as well as other circumstances that may increase the risk of the occurrence of torsade de pointes and/or sudden death, including symptomatic bradycardia, hypokalemia or hypomagnesemia, and presence of congenital prolongation of the QT interval.
- **Adverse Reactions:** The most common adverse reactions (≥2% for NUPLAZID and greater than placebo) were peripheral edema (7% vs 2%), nausea (7% vs 4%), confusional state (6% vs 3%), hallucination (5% vs 3%), constipation (4% vs 3%), and gait disturbance (2% vs <1%).
- **Drug Interactions:**
  - Coadministration with strong CYP3A4 inhibitors (e.g., ketoconazole) increases NUPLAZID exposure. Reduce NUPLAZID dose to 10 mg taken orally as one tablet once daily.
  - Coadministration with strong or moderate CYP3A4 inducers reduces NUPLAZID exposure. Avoid concomitant use of strong or moderate CYP3A4 inducers with NUPLAZID.

Dosage and Administration

Recommended dose: 34 mg capsule taken orally once daily, without titration.

NUPLAZID is available as 34 mg capsules and 10 mg tablets.

Please see NUPLAZID Brief Summary on next page. For full Prescribing Information, please visit www.NUPLAZIDhcp.com.

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GOCOVRI® is the first and only FDA-approved medication indicated for the treatment of dyskinesia in patients with Parkinson's disease (PD) receiving levodopa-based therapy, with or without concomitant dopaminergic medications.[1]

In clinical trials, GOCOVRI® reduced dyskinesia (UDysRS; primary endpoint) while also reducing OFF time (key secondary endpoint) through Week 12, leading to increased "good" ON time (ON time without troublesome dyskinesia; key secondary endpoint) throughout the day.[1]

41% DECREASE IN DYSKINESIA
vs 14% with placebo[2†]
(UDysRS; primary endpoint)

36% DECREASE IN OFF TIME
(1 hour) placebo-adjusted[2,3†]
(key secondary endpoint)

45% INCREASE IN "GOOD" ON TIME
(3.8 hours) vs 17% with placebo
(1.4 hours)[2,3†](key secondary endpoint)

"Good" ON time = ON time without troublesome dyskinesia, UDysRS = Unified Dyskinesia Rating Scale.

INDICATION

GOCOVRI® is indicated for the treatment of dyskinesia in patients with Parkinson's disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS
GOCOVRI is contraindicated in patients with creatinine clearance below 15 mL/min/1.73 m

WARNINGS AND PRECAUTIONS
Falling Asleep During Activities of Daily Living and Somnolence: Patients treated with Parkinson's disease medications have reported falling asleep during activities of daily living. If a patient develops daytime sleepiness during activities that require full attention (e.g., driving a motor vehicle, conversations, eating), GOCOVRI should ordinarily be discontinued or the patient should be advised to avoid potentially dangerous activities.

Suicidality and Depression: Monitor patients for depression, including suicidal ideation or behavior. Prescribers should consider whether the benefits outweigh the risks of treatment with GOCOVRI in patients with a history of suicidality or depression.

Hallucinations/Psychotic Behavior: Patients with a major psychotic disorder should ordinarily not be treated with GOCOVRI because of the risk of exacerbating psychosis. Observe patients for the occurrence of hallucinations throughout treatment, especially at initiation and after dose increases.

WARNINGS AND PRECAUTIONS (CONT'D)
Dizziness and Orthostatic Hypotension: Monitor patients for dizziness and orthostatic hypotension, especially after starting GOCOVRI or increasing the dose.

Withdrawal-Emergent Hyperpyrexia and Confusion: Rapid dose reduction or abrupt discontinuation of GOCOVRI, may cause an increase in the symptoms of Parkinson's disease or cause delirium, agitation, delusions, hallucinations, paranoid reaction, stupor, anxiety, depression, or slurred speech. Avoid sudden discontinuation of GOCOVRI.

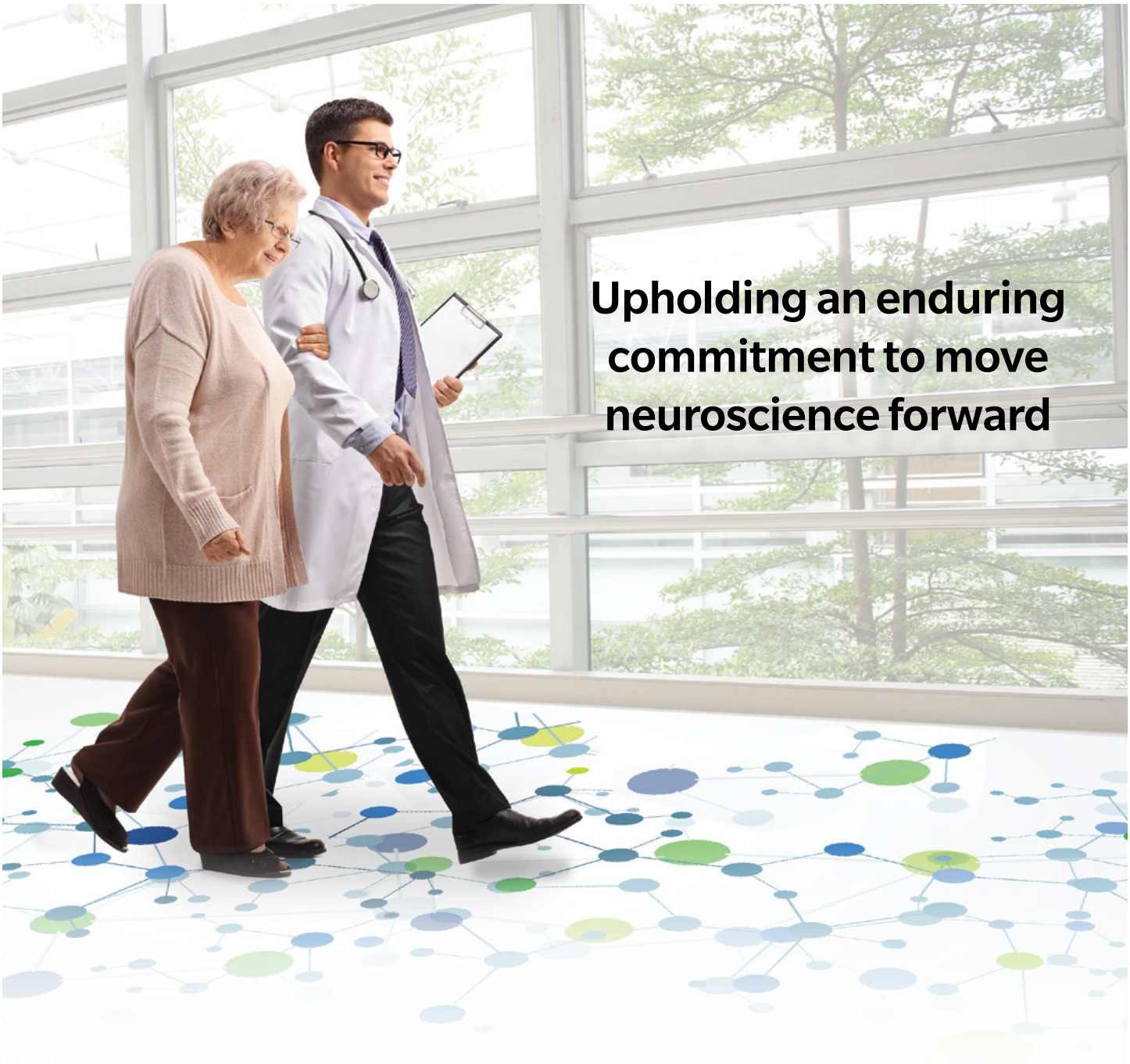
Impulse Control/Compulsive Behaviors: Patients may experience urges (e.g. gambling, sexual, money spending, binge eating) and the inability to control them. It is important for prescribers to ask patients or their caregivers about the development of new or increased urges. Consider dose reduction or stopping medications.

ADVERSE REACTIONS
The most common adverse reactions (>10%) were hallucination, dizziness, dry mouth, peripheral edema, constipation, fall, and orthostatic hypotension.

Please see full Prescribing Information at www.GOCOVRI.com.

ADAMAS™

References: 1. GOCOVRI® (amantadine) [Prescribing Information]. Emeryville, CA: Adamas Pharma LLC; 2017. **2.** Elmer LW, Juncos JL, Singer C, et al. Pooled analyses of phase III studies of ADS-5102 (amantadine) extended-release capsules for dyskinesia in Parkinson's disease. *CNS Drugs*. 2018;32(4):387-398. **3.** Data on File. Adamas Pharma LLC, Emeryville, CA.



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Changing the Paradigm for TREATING MOTOR FLUCTUATIONS in Parkinson's: Advancements in COMT Inhibition

SUNDAY, SEPTEMBER 13, 2020

16:30-17:30 GMT/12:30-1:30 PM EDT

LEARNING OBJECTIVES

- Review the clinical manifestations and impact of motor fluctuations in patients with PD
- Discuss the pharmacology and role of COMT inhibition in the management of motor fluctuations in PD
- Review clinical data of adjunct treatment options and COMT inhibitors

FACULTY

Hubert H. Fernandez, MD, FAAN (Chair)
James & Constance Brown Endowed Chair for Movement Disorders; Professor of Neurology, Cleveland Clinic Lerner College of Medicine of CWRU; Director, Center for Neurological Restoration; Cleveland Clinic Neurological Institute
Cleveland, Ohio, USA

Cheryl Waters, MD, FRCP(C)
Albert B. and Judith L. Glickman Professor of Neurology, Columbia University Irving Medical Center
New York, New York, USA

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Associate Professor of Neurology and Clinical Pharmacology, University of Lisbon; Head, Laboratory of Clinical Pharmacology and Therapeutics; Group Leader of Clinical Neuropharmacology Unit, Instituto de Medicina Molecular; Clinical Director, Campus Neurológico Sénior
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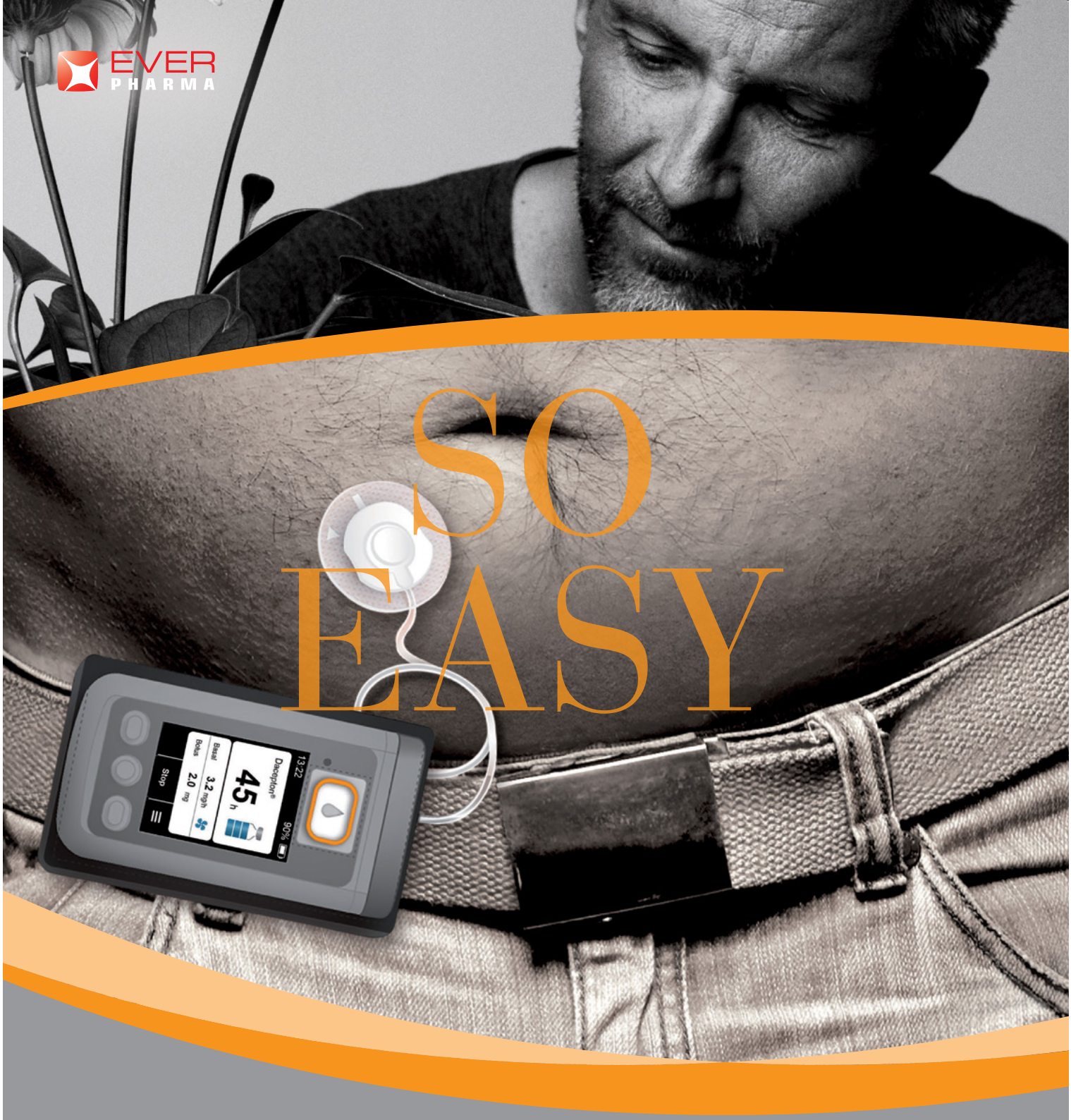

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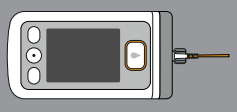

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Dacepton®
Apomorphine Hydrochloride

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List of excipients: Sodium metabisulphite (E223), sodium chloride, hydrochloric acid (for pH-adjustment) water for injection. Therapeutic indications: Treatment of motor fluctuations ("on-off" phenomena) in patients with Parkinson's disease which are not sufficiently controlled by oral anti-Parkinson medication. Contraindications: Hypersensitivity to the active substance or to any of the excipients. In patients with respiratory depression, dementia, psychotic diseases or hepatic insufficiency. Apomorphine hydrochloride hemihydrate treatment must not be administered to patients who have an "on" response to levodopa which is marred by severe dyskinesia or dystonia. Dacepton 5 mg/ml solution for infusion is contraindicated for children and adolescents under 18 years of age.
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*Information about the unique XEOMIN manufacturing process and the properties of incobotulinumtoxinA is not intended to imply superiority over other botulinum toxin type A products.

IMPORTANT SAFETY INFORMATION
INDICATIONS AND USAGE

XEOMIN® (incobotulinumtoxinA) for injection, for intramuscular or intraglandular use, is a prescription medicine that is used to treat adults with:

- chronic sialorrhea
- cervical dystonia
- upper limb spasticity
- blepharospasm

WARNING: DISTANT SPREAD OF TOXIN EFFECT
See full prescribing information for complete BOXED WARNING
The effects of XEOMIN and all botulinum toxin products may spread from the area of injection to produce symptoms consistent with botulinum toxin effects. These symptoms have been reported hours to weeks after injection. Swallowing and breathing difficulties can be life threatening and there have been reports of death. The risk of symptoms is probably greatest in children treated for spasticity but symptoms can also occur in adults, particularly in those patients who have underlying conditions that would predispose them to these symptoms.

Please see Important Safety Information on the next page. Please visit https://www.xeomin.com/healthcare-professionals for additional Important Safety Information and Full Prescribing Information, including BOXED WARNING.

IMPORTANT SAFETY INFORMATION (continued)

CONTRAINDICATIONS

- Known hypersensitivity to any botulinum toxin product or to any of the components in the formulation.
- Infection at the proposed injection site(s) because it could lead to severe local or disseminated infection.

WARNINGS AND PRECAUTIONS

- The potency units of XEOMIN are specific to the preparation and assay method used and are not interchangeable with other preparations of botulinum toxin products. Therefore, Units of biological activity of XEOMIN cannot be compared to or converted into Units of any other botulinum toxin products.
- Serious hypersensitivity reactions have been reported with botulinum toxin products (anaphylaxis, serum sickness, urticaria, soft tissue edema, and dyspnea). If serious and/or immediate hypersensitivity reactions occur, discontinue further injection of XEOMIN and institute appropriate medical therapy immediately. The use of XEOMIN in patients with a known hypersensitivity to any botulinum neurotoxin or to any of the excipients (human albumin, sucrose), could lead to a life-threatening allergic reaction.
- Treatment with XEOMIN and other botulinum toxin products can result in swallowing or breathing difficulties. Patients with pre-existing swallowing or breathing difficulties may be more susceptible to these complications. When distant effects occur, additional respiratory muscles may be involved. Patients may require immediate medical attention should they develop problems with swallowing, speech, or respiratory disorders. Dysphagia may persist for several months, which may require use of a feeding tube. Aspiration may result from severe dysphagia *[See BOXED WARNING]*.
- Individuals with peripheral motor neuropathic diseases, amyotrophic lateral sclerosis, or neuromuscular junctional disorders (e.g., myasthenia gravis or Lambert-Eaton syndrome) may be at increased risk for severe dysphagia and respiratory compromise from typical doses of XEOMIN.
- **Cervical Dystonia:** Treatment with botulinum toxins may weaken neck muscles that serve as accessory muscles of ventilation. This may result in critical loss of breathing capacity in patients with respiratory disorders who may have become dependent upon these accessory muscles. There have been post-marketing reports of serious breathing difficulties, including respiratory failure, in patients with cervical dystonia treated with botulinum toxin products. Patients with smaller neck muscle mass and patients who require bilateral injections into the sternocleidomastoid muscles are at greater risk of dysphagia. Limiting the dose injected into the sternocleidomastoid muscle may decrease the occurrence of dysphagia.
- **Blepharospasm:** Injection of XEOMIN into the orbicularis oculi muscle may lead to reduced blinking and corneal exposure with possible ulceration or perforation. To decrease the risk for ectropion, XEOMIN should not be injected into the medial lower eyelid area.
- XEOMIN contains human serum albumin. Based on effective donor screening and product manufacturing processes, it carries an extremely remote risk for transmission of viral diseases and variant Creutzfeldt-Jakob disease (vCJD). There is a theoretical risk for transmission of Creutzfeldt-Jakob disease (CJD), but if that risk actually exists, the risk of transmission would also be considered extremely remote. No cases of transmission of viral diseases, CJD, or vCJD have ever been reported for albumin.

ADVERSE REACTIONS

The most commonly observed adverse reactions at rates specified below and greater than placebo are:

- **Chronic Sialorrhea:** (≥4% of patients) tooth extraction, dry mouth, diarrhea, and hypertension.
- **Upper Limb Spasticity:** (≥2% of patients) seizure, nasopharyngitis, dry mouth, upper respiratory tract infection.
- **Cervical Dystonia:** (≥5% of patients) dysphagia, neck pain, muscle weakness, injection site pain, and musculoskeletal pain.
- **Blepharospasm:** (≥10% of patients) eyelid ptosis, dry eye, visual impairment, and dry mouth.

DRUG INTERACTIONS

Co-administration of XEOMIN and aminoglycoside or other agents interfering with neuromuscular transmission, (e.g., muscle relaxants), should only be performed with caution as these agents may potentiate the effect of the toxin.

Use of anticholinergic drugs after administration of XEOMIN may potentiate systemic anticholinergic effects. The effect of administering different botulinum toxin products at the same time or within several months of each other is unknown. Excessive neuromuscular weakness may be exacerbated by administration of another botulinum toxin prior to the resolution of the effects of a previously administered botulinum toxin.

USE IN PREGNANCY

There are no adequate data on the developmental risk associated with the use of XEOMIN in pregnant women. XEOMIN should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

PEDIATRIC USE

Safety and effectiveness of XEOMIN in patients less than 18 years of age have not been established.

ONCE-DAILY
INGREZZA®
(valbenazine) capsules

IN ADULT PATIENTS WITH TARDIVE DYSKINESIA (TD)

Choose INGREZZA for results you can see[1]

INGREZZA® (valbenazine) capsules reduced TD severity at 6 weeks, with results you can start to see as early as 2 weeks[1-3]

Not an actual patient

SEE REAL-WORLD PATIENT RESULTS

Important Information

INDICATION & USAGE

INGREZZA® (valbenazine) capsules is indicated for the treatment of adults with tardive dyskinesia.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS

INGREZZA is contraindicated in patients with a history of hypersensitivity to valbenazine or any components of INGREZZA. Rash, urticaria, and reactions consistent with angioedema (e.g., swelling of the face, lips, and mouth) have been reported.

WARNINGS & PRECAUTIONS

Somnolence

INGREZZA can cause somnolence. Patients should not perform activities requiring mental alertness such as operating a motor vehicle or operating hazardous machinery until they know how they will be affected by INGREZZA.

QT Prolongation

INGREZZA may prolong the QT interval, although the degree of QT prolongation is not clinically significant at concentrations expected with recommended dosing. INGREZZA should be avoided in patients with congenital long QT syndrome or with arrhythmias associated with a prolonged QT interval. For patients at increased risk of a prolonged QT interval, assess the QT interval before increasing the dosage.

WARNINGS & PRECAUTIONS (continued)

Parkinsonism

INGREZZA may cause parkinsonism in patients with tardive dyskinesia. Parkinsonism has also been observed with other VMAT2 inhibitors. Reduce the dose or discontinue INGREZZA treatment in patients who develop clinically significant parkinson-like signs or symptoms.

ADVERSE REACTIONS

The most common adverse reaction (≥5% and twice the rate of placebo) is somnolence. Other adverse reactions (≥2% and >Placebo) include: anticholinergic effects, balance disorders/falls, headache, akathisia, vomiting, nausea, and arthralgia.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit MedWatch at **www.fda.gov/medwatch** or call 1-800-FDA-1088.

Please see INGREZZA full Prescribing Information.

Neurocrine® BIOSCIENCES

REFERENCES: 1. INGREZZA [package insert]. San Diego, CA: Neurocrine Biosciences, Inc; 2020.
2. Hauser RA, Factor SA, Marder SR, et al. KINECT 3: a phase 3 randomized, double-blind, placebo-controlled trial of valbenazine for tardive dyskinesia. *Am J Psychiatry*. 2017;174(5):476-484.
3. Data on file. Neurocrine Biosciences, Inc.

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NOT QUITE THE SAME **WITHOUT THE THIRD,** IS IT?™

AND LEVODOPA & CARBIDOPA AREN'T THE SAME **WITHOUT ONGENTYS**

Complete the set

Join Robert Hauser, MD, MBA, FAAN, and Rajesh Pahwa, MD, to learn more:
Monday September 14 at 16:30-17:30 GMT

INDICATION & USAGE

ONGENTYS® (opicapone) capsules is indicated as adjunctive treatment to levodopa/carbidopa in patients with Parkinson's disease (PD) experiencing "off" episodes.

IMPORTANT SAFETY INFORMATION

CONTRAINDICATIONS

ONGENTYS is contraindicated in patients with:

- Concomitant use of non-selective monoamine oxidase (MAO) inhibitors.
- Pheochromocytoma, paraganglioma, or other catecholamine secreting neoplasms.

WARNINGS & PRECAUTIONS

Cardiovascular Effects with Concomitant Use of Drugs Metabolized by Catechol-O-Methyltransferase (COMT)

Possible arrhythmias, increased heart rate, and excessive changes in blood pressure may occur with concomitant use of ONGENTYS and drugs metabolized by COMT, regardless of the route of administration (including inhalation). Monitor patients treated concomitantly with ONGENTYS and drugs metabolized by COMT.

Falling Asleep During Activities of Daily Living and Somnolence

Patients treated with dopaminergic medications and medications that increase levodopa exposure, including ONGENTYS, have reported falling asleep while engaged in activities of daily living, including the operation of motor vehicles, which sometimes has resulted in accidents. If a patient develops daytime sleepiness or somnolence, consider discontinuing ONGENTYS or adjusting other dopaminergic or sedating medications and advise patients to avoid driving and other potentially dangerous activities.

Hypotension/Syncope

Monitor patients for hypotension and advise patients about the risk for syncope. If these adverse reactions occur, consider discontinuing ONGENTYS or adjusting the dosage of other medications that can lower blood pressure.

WARNINGS & PRECAUTIONS (CONT'D)

Dyskinesia

ONGENTYS potentiates the effects of levodopa which may result in dyskinesia or exacerbate pre-existing dyskinesia. Reducing the patient's levodopa dosage or the dosage of another dopaminergic drug may reduce dyskinesia that occurs during treatment with ONGENTYS.

Hallucinations and Psychosis

Consider stopping ONGENTYS if hallucinations or psychotic-like behaviors occur. Patients with a major psychotic disorder should ordinarily not be treated with ONGENTYS.

Impulse Control/Compulsive Disorders

Patients may experience intense urges (eg, gambling, sexual, spending money, binge eating) and the inability to control them. It is important for prescribers to specifically ask patients or their caregivers about the development of new or increased urges.

Re-evaluate the patient's current therapies for Parkinson's disease and consider stopping ONGENTYS if a patient develops such urges while taking ONGENTYS.

Withdrawal-Emergent Hyperpyrexia and Confusion

A symptom complex resembling neuroleptic malignant syndrome (elevated temperature, muscular rigidity, altered consciousness, and autonomic instability) has been reported in association with rapid dose reduction or withdrawal of drugs that increase central dopaminergic tone. There were no reports of neuroleptic malignant syndrome in ONGENTYS controlled clinical studies. When discontinuing ONGENTYS, monitor patients and consider adjustment of other dopaminergic therapies as needed.

ADVERSE REACTIONS

The most common adverse reactions (incidence at least 4% and greater than placebo) were dyskinesia, constipation, blood creatine kinase increased, hypotension/syncope, and weight decreased.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit MedWatch at www.fda.gov/medwatch or call 1-800-FDA-1088.

Please see neurocrine.com/ongentyspi for full Prescribing Information.

Neurocrine Biosciences

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SATURDAY, SEPTEMBER 12, 2020
12:30 PM - 1:30 PM EST (16:30 - 17:30 GMT)

Faculty contributors to this presentation: Laxman Bahroo, DO, FAAN, Alberto Espay, MD, Erin Furr Stimming, MD, Jennifer Hui, MD, Raja Mehanna, MD.

Featured Speaker:

Erin Furr Stimming, MD
The University of Texas Health Science Center at Houston
Houston, TX

Program Name:

KYNMOBI™ (apomorphine HCl) Sublingual Film:
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Please note: This presentation will also be available on demand. Look out for additional details from MDS.

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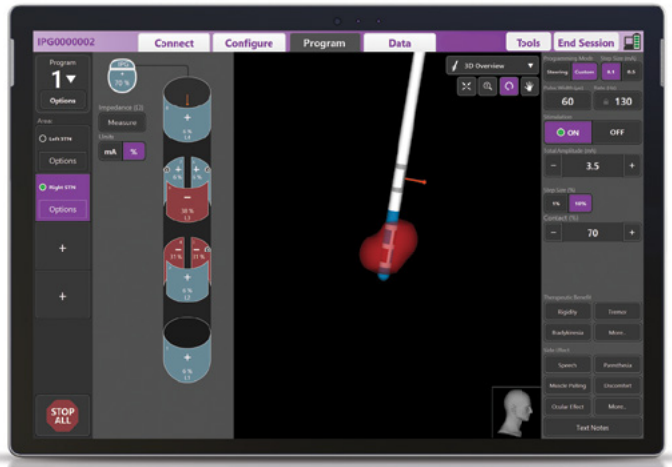

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Indications for Use: The Boston Scientific Deep Brain Stimulation Systems are indicated for use in bilateral stimulation of the subthalamic nucleus (STN) as an adjunctive therapy in reducing some of the symptoms of moderate to advanced levodopa-responsive Parkinson's disease (PD) that are not adequately controlled with medication. Contraindications, warnings, precautions, side effects: The Deep Brain Stimulation Systems or any of its components, is contraindicated for: Diathermy as either a treatment for a medical condition or as part of a surgical procedure, Electroconvulsive Therapy (ECT) and Transcranial Magnetic Stimulation (TMS) as the safety of these therapies in patients implanted with the Vercise™ DBS System has not been established, patients who are unable to operate the system, patients who are poor surgical candidates or who experience unsuccessful test stimulation. Patients implanted with Boston Scientific Deep Brain Stimulation Systems without ImageReady™ MRI Technology should not be exposed to Magnetic Resonance Imaging (MRI). Patients implanted with the Vercise Gevia™ or Vercise DBS Lead-only system (before Stimulator is implanted) with ImageReady MRI Technology are Full Body MR Conditional only when exposed to the MRI environment under the specific conditions defined in ImageReady MRI Guidelines for Boston Scientific Deep Brain Stimulation Systems. Assess patients for the risks of depression and suicide. This assessment should consider both the risk of depression and suicide as well as the potential clinical benefits of DBS therapy. Monitor patients for new or worsening symptoms of depression, suicidal thoughts or behaviors, or changes in mood or impulse control and manage appropriately. Refer to the Instructions for Use provided with the Vercise DBS System or BostonScientific.com for potential adverse effects, warnings, and precautions prior to using this product. Caution: U.S. Federal law restricts this device to sale by or on the order of a physician.

International Parkinson and
Movement Disorder Society

International Parkinson and Movement Disorder Society
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