

*MDS-AOS unites to advance Movement Disorder science.*

Final Program

2021 VIRTUAL

# AOPMC

June 4–6, 2021



International Parkinson and  
Movement Disorder Society  
Asian & Oceanian Section

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





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Advance.  
Improve.  
Educate.  
Collaborate.



International Parkinson and  
Movement Disorder Society

## Become an Associate Member of MDS

### MDS Associate Membership Program

Non-members attending the 2021 Virtual AOPMC have the opportunity to receive membership with MDS absolutely free for a year. Eligible participants will be invited by email to apply for free Associate Membership. Interested individuals are encouraged to apply online within 30 days of contact.

**Questions?** [membership@movementdisorders.org](mailto:membership@movementdisorders.org)

### MDS Benefits Include:

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

**Quarterly Newsletter:** *Moving Along*

**Reduced Course Registration Rates**

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

Join over 10,000 movement disorder professional across the globe in working to disseminate knowledge and promote research to advance the field.

[www.movementdisorders.org/associate-membership](http://www.movementdisorders.org/associate-membership)



## WELCOME

We are excited for you to join us for the 7th Asian and Oceanian Parkinson's Disease and Movement Disorders Congress (AOPMC), taking place in a virtual format on June 4-6, 2021.

While this virtual meeting will not replace the live AOPMC experience, we are looking forward to engaging with our regional community of clinicians, scientists, and healthcare professionals on our interactive platform. We promise to deliver the best quality science with innovative networking and educational opportunities supported by virtual technologies.

We are grateful for your continued support of the MDS-AOS and hope you will reach out to those MDS-AOS members in your area to join us this June for the 2021 Virtual AOPMC.

Sincerely,



Roongroj Bhidayasiri, MD, FRCP, FRCPI  
Chair, MDS-Asian and Oceanian Section

## 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



## ABOUT MDS

### MDS OFFICERS

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President  
Claudia Trenkwalder  
*Kassel*



President-Elect  
Francisco Cardoso  
*Belo Horizonte*



Secretary  
Bastiaan Bloem  
*Nijmegen*



Secretary-Elect  
Charles Adler  
*Scottsdale*



Treasurer  
Louis Tan  
*Singapore*



Treasurer-Elect  
Irene Litvan  
*La Jolla*



Past-President  
Christopher Goetz  
*Chicago*

### MDS INTERNATIONAL EXECUTIVE COMMITTEE

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Shengdi Chen, *Shanghai*  
Mark Edwards, *London*  
Cristian Falup-Pecurariu, *Braşov*  
Joaquim Ferreira, *Lisbon*  
Marina de Koning-Tijssen, *Groningen*  
Alice Nieuwboer, *Leuven*  
D. James Surmeier, *Chicago*  
Pille Taba, *Tartu*  
Mayela Rodriguez-Violante, *Mexico City*  
Ruey-Meei Wu, *Taipei*

### PAST-PRESIDENTS

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2017–2019 Christopher Goetz, *Chicago*  
2015–2017 Oscar Gershanik, *Buenos Aires*  
2013–2015 Matthew Stern, *Philadelphia*  
2011–2013 Günther Deuschl, *Kiel*  
2009–2011 Philip Thompson, *Adelaide*  
2007–2009 Anthony Lang, *Toronto*  
2005–2006 Andrew Lees, *London*  
2003–2004 C. Warren Olanow, *Rye*  
2001–2002 Werner Poewe, *Innsbruck*  
1999–2000 Mark Hallett, *Bethesda*  
1997–1998 Eduardo Tolosa, *Barcelona*  
1995–1996 Joseph Jankovic, *Bellaire*  
1991–1994 C. David Marsden, *London*  
1988–1991 Stanley Fahn, *Hastings-on-Hudson*

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

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1993–1994 C. Warren Olanow, *New York*  
1991–1992 Bastian Conrad, *Munich*  
1989–1990 Mark Hallett, *Bethesda*  
1987–1988 Mario Manfredi, *Rome*  
1985–1986 C. David Marsden, *London*

### MDS INTERNATIONAL SECRETARIAT

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International Parkinson and Movement Disorder Society  
555 East Wells Street, Suite 1100  
Milwaukee, WI 53202-3823 USA  
Tel: +1 414-276-2145  
Fax: +1 414-276-3349  
Email: [info@movementdisorders.org](mailto:info@movementdisorders.org)  
Website: [www.movementdisorders.org](http://www.movementdisorders.org)





## HISTORY OF MDS-AOS

Formed in 2006, the MDS-AOS mission is to represent and promote the International Parkinson and Movement Disorder Society (MDS) in Asia and Oceania. MDS-AOS aims to facilitate communication between clinicians and researchers; disseminate updated knowledge about Movement Disorders; improve quality of life and independence of movement disorders patients and caregivers; and promote research in Movement Disorders within the region.

### ABOUT MDS-AOS

MDS-AOS Membership is open to all members of MDS within the Asian and Oceanian region, and as of December 31, 2020 the MDS-AOS represents 28% of the total MDS membership with 3,275 members from 41 territories. Since the last AOPMC in 2019, the MDS-AOS has hosted eight in-person educational courses and seven online educational programs, with an additional six online courses planned for 2021.

### GET INVOLVED WITH MDS-AOS

To enhance your involvement and awareness of additional MDS-AOS activities, the Section invites you to become a [MDS Member](#) and to join the [MDS-AOS Facebook group](#). This online discussion group launched this year as a place for those interested in movement disorders in Asia to discuss related topics and share articles and activities of interest to the region.

For further information on MDS-AOS or its educational opportunities, please visit [www.movementdisorders.org/MDS-AOS](http://www.movementdisorders.org/MDS-AOS).

### MDS-AOS UPCOMING EVENTS

Registration is FREE for MDS Members

#### MDS-AOS Video Case Discussion Series

July 11, 2021, October 3, 2021, December 5, 2021

#### MDS-AOS 4th Allied Health Rehabilitation Course for Parkinson's Disease and Other Movement Disorders

July 24-25, 2021

#### MDS-AOS Basic Science Summer School

August 7-8, 2021

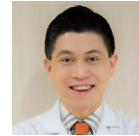
#### MDS-AOS 3rd School for Young Neurologists

October 15-17, 2021

#### MDS-AOS Unique Movement Disorders in Asia and Oceania

November 5-6, 2021

### MDS-AOS OFFICERS



Chair  
Roongroj Bhidayasiri  
*Bangkok*



Chair-Elect  
Raymond Rosales  
*Quezon City*



Past-Chair  
Beomseok Jeon  
*Seoul*



Secretary  
Pramod Pal  
*Bengaluru*



Secretary-Elect  
Yih-Ru Wu  
*Taipei*



Treasurer  
Baorong Zhang  
*Hangzhou*



Treasurer-Elect  
Ritsuko Hanajima  
*Tottori-ken*



## AOPMC ORGANIZING COMMITTEES

### OVERSIGHT COMMITTEE (AOC)

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Chair: Roongroj Bhidayasiri, *Bangkok*  
Piu Chan, *Beijing*  
Jong-Min Kim, *Seongnam*  
Pramod Pal, *Bangalore*  
Raymond Rosales, *Quezon City*  
Louis Tan, *Singapore*  
Ruey-Meei Wu, *Taipei*  
Baorong Zhang, *Hangzhou*

### SCIENTIFIC PROGRAM COMMITTEE (ASPC)

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Chair: Nobutaka Hattori, *Tokyo*  
Co-Chair: Victor Fung, *Sydney*  
Zakiah Aldaajani, *Dhahran*  
Tim Anderson, *Christchurch*  
Roongroj Bhidayasiri, *Bangkok*  
Beomseok Jeon, *Seoul*  
Jong-Min Kim, *Seongnam*  
Hrshikesh Kumar, *Kolkata*  
Shen-Yang Lim, *Petalung Jaya*  
Hideki Mochizuki, *Osaka*  
Raymond Rosales, *Quezon City*  
Huifang Shang, *Chengdu*  
Chingiz Shashkin, *Almaty*  
Ryosuke Takahashi, *Kyoto*  
Eng-King Tan, *Singapore*  
Yoshio Tsuboi, *Fukuoka*  
Yoshikazu Ugawa, *Fukushima*  
Yih-Ru Wu, *Taipei*

### MDS-AOS SOCIAL MEDIA SUB-COMMITTEE

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Chair: Hrshikesh Kumar, *Kolkata*  
Co-Chair: Yih-Ru Wu, *Taipei*  
Han-Lin Chiang, *New Taipei City*  
Deng Jun Guo, *Hangzhou*  
Taku Hatano, *Tokyo*  
Chien-Tai Hong, *New Taipei City*  
Woong-Woo Lee, *Seoul*  
Thien Thien Lim, *Georgetown*  
Shivam Mittal, *Abu Dhabi*  
Mengyue Niu, *Shanghai*  
Cholpon Shambetova, *Bishkek*  
Jirada Sringean, *Pathumwan*  
Frandy Susatia, *Jakarta*  
Han Wang, *Beijing*

### MDS-AOS EXECUTIVE COMMITTEE:

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Jawad Bajwa, *Riyadh*  
Jin Whan Cho, *Seoul*  
Ying-Zu Huang, *Taipei*  
Priya Jagota, *Bangkok*  
Jong-Min Kim, *Seongnam*  
Simon Lewis, *Sydney*  
Chon-Haw Tsai, *Taichung*  
Xiao-Ping Wang, *Shanghai*  
Hirohisa Watanabe, *Nagoya*

### MDS-AOS EDUCATION COMMITTEE

---

Jong-Min Kim, *Seongnam*  
Piu Chan, *Beijing*  
Byambasuren Dagvajantsan, *Ulaanbaatar*  
Taku Hatano, *Tokyo*  
Onanong Jitkriksadukul, *Bangkok*  
Hanan Khalil, *Irbid*  
Hrshikesh Kumar, *Kolkata*  
Kishore Kumar, *Sydney*  
Thien Thien Lim, *Tanjung Bunga*  
Chin-Hsien Lin, *Taipei*  
Jun Liu, *Shanghai*  
Arlene Ng, *Quezon City*  
Cholpon Shambetova, *Bishkek*  
Frandy Susatia, *Jakarta*



## AOPMC EVENTS

The 2021 Virtual AOPMC scientific sessions, sponsored symposia and the Video Tournament will be available on demand on the platform for free until August 1, 2021 for those participants who have registered by June 6, 2021 and for all MDS Members.

### PRE-CONGRESS COURSE: PRACTICAL MANAGEMENT OF MOVEMENT DISORDERS

Friday, June 4, 2021  
11:00 JST - 15:45 JST

This course aims to provide a comprehensive review of practical management of movement disorders for general neurologists and physicians to easily understand and enjoy. After completing the course, you will have new insights into movement disorders phenomenology and pathophysiology, basic genetics, evaluation and management of Parkinson's disease and Parkinson-plus syndromes, multidisciplinary approach for nonmotor symptoms, and diagnosis and treatment of all hyperkinetic disorders.

### DEVELOPMENT SESSION SERIES **LIVE!**

Friday, June 4, 2021  
13:00 JST - 14:30 JST

Saturday, June 5, 2021  
15:00 JST - 16:30 JST

These live interactive sessions provide participants with insight on the best approaches to pursue and build on a career in Movement Disorders.

### MEET THE EXPERT DISCUSSIONS **LIVE!**

Friday, June 4, 2021  
14:45 JST - 15:45 JST

#### Meet the Experts:

Zakiyah Aldaajani, *Dhahran*

Shengdi Chen, *Shanghai*

*\*This Expert's session will be held in Chinese.*

Asha Kishore, *Trivandrum*

Barry Snow, *Auckland*

Ryosuke Takahashi, *Kyoto*

*\*This Expert's session will be held in Japanese.*

Each Meet the Expert discussion will be in an interactive roundtable format and is meant to answer participants' questions and to provide them with practical knowledge on how to be successful in their careers. The session will begin with a brief overview from the Expert providing details on what they do, and their journey to get there. The discussion will then transition into a question and answer format.

Space is limited for each discussion and advance registration for the discussions is mandatory. Please visit the AOPMC website at [www.aopmc.org](http://www.aopmc.org) for more information. If you have already registered with one of the Experts, please note that you will receive an email from MDS with the link to join the Zoom meeting.

### OPENING CEREMONY **LIVE!**

Friday, June 4, 2021  
16:00 - 16:30 JST

All participants are encouraged to attend the Opening Ceremony to officially kick off the Virtual AOPMC.

### VIDEO TOURNAMENT **LIVE!**

Saturday, June 5, 2021  
18:45 JST - 20:45 JST

#### Masters of Ceremony:

Han-Lin Chiang, *New Taipei City*

Victor Fung, *Sydney*

#### Clinical Experts:

Beomseok Jeon, *Seoul*

Asha Kishore, *Trivandrum*

Ai Huey Tan, *Kuala Lumpur*

Eng-King Tan, *Singapore*

Yih-Ru Wu, *Taipei*

Please join Masters of Ceremony, Victor Fung and Han-Lin Chiang, during the LIVE Video Tournament where participants will witness clinical experts analyze and discuss a case by phenomenology, syndromic classification and differential diagnosis. The audience will be able to submit comments via a live chat. This event will challenge participants to improve diagnostic skills with unique and interesting cases. This event is open to all registered delegates.

The 2021 Virtual AOPMC wishes to acknowledge the following sponsor of the Video Tournament:



### MDS-AOS REGIONAL UPDATE

Sunday, June 6, 2021  
15:00 JST - 16:00 JST

Join the leadership of the MDS Asian and Oceanian section to learn about the progress made across the MDS-AOS since the last AOPMC in 2019, upcoming initiatives and activities in the region, and how you can get involved.

### CLOSING REMARKS **LIVE!**

Sunday, June 6, 2021  
20:00 JST - 20:30 JST

Please join us for some closing remarks as we officially wrap up a weekend of excellent education at the Virtual AOPMC.



## AWARDS INFORMATION

### YOSHIKUNI MIZUNO LECTURESHIP AWARD:

#### Ryosuke Takahashi, MD, PhD



Professor Ryosuke Takahashi, MD, PhD, works at the Department of Neurology, Kyoto University Graduate School of Medicine, Kyoto, Japan. His major research interests are the molecular pathogenetic mechanisms underlying Parkinson's disease and its related disorders and the development of disease-modifying therapies against these disorders.

He graduated from Kyoto University, Japan in 1983. He completed his neurology residency in Kyoto University Hospital and its affiliated hospitals. In 1989, he began performing basic research on neurodegenerative disorders and neuronal apoptosis as a staff scientist at Tokyo Metropolitan Institute for Neurosciences. He then worked as a postdoctoral fellow with Dr. John C. Reed at the Sanford-Burnham Institute, San Diego, CA, USA. Thereafter, he became the head of his own Laboratory at RIKEN Brain Science Institute, Japan, in 1999.

Since 2005, he has been Professor and Chair of the Department of Neurology at Kyoto University Graduate School of Medicine. He served as the chair of the task force for the 2011 version of the Japanese treatment guidelines for Parkinson's disease, the President of the Japanese Society of Neurology from 2014 to 2018, the Vice President of the Japanese Society for Neuroscience from 2015 to 2019 and an International Executive Committee Member of the International Parkinson and Movement Disorder Society from 2015 to 2019. He is on the editorial board of *Movement Disorders*, *Journal of Neural Transmission* and *Molecular Brain* and has published more than 400 original articles in peer-reviewed international journals, including *Nature*, *Cell*, *Neuron*, *Brain* and *Annals of Neurology*. He is currently conducting a first-in-human clinical trial of iPS cell-derived dopamine neuron transplantation therapy for patients with Parkinson's disease as a Co-PI with Professor Jun Takahashi.

### PHILIP THOMPSON LECTURESHIP AWARD:

#### Beomseok Jeon, MD, PhD



Professor Beomseok Jeon is Medical Director of the Movement Disorder Center at Seoul National University Hospital. He is the past President of the Korean Movement Disorder Society, and served as the International Delegate of the Korean Neurological Association. He also served as the Director of Office of the Medical Policy and Communication, Seoul National University. Currently, he is the President of the Asia-Oceanian Association of Neurology (AOAN) and Past-Chair of Movement Disorder Society-Asia and Oceanian Section (MDS-AOS).

Prof. Jeon graduated from Seoul National University College of Medicine, and completed his neurology residency both at Seoul National University Hospital (1983-1987) and at the University of Minnesota (1987-1991), and then had a Movement Disorder fellowship under Prof. Stanley Fahn at Columbia University (1991-1993). He also studied basic neurosciences under Prof. Robert Burke as a H. Houston Merritt Fellow (1997-1998) at Columbia University. Prof. Jeon has extensively studied genetics in Korean patients with parkinsonism, and is currently interested in medical and surgical treatment of advanced parkinsonism. He has published over 400 peer reviewed articles, and wrote three books for patients and families with Parkinson's disease and ataxia.

## JUNIOR AWARDS

Thank you to the 2021 Virtual AOPMC Abstract Review Subcommittee for reviewing all of the submissions and selecting the Junior Award Winners and the Top Abstracts which will be showcased in the Plenary Session 104: Abstract Oral Platform Presentations on Saturday, June 5, 2021 at 13:00 JST.

### JUNIOR AWARDS

Junior Awards were awarded to the top two scoring abstracts that met the following criteria: individual is the first author of the abstract, Junior to mid-level in their career (individual's age 45 years or less) AND the Principal Investigator (PI) of the study. The Junior Award Winner will be showcased in MDS-AOS Lectures and Junior Awards Plenary following the Opening Ceremony.

### JUNIOR AWARD RECIPIENTS:

Thomas Welton, *Singapore*  
Warongporn Phuenpathom, *Bangkok*





## AOPMC SCHEDULE-AT-A-GLANCE

GST	AEDT	ICT	JST	FRIDAY, JUNE 4		SATURDAY, JUNE 5	SUNDAY, JUNE 6	
Abu Dhabi	Sydney	Bangkok	Tokyo	Day 1		Day 2	Day 3	
Sponsored Symposia will be available on demand for the entirety of the meeting starting June 4.								
6:00	12:00	9:00	11:00	Pre-Congress Course: Practical Management of Movement Disorders (120 min) 11:00 - 13:00 JST		Plenary Session (90 min) 11:00 - 12:30 JST	Plenary Session (90 min) 11:00 - 12:30 JST	
6:30	12:30	9:30	11:30					
7:00	13:00	10:00	12:00					
7:30	13:30	10:30	12:30					
8:00	14:00	11:00	13:00	Break (15 min)	LIVE Development Session (90 min) 13:00 - 14:30 JST	Plenary Session (90 min) 13:00 - 14:30 JST	Parallel Sessions (90 min) 13:00 - 14:30 JST	
8:30	14:30	11:30	13:30	Pre-Congress Course: Practical Management of Movement Disorders (120 min) 13:15 - 15:15 JST				
9:00	15:00	12:00	14:00					Break (15 min)
9:30	15:30	12:30	14:30	Course Q&A (30 min) 15:15 - 15:45 JST	LIVE Meet the Expert Discussions (60 min) 14:45 - 15:45 JST	Break (30 min)	Break (30 min)	
10:00	16:00	13:00	15:00					
10:30	16:30	13:30	15:30	Break (15 min)	LIVE Development Session (90 min) 15:00 - 16:30 JST	MDS-AOS Regional Update (60 min) 15:00 - 16:00 JST		
11:00	17:00	14:00	16:00	Opening Ceremony (30 min) 16:00 - 16:30 JST				
11:30	17:30	14:30	16:30	Plenary Session (120 min) 16:30 - 18:30 JST		Break (30 min)	Parallel Sessions (90 min) 16:30 - 18:00 JST	
12:00	18:00	15:00	17:00					
12:30	18:30	15:30	17:30					Parallel Sessions (90 min) 17:00 - 18:30 JST
13:00	19:00	16:00	18:00					Break (30 min)
13:30	19:30	16:30	18:30	Break (30 min)	LIVE Video Tournament (120 min) 18:45 - 20:45 JST	Break (15 min)	Parallel Sessions (90 min) 18:30 - 20:00 JST	
14:00	20:00	17:00	19:00					
14:30	20:30	17:30	19:30	Plenary Session (90 min) 19:00 - 20:30 JST			Closing Remarks (30 min) 20:00 - 20:30 JST	
15:00	21:00	18:00	20:00					
15:30	21:30	18:30	20:30					
16:00	22:00	19:00	21:00					

To view sessions in your local time, please use the following link: <https://www.timeanddate.com/worldclock/converter.html>



## DAILY SCHEDULE — FRIDAY, JUNE 4, 2021

### 401 Pre-Congress Course

#### Practical Management of Movement Disorders 11:00 JST – 15:45 JST

This session will feature a LIVE Question and Answer session.

Chairs: Piu Chan, *Beijing*  
Jong-Min Kim, *Seongnam*

#### Part I

Movement Disorders: Basic Phenomenology  
Pichet Termsarasab, *Bangkok*

Pathophysiology of Movement Disorders  
Hugo Morales Briceño, *Westmead*

Genetics of Movement Disorders  
Wei Luo, *Hangzhou*

Diagnosis and Principles of Management of Parkinson's Disease  
Frandy Susatia, *Jakarta*

#### Part II

Parkinsonism-Plus Syndromes  
Hrishikesh Kumar, *Kolkata*

Hyperkinetic and Functional Disorders  
Taku Hatano, *Tokyo*

Gait Disorders  
Seong Beom Koh, *Seoul*

Video Case Discussion  
Kishore Kumar, *Sydney*  
Charulata Sankhla Savant, *Prabhadevi*  
Cholpon Shambetova, *Bishkek*

ASPC Liaison: Jong-Min Kim, *Seongnam*

Recommended Audience: Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

#### Part I

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

1. Describe movement disorders phenomena based on history taking and examination
2. Discuss the anatomy and physiology of basal ganglia and the pathophysiology of parkinsonism and hyperkinetic disorders
3. Review the practical aspects of genetics of movement disorders, including parkinsonism and hyperkinetic disorders
4. Describe diagnostic criteria and principles of management of Parkinson's disease

#### Part II

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

1. Formulate a proper differential diagnosis of parkinsonism and defining common forms of parkinsonism-plus syndromes
2. Discuss the diagnoses and management of common hyperkinetic (tremor, dystonia, chorea, myoclonus, etc) and functional disorders
3. Recognize common gait disorders in clinical practice and constructing appropriate evaluation plan
4. Discuss common movement disorders cases by the MDS-AOS expert panel

### 301 Development Session **LIVE!**

#### How to Become a Successful Movement Disorders Neurologist: Success Stories from the MDS-AOS 13:00 JST – 14:30 JST

This session will feature a LIVE Question and Answer session.

*In this interactive session, the MDS-AOS Experts will draw from their experiences to discuss and provide recommendations for becoming a successful Movement Disorders neurologist.*

Chair: Raymond Rosales, *Quezon City*

Career Planning  
Nobutaka Hattori, *Tokyo*

Mentorship  
Huifang Shang, *Chengdu*

Teamwork  
Tim Anderson, *Christchurch*

Work-Life Balance  
Raymond Rosales, *Quezon City*

Contribution to Our Society  
Louis Tan, *Singapore*

ASPC Liaison: Roongroj Bhidayasiri, *Bangkok*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

1. Discuss how to choose the right career path and develop the necessary skills to become a successful movement disorders neurologist
2. Recognize the importance of finding good mentors
3. Appraise the integral role of teamwork
4. Apply lessons learned from experienced MDS-AOS leaders on how to maintain a good work-life balance while pursuing career success
5. Identify 'win-win' strategies for benefiting your own career while also contributing to the society

### Meet the Expert Discussions **LIVE!**

14:45 JST – 15:45 JST

*In this interactive round-table session, Experts will answer participants' question and provide them with practical knowledge on how to be successful in their careers.*

Experts: Zakiyah Aldajani, *Dhahran*

Shengdi Chen, *Shanghai*  
*\*This Expert's session will be held in Chinese.*

Asha Kishore, *Trivandrum*

Barry Snow, *Auckland*

Ryosuke Takahashi, *Kyoto*  
*\*This Expert's session will be held in Japanese.*

*Please note that space is limited for each discussion and advance registration for the discussions is mandatory.*

### Opening Ceremony **LIVE!**

16:00 JST – 16:30 JST

All participants are encouraged to attend the Opening Ceremony to officially kick off the Virtual AOPMC.

To view sessions in your local time, please use the following link: <https://www.timeanddate.com/worldclock/converter.html>



## DAILY SCHEDULE — FRIDAY, JUNE 4, 2021

### 101 Plenary Session

#### MDS-AOS Lectures and Junior Awards

16:30 JST – 18:30 JST

Chair: Roongroj Bhidayasiri, *Bangkok*

Yoshikuni Mizuno Lecture

Ryosuke Takahashi, *Kyoto*

Philip Thompson Lecture

Beomseok Jeon, *Seoul*

Junior Awards

Thomas Welton, *Singapore*

Warongporn Phuengpathom, *Bangkok*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

#### Yoshikuni Mizuno Lecture

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

1. To explain the reason why basic science training is essential to explore the mechanisms underlying Parkinson's disease (PD).
2. To explain what is prodromal PD.
3. To describe how animal models of prodromal PD could be instrumental in developing disease modifying therapies for PD.

#### Philip Thompson Lecture

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

1. Learn the neurophysiology of eye opening and eye closure and then blepharospasm
2. Discuss neurophysiology of apraxia of lid opening and concept of negative dystonia
3. Extend the concept of negative dystonia to freezing of gait

### 102 Plenary Session

#### Phenotype Genotype in the MDS-AOS Region

19:00 JST – 20:30 JST

This session will feature a LIVE Question and Answer session.

Chairs: Nobutaka Hattori, *Tokyo*

Chon-Haw Tsai, *Taichung*

Recent Discoveries in the MDS-AOS

Eng-King Tan, *Singapore*

Hyperkinetic Disorders

Victor Fung, *Sydney*

Ataxia/Hereditary Spastic Paraparesis

Norlinah Mohamed Ibrahim, *Bandar Tun Razak*

ASPC Liaison: Victor Fung, *Sydney*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

1. Discuss recent discoveries in phenotype-genotype correlation in movement disorders with specific relevance to the MDS-AOS region
2. Distinguish phenotype-genotype correlations in hyperkinetic disorders with specific relevance to the MDS-AOS region
3. Distinguish phenotype-genotype correlations in ataxia and HSPs with specific relevance to the MDS-AOS region



## DAILY SCHEDULE — SATURDAY, JUNE 5, 2021

### 103 Plenary Session

#### Current and Future Therapies in Parkinson's Disease: An "MDS-AOS Perspective"

11:00 JST – 12:30 JST

This session will feature a LIVE Question and Answer session.

Chairs: Shengdi Chen, *Shanghai*  
Barry Snow, *Auckland*

Early Pharmacological Management  
Shen-Yang Lim, *Petaling Jaya*

Medical Management Strategies for Advancing Disease Phases

Beomseok Jeon, *Seoul*

Disease-Modifying Treatment: Current and Future  
Simon Lewis, *Sydney*

ASPC Liaison: Shen-Yang Lim, *Petaling Jaya*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

1. Discuss current management of early-stage Parkinson's disease
2. Describe current medical management strategies for advancing Parkinson's disease (motor complications and other late-stage features)
3. Review the history and looking at the future of disease-modifying treatment for Parkinson's disease

### 104 Plenary Session

#### Abstract Oral Platform Presentations

13:00 JST – 14:30 JST

This session will highlight the relevance, novelty and quality of both top clinical and top basic science research presented by one of the authors.

Chairs: Thomas Kimber, *Adelaide*  
Louis Tan, *Singapore*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

### 302 Development Session **LIVE!**

#### Skills Workshop for Young Members

15:00 JST – 16:30 JST

This session will feature a LIVE Question and Answer session.

In this interactive session, senior members will share tips and strategies and active young members will share challenges on the publishing of manuscripts and delivering effective scientific presentations.

Chair: Ai Huey Tan, *Kuala Lumpur*

How to Get Your Manuscripts Published?

Jee-Young Lee, *Seoul*

Eng-King Tan, *Singapore*

How to Deliver Your Scientific Presentations Effectively?

Kai-Hsiang Stanley Chen, *Hsinchu County*

Carolyn Sue, *Sydney*

ASPC Liaison: Roongroj Bhidayasiri, *Bangkok*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

1. Identify strategies on how to get manuscripts published in peer-reviewed journals
2. Discuss how to prepare and deliver impactful presentations

### 201 Parallel Session

#### Parkinson's Disease Biomarkers and Pathology

17:00 JST – 18:30 JST

Chairs: Hideki Mochizuki, *Osaka*  
Jing Zhang, *Hangzhou*

Fluid Biomarkers in Parkinson's Disease  
Chin-Hsien Lin, *Taipei*

Insights from Pathological Studies  
Satoshi Orimo, *Tokyo*

The Role of Imaging in Prodromal and Early Parkinson's Disease

Jong-Min Kim, *Seongnam*

ASPC Liaison: Hideki Mochizuki, *Osaka*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

1. Review of the methods and findings of fluid biomarker studies in Parkinson's disease
2. Discuss the key insights from pathological studies in Parkinson's disease
3. Appraise the role of imaging in prodromal and early-stage Parkinson's disease

### 202 Parallel Session

#### Sleep-Related Disorders in Parkinson's Disease and Atypical Parkinsonian Disorders

17:00 JST – 18:30 JST

Chairs: Roongroj Bhidayasiri, *Bangkok*  
Yoshio Tsuboi, *Fukuoka*

Neurobiology of Sleep: Concepts to Clinical Implications  
Wing Yun Kwok, *Hong Kong*

Prodromal-to-Advanced Stage Manifestations  
Claudia Trenkwalder, *Kassel*

From the Laboratory to Home-Based Assessments  
Jirada Sringean, *Pathumwan*

ASPC Liaisons: Roongroj Bhidayasiri, *Bangkok*  
Yoshio Tsuboi, *Fukuoka*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

1. Review the neurobiology of sleep and circadian rhythm, and correlating its pathologies with clinical manifestations
2. Recognize and manage sleep-related conditions in parkinsonian disorders
3. Describe investigations for parasomnias and other sleep-related movement disorders

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## DAILY SCHEDULE — SATURDAY, JUNE 5, 2021

### 203 Parallel Session

#### Movement Disorders with Reversible Causes

17:00 JST – 18:30 JST

Chairs: Zakiyah Aldaajani, *Dhahran*  
Roland Dominic Jamora, *Manila*

Structural Lesions and Movement Disorders  
Neil Mahant, *Westmead*

Autoimmune-Mediated Movement Disorders  
Thashi Chang, *Colombo*

Movement Disorders in Systemic Illnesses  
Thien Thien Lim, *Georgetown*

ASPC Liaison: Shen-Yang Lim, *Petaling Jaya*

Recommended Audience: Clinical/General Neurology, Fellows/Residents/Students

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

1. Review the spectrum of movement disorders associated with structural lesions of the nervous system (including normal pressure hydrocephalus)
2. Recognize and manage movement disorders with an autoimmune basis
3. Describe a range of movement disorders associated with systemic illnesses

### Video Tournament **LIVE!**

18:45 JST – 20:45 JST

Please join Masters of Ceremony, Victor Fung and Han-Lin Chiang, during the LIVE Video Tournament where participants will witness clinical experts analyze and discuss a case by phenomenology, syndromic classification and differential diagnosis. The audience will be able to submit comments via a live chat. This event will challenge participants to improve diagnostic skills with unique and interesting cases. This event is open to all registered participants. The 2021 Virtual AOPMC wishes to acknowledge the following sponsor of the Video Tournament:



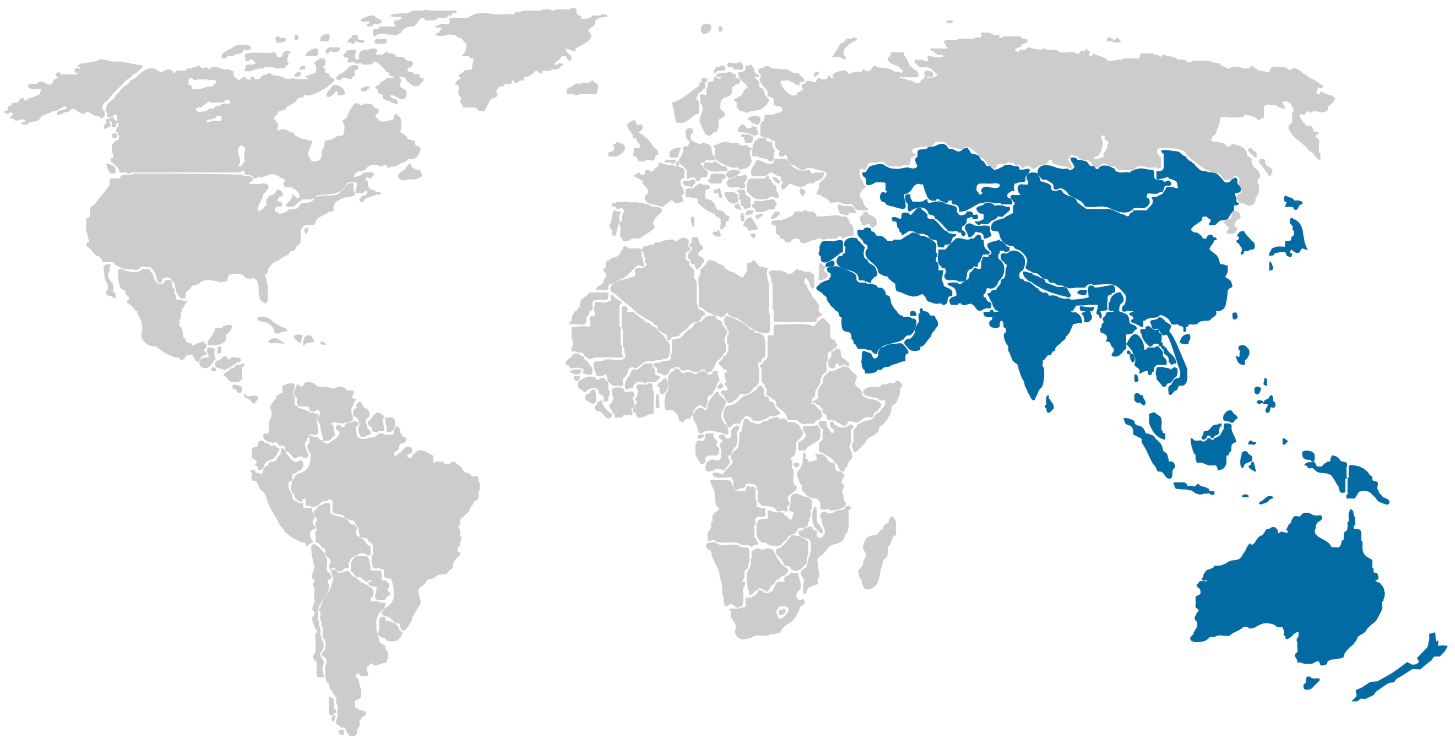
Masters of

Ceremony: Han-Lin Chiang, *New Taipei City*  
Victor Fung, *Sydney*

Experts:

Asha Kishore, *Trivandrum*  
Beomseok Jeon, *Seoul*  
Ai Huey Tan, *Kuala Lumpur*  
Eng-King Tan, *Singapore*  
Yih-Ru Wu, *Taipei*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students



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## DAILY SCHEDULE — SUNDAY, JUNE 6, 2021

### 105 Plenary Session

#### Adapting Technologies for Parkinson's Disease (Not the Other Way Around)

11:00 JST – 12:30 JST

Chairs: Yasuyuki Okuma, *Izunokuni*  
Huifang Shang, *Chengdu*

Technologies in Parkinson's Disease: Are They for Everyone?  
Roongroj Bhidayasiri, *Bangkok*

Technological Tools to Help Patients Live Better with  
Parkinson's Disease: Perspectives on the COVID-19 Pandemic  
Piu Chan, *Beijing*

The Future Path of Technologies in Parkinson's Disease:  
Towards Patient-Centered Digital Outcome Measures  
Walter Maetzler, *Kiel*

ASPC Liaisons: Roongroj Bhidayasiri, *Bangkok*  
Huifang Shang, *Chengdu*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

1. Discuss the emerging roles of digital technology and their impact on Parkinson's disease management
2. Draw from recent experiences how digital health technologies can be implemented in the management of Parkinson's disease
3. Describe future directions for technological applications in Parkinson's disease

### 204 Parallel Session

#### Movement Disorders "East Versus West"

13:00 JST – 14:30 JST

Chairs: Priya Jagota, *Bangkok*  
Frandy Susatia, *Jakarta*

Parkinson's Disease  
Yih-Ru Wu, *Taipei*

Hyperkinetic Disorders  
Han-Joon Kim, *Seoul*

Pediatric Movement Disorders  
Shekeeb Mohammad, *Westmead*

ASPC Liaison: Eng King Tan, *Singapore*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

1. Discuss the differences in Parkinson's disease between patients in the East and those in the West
2. Describe East vs. West differences in hyperkinetic disorders
3. Appraise the genetic, environmental and cultural differences between pediatric movement disorders in the East and West

### 205 Parallel Session

#### Neurophysiological Approaches to Movement Disorders

13:00 JST – 14:30 JST

Chair: Ming-Kai Pan, *Taipei*  
Yoshikazu Ugawa, *Fukushima*

Tremor  
Yew Long Lo, *Singapore*

Myoclonus  
Ritsuko Hanajima, *Tottori-ken*

Psychogenic Movement Disorders  
Pattamon Panyakaew, *Bangkok*

ASPC Liaison: Yoshikazu Ugawa, *Fukushima*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Fellows/Residents/Students

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

1. Apply neurophysiological techniques to differentiate different types of tremor
2. Classify jerky movements, including myoclonus, based on neurophysiological findings
3. Utilize neurophysiological techniques to differentiate functional movement disorders from organic ones

### 206 Parallel Session

#### The Ophthalmological Examination: From Cornea to Cortex

13:00 JST – 14:30 JST

Chairs: Tim Anderson, *Christchurch*  
Baorong Zhang, *Hangzhou*

Visual System Examination for Movement Disorders  
Neurologists  
Helen Danesh-Meyer, *Auckland*

Eye Movement Examination for Movement Disorders  
Neurologist  
Ji-Soo Kim, *Seongnam*

Bringing It All Together – Neuroophthalmological Diagnosis  
in Movement Disorders  
Vivek Lal, *Chandigarh*

ASPC Liaison: Tim Anderson, *Christchurch*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

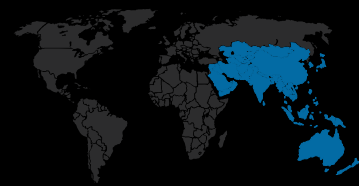
1. Perform visual system examinations and learning how to interpret findings relevant to movement disorders
2. Perform eye movement examination and learn how to interpret findings relevant to movement disorders
3. Formulate differential diagnoses of neuroophthalmological abnormalities in movement disorders

### MDS-AOS Regional Update

15:00 JST – 16:00 JST

Join the leadership of the MDS Asian and Oceanian section to learn about the progress made across the MDS-AOS since the last AOPMC in 2019, upcoming initiatives and activities in the region, and how you can get involved.

To view sessions in your local time, please use the following link: <https://www.timeanddate.com/worldclock/converter.html>



## DAILY SCHEDULE — SUNDAY, JUNE 6, 2021

### 207 Parallel Session

#### Functional Surgery 16:30 JST – 18:00 JST

Chairs: Tae-Beom Ahn, *Seoul*  
Asha Kishore, *Trivandrum*

Who Needs Functional Neurosurgery?  
Rupam Borgohain, *Hyderabad*

Which Functional Neurosurgery to Choose?  
Jawad Bajwa, *Riyadh*

What Physicians Need to Know about DBS-Implanted Patients  
Genko Oyama, *Tokyo*

ASPC Liaison: Beomseok Jeon, *Seoul*

Recommended Audience: Clinical/General Neurology, Fellows/Residents/Students

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

1. Identify suitable candidates for functional neurosurgical intervention
2. Appraise the indications, and pros and cons, of different neurosurgical interventions
3. Recognize and manage important medical and surgical issues in DBS-implanted patients

### 208 Parallel Session

#### Difficult-to-Treat Symptoms in Parkinson's Disease and Atypical Parkinsonian Disorders 16:30 JST – 18:00 JST

Chairs: Tai Ngoc Tran, *Ho Chi Minh City*  
Shey-Lin Wu, *Changhua*

Pain and Autonomic Dysfunction  
Hirohisa Watanabe, *Toyoake*

Neuropsychiatric Features  
Arlene Ng, *Quezon City*

End-of-Life Care  
Victor McConvey, *Surrey Hills*

ASPC Liaison: Yih-Ru Wu, *Taipei*

Recommended Audience: Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

1. Manage pain and autonomic symptoms for patients with Parkinson's disease and atypical parkinsonian disorders
2. Select appropriate therapeutic options for patients with neuropsychiatric symptoms
3. Recommend the management strategies for advanced-stage patients

### 209 Parallel Session

#### Multidisciplinary Approaches to Rehabilitation in Parkinson's Disease 16:30 JST – 18:00 JST

Chairs: Sue Lord, *Auckland*  
Margaret Mak, *Hong Kong*

Assessment and Management of Gait and Balance  
Impairments  
Mark Latt, *Camperdown*

Evaluation of Speech and Swallowing  
Firas Alfwaress, *Irbid*

Home-Based Allied Health Therapies in Developing Countries  
Hanan Khalil, *Irbid*

ASPC Liaison: Zakiyah Aldajani, *Dhahran*

Recommended Audience: Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

1. Assess and manage common gait and balance problems in patients with Parkinson's disease
2. Describe current and emerging technologies for the evaluation of speech/swallowing in Parkinson's disease
3. Discuss the implementation of home-based therapies in developing countries

### 210 Parallel Session

#### Proteinopathies and Movement Disorders 18:30 JST – 20:00 JST

Chairs: Vincent Mok, *Hong Kong*  
Ruey-Meei Wu, *Taipei*

Synucleinopathies  
Glenda Halliday, *Sydney*

Tauopathies  
Eun Joo Kim, *Busan*

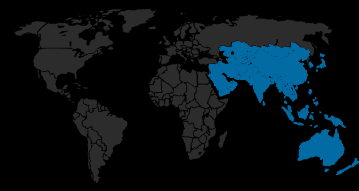
Amyloidopathies  
Takeshi Iwatsubo, *Tokyo*

ASPC Liaison: Ryosuke Takahashi, *Kyoto*

Recommended Audience: Researcher/Basic Science, Clinical/General Neurology, Health Professionals (non-physician), Fellows/Residents/Students

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

4. Describe the clinicopathological spectrum and pathogenetic mechanisms underlying synucleinopathies
5. Describe the clinicopathological spectrum and pathogenetic mechanisms underlying tauopathies
6. Review the clinicopathological spectrum and pathogenetic mechanisms underlying amyloidopathies, including amyloid cascades



## DAILY SCHEDULE — SUNDAY, JUNE 6, 2021

### 211 Parallel Session

#### Botulinum Toxins Therapy in Movement Disorders 18:30 JST – 20:00 JST

Chairs: Ryuji Kaji, *Tokushima City*  
Erle Chuen-Hian Lim, *Singapore*

Botulinum Toxin Complimenting Rehabilitation in Spasticity  
Yoshihisa Masakado, *Isehara, Kanagawa*

Tricks for Difficult Dystonias  
Jin Whan Cho, *Seoul*

Treating Tremors and Related Disorders  
Shivam Om Mittal, *Abu Dhabi*

ASPC Liaison: Raymond Rosales, *Quezon City*

Recommended Audience: Clinical/General Neurology, Health Professionals (non-physician), Fellows/  
Residents/Students

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

1. Develop a framework for the application of botulinum toxin therapy in upper and lower limb spasticity
2. Apply useful tips for the management of challenging dystonia cases
3. Apply botulinum toxin for tremors and related disorders

### 212 Parallel Session

#### Movement Disorders Associated with CNS Infections 18:30 JST – 20:00 JST

Chairs: Annu Aggarwal, *Mumbai*  
Quazi Deen Mohammed, *Dhaka*

Viral Infections and Prion Diseases Presenting with Movement Disorders  
Shinsuke Fujioka, *Fukuoka*

Movement Disorders Related to Bacterial, Fungal and Parasitic Infections  
Onanong Phokaewvarangkul, *Bangkok*

Impact of the COVID-19 Pandemic in the MDS-AOS: Looking Back to Inspire Forward Strategies  
Pramod Pal, *Bangalore*

ASPC Liaison: Hrishikesh Kumar, *Kolkata*

Recommended Audience: Clinical/General Neurology, Health Professionals (non-physician), Fellows/  
Residents/Students

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

4. Recognize movement disorders associated with viral infection and prion diseases
5. Recognize movement disorders associated with bacterial, fungal, and parasitic infections
6. Discuss the impact of COVID-19 on the MDS-AOS movement disorders communities and outlining future strategies

### Closing Remarks **LIVE!**

20:00 JST – 20:30 JST

Please join us for some closing remarks as we officially wrap up a weekend of excellent education at the 2021 Virtual AOPMC.

## SPONSORED SYMPOSIA

These company-based informational sessions will provide participants with non-CME educational opportunities to learn the latest in therapeutics. Sponsored Symposia will be available on demand for the entirety of the meeting starting Friday, June 4, 2021.

### Otsuka Pharmaceutical Co., Ltd

Rehabilitation for Parkinson's Disease Patients: Current Evidence and Application in the Clinical Setting

### Ono Pharmaceutical Co., Ltd

Opicapone Clinical Trial in Japan: Challenges to Tableting for Patients

### Teva Pharmaceuticals

Recognition and Updated Treatments of Tardive Dyskinesia





## ABSTRACTS

The following abstracts will be featured in Plenary Session 104: Abstract Oral Platform Presentations on Saturday, June 5, 2021 from 13:00-14:30 JST.

### **Altered cerebellar resting-state functional connectivity in early-stage Parkinson's disease patients with cognitive impairment**

*Dan, Xiaojuan; Hu, Yang; Sun, Jun-Yan; Gao, Lin-Lin; Zhou, Yong-Tao; Ma, Jing-Hong; Doyon, Julien; Wu, Tao; Chan, Piu*

### **Parkinson's disease polygenic risk scores are associated with subcortical brain morphometry in young, healthy adults**

*García Marín, Luis M; Mitchell, BL; Campos, AI; Mulcahy, A; Strike, LT; de Zubicaray, GI; McMahon, KL; Thompson, PM; Medland, SE; Martin, NG; Wright, MJ; Rentería, ME*

### **Temporal evolution of inflammation and neurodegeneration with alpha-synuclein propagation in Parkinson's disease mouse model**

*Lai, Thuy Thi; Kim, Yun Joong; Nguyen, Phuong Thi; Koh, Young Ho; Nguyen, Tinh Thi; Ma, Hyeo-il; Kim, Young Eun*

### **Intergenerational repeat instability of TTTCA expansions in SAMD12 might be the major cause of the genetic anticipation in familial cortical myoclonic tremor with epilepsy**

*Cen, Z; Chen, XH; Wang, H; Yang, DH; Zhang, F; Chen, Y; Chen, S; Wang, LB; Liu, P; Xie, F; Fu, A; Hu, B; Wang, B; Ouyang, Z; Wu, S; Wang, S; Ji, J; Luo, W*

### **Cerebrospinal fluid lipidomic alterations correlated with cognitive decline in Parkinson's disease**

*Mizutani, Yasuaki; Shima, Sayuri; Ueda, Akihiro; Ito, Mizuki; Watanabe, Hirohisa*

### **Assessment of Botulinum Neurotoxin Injection for Dystonic Hand Tremor: A Randomized Clinical Trial**

*Rajan, Roopa; Srivastava, Achal K; Anandapadmanabhan, Reghu; Saini, Arti; Upadhyay, Ashish; Gupta, Anu; Vishnu, Venugopalan Y; Pandit, Awadh K; Vibha, Deepti; Singh, Mamta B; Bhatia, Rohit; Goyal, Vinay; Dwivedi, Sada Nand; Srivastava, Padma; Prasad, Kameshwar*

### **Metabolic patterns and neurodegeneration in isolated REM sleep behavior disorder**

*Shin, Jung Hwan; Lee, JY; Kim, YK; Yoon, EJ; Kim, HJ; Nam, HW; Jeon, B*

### **Quantitative gait analysis using a pose-estimation algorithm with a single 2D-video of PD patients**

*Shin, Jung Hwan; Yu, R; Ong, JN; Lee, CY; Jeon, SH; Park, HP; Kim, HJ; Lee, JH; Jeon, B*

### **Association between Plasma Neurofilament Light Concentration and White Matter Fractional Anisotropy in Early Parkinson's Disease**

*Welton, T; Tan, Yi Jayne; Saffari, Seyed Ehsan; Chia, Nicole; Ng, Samuel; Lu, Zhonghao; Yong, Alisa; Choi, Xinyi; Heng, Dede; Shih, Yao-Chia; Hartono, Septian; Lee, Weiling; Xu, Zheyu; Tay, Kay Yaw; Au, Wing Lok; Tan, Eng King; Chan, Ling Ling; Ng, Adeline; Tan, Louis*

### **Long-term clinical outcome of deep brain stimulation in pantothenate kinase-associated neurodegeneration: a retrospective observational study**

*Woo, Kyung Ah; Kim, Han-joon; Chung, Sun Ju; Youn, Jinyoung; Ahn, Jong Hyeon*



## ACKNOWLEDGMENTS

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Movement Disorder Society  
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