FINAL PROGRAM

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The *Movement* Disorder Society

16th International Congress of Parkinson's Disease and Movement Disorders

DUBLIN, IRELAND JUNE 17–21, 2012

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WELCOME LETTER

Dear Colleagues,

"Céad Míle Fáilte" – A hundred thousand welcomes!

On behalf of The *Movement* Disorder Society, we are honored to welcome you to Dublin for the 16th International Congress of Parkinson's Disease and Movement Disorders!

We would like to express our gratitude to the large number of our volunteer committees for designing this International Congress including the Congress Local Organizing Committee for their hard work in arranging the Congress events that we are sure you will enjoy. We would especially like to thank the Congress Scientific Program Committee for their hard work and coordination of this superior Scientific Program.

Dublin (from the Irish Gaelic *An Dubh Linn* meaning 'the black pool') was established as a Viking settlement on the River Liffey over 1,000 years ago. The Anglo-Norman and subsequent English invasions followed. During the Georgian period, when it was the second largest city in the British Empire, Dublin became an important European cultural centre. This rich and varied history has left an indelible mark on this colourful and atmospheric city. Today, Dublin is a bustling metropolis with a population of over 1.7 million. Home to over 100 different nationalities, it has a genuinely cosmopolitan feel and yet retains its own distinct culture, which is expressed in a love of literature, drama and traditional music. Dublin is the European City of Science 2012 and is a designated Unesco City of Culture and is synonymous with such literary greats as Oscar Wilde, James Joyce and Samuel Beckett.

We are delighted to welcome you to Dublin for the 16th International Congress and thank you for taking the opportunity to be part of this exceptional Scientific Program. We promise an unparalleled learning opportunity.

"Le gach deá-ghuí" – with every good wish.

Günther Deuschl
President,
The *Movement* Disorder Society,
2011-2013

David John Burn
Chair,
Congress Scientific Program Committee,
2011-2013

Timothy Lynch
Co-Chair,
Congress Scientific Program Committee,
2012

ACKNOWLEDGEMENTS

The International Congress Oversight Committee of the 16th International Congress of Parkinson's Disease and Movement Disorders wishes to acknowledge and thank the following companies for their support:

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*These companies are confirmed as of May 3, 2012.

ABOUT MDS

The *Movement* Disorder Society (MDS) is an international, 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. The spectrum of clinical disorders represented by the Society includes, but is not limited to:

Ataxia
Blepharospasm
Dysphonia
Dystonic disorders
Gait disorders
Huntington's disease
Myoclonus
Parkinson's disease
Restless legs syndrome
Spasticity
Tardive dyskinesia
Tics and Tourette syndrome
Tremor

The *Movement* Disorder Society (MDS) was founded in 1985 on the initiative of Professors Stanley Fahn and C. David Marsden, whose leadership and vision guided the expansion of clinical expertise and research in this field. The organization merged in 1988 with the International Medical Society for Motor Disturbances.

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

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Congress Local Organizing Committee

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Daniel Healy
Michael Hutchinson
Mary King
Fiona Molloy
Sean O'Riordan

Past-Presidents

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

International Medical Society for Motor Disturbances Past-Presidents

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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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MDS MEMBERSHIP INFORMATION

Membership Benefits

- A subscription to the print and online journal, *Movement Disorders*, including supplemental publications, such as The *Movement* Disorder Society Evidence-Based Medicine Review Update: Treatments for the motor and non-motor symptoms of Parkinson's disease.
- A unique selection of educational opportunities, including live and online CME/CPD activities and reference material on topics in Movement Disorders.
- Reduced fees for participation in the Society's educational programs. Educational Programs include the annual International Congress of Parkinson's Disease and Movement Disorders, and regional programs, courses and workshops held each year.
- A searchable online and mobile directory listing mailing addresses, telephone and fax numbers, and e-mail addresses for members.
- A Members-Only Section of the MDS website including a searchable Video Library, Case of the Month, teaching slide sets, and one-time login access to full text articles in the *Movement* Disorders Journal.
- A quarterly newsletter entitled, *Moving Along*, highlighting current news and views in the field of Movement Disorders.
- Participation in the election of international and regional section leadership representatives.

FREE Membership!
Non-Members Applying for Membership

Non-Members will have the opportunity to apply for MDS membership at the International Congress for no additional fee with limited benefits through 2012, and full membership status, receiving the print journal, in January 2013. Membership applications will be provided to all Non- Member attendees onsite in their registration packet and must be returned to the MDS booth prior to the conclusion of the International Congress.

No applications will be accepted by the Secretariat after June 21, 2012.

**Only those paying the Non-Member registration fee will be eligible to apply for membership at no additional cost. This option is not available to those registering as a Junior or Health Professional participant or anyone who registered as part of a group. It is also not available to those who are already members of MDS.*

2012-2013 will be another exciting year for MDS and we look forward to bringing you news of these and other new initiatives through the *Movement* Disorders journal, *Moving Along* newsletter and the MDS website.

For further information, please contact:
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Website: www.movementdisorders.org

MDS EDUCATION INFORMATION

MDS Educational Programming

MDS is committed to advancing the field of Movement Disorders by continuing to expand its educational program. This program offers an increasing variety of high caliber continuing medical education (CME) and continuing professional development (CPD) in movement disorders, including live courses, region-specific education, Internet education, support and endorsement opportunities, and educational materials for sale. MDS' educational programming falls under the auspices of the MDS Education Committee, chaired by Louis Tan of the National Neuroscience Institute in Singapore, and co-chaired by Claudia Trenkwalder of Paracelsus-Elena Hospital in Kassel, Germany. The MDS Education Committee coordinates the development of these courses, which originate under one the three different and dynamic regional sections: The European Section, the Asian and Oceanian Section, and the Pan American Section. Each section includes an Executive Committee and an Education Committee.

European Section

The MDS European Section (MDS-ES) comprises members who live in Europe as well as select countries in Northern Africa and the Middle East. The ES Executive Committee of The *Movement* Disorder Society is chaired by Werner Poewe of Innsbruck Medical University in Austria. The ES Education Committee is chaired by Joaquim Ferreira of the Lisbon School of Medicine in Portugal. During the past year, MDS-ES educational activities have been held in Milan, Italy; Athens, Greece; Liverpool, UK; Naples, Italy; Innsbruck and Vienna, Austria; and Lviv, Ukraine (MDS/EFNS Regional Teaching Course). The official MDS-ES website can be found at: www.movementdisorders.org/regional_sections/es/ and includes a wealth of programming and Section information, including details about MDS Regional Development initiatives, access to MDS-ES/EFNS European diagnosis and management recommendations, as well as information on fellowships, the MDS-ES/EFNS collaboration and a calendar of events. For more information on the MDS-ES or its educational offerings, please e-mail: education@movementdisorders.org.

Asian And Oceanian Section

The MDS Asian and Oceanian Section (MDS-AOS) comprises MDS members from the majority of the Asian continent, as well as Australia, New Zealand and Oceania. The AOS Executive Committee of The *Movement* Disorder Society is chaired by Ruey-Meei Wu of National Taiwan University Hospital in Taipei. The Chair of the AOS Education Committee is Ryosuke Takahashi of Kyoto University Graduate School of Medicine in Japan. Madhuri Behari of the All India Institute of Medical Sciences in New Delhi is the Co-Chair of this committee. The AOS was formed in 2006 at the Kyoto, Japan MDS Congress. Since its foundation, the MDS-AOS has developed educational programs in India, China, Malaysia, Sri Lanka, Vietnam, and Taiwan, among other locations. The official MDS-AOS website can be found at: www.movementdisorders.org/regional_sections/aos/ and includes a wealth of programming and Section information, including details about AOS Regional Partners, Leadership, the AOS Traveling Fellowship, and a calendar of events. For further information on the MDS-AOS or its educational opportunities, please e-mail: education@movementdisorders.org.

The following upcoming program originated under the auspices of the MDS-AOS:

Botulinum Toxin Training Course; Manila, Philippines; August 24-25, 2012

Despite increasingly widespread use of botulinum toxin (BoNT) for neurological rehabilitation and other disorders, there is rarely a recognized or regularly available training scheme on this topic in the Asian and Oceanian region. This two-day workshop is intended to address this practice gap through didactic lectures from international experts, interactive case discussions, and a patient practicum. The course is recommended for medical practitioners in relevant fields with a working knowledge of the diagnosis and general management of various movement disorders. For more information on the course or to register, please visit: www.movementdisorders.org/education/botulinum_toxin/manila/.

Pan American Section

The MDS Pan American Section (MDS-PAS) is composed of members who live in the countries of the Western Hemisphere. The PAS Executive Committee of The *Movement* Disorder Society is chaired by Jorge Juncos of Emory University in Atlanta, Georgia. The PAS Education Committee is chaired by Irene Litvan of the University of California San Diego. Over the past 12 months, PAS education courses have taken place in São Paulo, Brazil; Buenos Aires, Argentina; La Paz, Bolivia; and Santa Clara, New Haven, Chicago, and Houston, USA. The official MDS-PAS website can be found at: www.movementdisorders.org/regional_sections/pas/ and includes a wealth of programming and Section information, including details about the Regional Needs Assessment Survey, MDS Conference Calendar and PAS calendar of events. For additional information on the MDS-PAS or its educational programming, please e-mail: education@movementdisorders.org.

MDS EDUCATION INFORMATION

MDS Outreach Education

MDS is committed to supporting quality movement disorders education in areas worldwide. The following programs were developed to meet the need for movement disorders education in areas currently lacking in continuing medical education in the field. Applications for each of these programs can be accessed at: www.movementdisorders.org/education/outreach_education.php. For further information on MDS Outreach Education, please e-mail: education@movementdisorders.org.

Developing World Education Program

MDS European Section (ES), the MDS Asian and Oceanian Section (AOS) and the MDS Pan American Section (PAS) members may apply for grants to fund one- to two-day courses devoted to movement disorders. These courses may be stand-alone or conjoined with a local meeting in areas with a demonstrated need for movement disorders education. As part of this grant, international speakers are funded to speak at each course. Past programming has taken place in Guwahati, India; Manila, Philippines; Odessa, Ukraine; Braşov, Romania; and Ho Chi Minh City, Vietnam; among other locations.

Ambassador Program

The Ambassador Program supports the travel of 1-2 expert speakers to participate in a major regional or local movement disorders meeting. Sponsored speakers should deliver a keynote lecture during the meeting. An honorarium is provided. Ambassador programs have been held in Puebla, Mexico; San José, Costa Rica; Dhaka, Bangladesh; Moscow, Russia; Tiradentes, Brazil; and Bamako, Mali; among other locations.

Visiting Professor Program

The Visiting Professor Program (VPP) supports the travel of 1-2 international experts. During the visit, invited experts should conduct teaching seminars in local hospitals or institutions, participate in grand rounds, or provide input for the further development of the local movement disorders treatment and management. Visits may consist of one of these activities or a combination of all three. An honorarium is provided. The VPP program has been hosted in many locations throughout the world, including: Johannesburg, South Africa; Tbilisi, Georgia; Yerevan, Armenia; and Colombo, Sri Lanka.

MDS EDUCATIONAL RESOURCES

Educational DVDs

As part of its educational mission to expand the availability of educational content, MDS produces enduring materials of select programming. The following DVDs exemplify the current offerings of MDS and are available for purchase on the MDS website.

2012 MDS Video Games DVD
Recorded June 20, 2012 Dublin, Ireland

MDS is pleased to offer you the opportunity to view the MDS Video Games from the 16th International Congress. Each DVD includes slides, audio and video.

These unique movement disorders cases were presented by representatives from Movement Disorder Centers around the world and discussed by two teams of senior experts in the field. The goal of this event was that attendees learn from a series of unusual, intriguing cases and see how senior experts approach and handle them.

Congress Teaching Courses and Themed Sessions

16th International Congress Teaching Courses and Themed Sessions

The Teaching Courses and Themed Courses for the 16th International Congress are available for preorder on the International Congress website at www.mdscongress2012.org/.

MDS will produce a DVD of the Teaching Courses and a DVD of the Themed Sessions of the 16th International Congress of Parkinson's Disease and Movement Disorders in Dublin, Ireland. Each DVD will include slides, audio and video of the recorded presentations, and PDF syllabi for the Teaching Courses.

Distribution of DVD orders will begin in October 2012.

The following Teaching Courses and Themed Sessions from previous Congresses are available to order at: www.movementdisorders.org/education/resources.php.

15th International Congress Teaching Courses

This DVD contains recordings of the Teaching Course Sessions of the 15th International Congress of Parkinson's Disease and Movement Disorders in Toronto, ON, Canada. The DVD includes slides, audio and video of the eight teaching courses and PDF syllabi for the Teaching Courses. The following topics are covered:

- Update on myoclonus
- Non-motor features of Parkinson's disease cognition
- Impulse control disorders (ICDs)
- From bench top to bedside: Current topics in translation research in movement disorders
- Neurodegeneration: The role of environmental factors
- New Unified Parkinson's Disease Rating Scale: MDS-UPDRS
- Chorea, athetosis, and ballism
- Update on gait disorders

15th International Congress Themed Sessions

This DVD contains recordings of the Themed Sessions of the 15th International Congress of Parkinson's Disease and Movement Disorders in Toronto, ON, Canada. The DVD includes slides, audio and video. The following topics are covered:

- Cognitive decline in movement disorders
- Gilles de la Tourette syndrome
- Psychiatric features of genetic movement disorders
- Bedside evaluation of cognition in movement disorders
- Impulsivity, addiction and reward mechanisms in movement disorders
- An update on psychogenic movement disorders
- Hallucinations and psychosis in Parkinson's disease
- Impulse control disorders (ICDs)
- Pyschogenic movement disorders: Video demonstrations and evaluation techniques
- The non-dementia associated cognitive and behavioral features of PD
- Startle, stereotypies and mannerisms; video cases
- Mood changes in Parkinson's disease: Depression, anxiety and apathy

14th International Congress Teaching Courses

This DVD contains recordings of the Teaching Course Sessions of the 14th International Congress of Parkinson's Disease and Movement Disorders in Buenos Aires, Argentina. The DVD includes slides, audio and video of seven teaching courses, as well as PDF syllabi. The following topics are covered:

- Differential diagnosis of parkinsonism
- Genetics of movement disorders
- Music and movement disorders
- Neuroimaging techniques and applications
- Neuropharmacology of Parkinson's disease
- Pediatric movement disorders
- Update on tremor

Other Educational Courses Available on DVD

The following DVD can be ordered at: www.movementdisorders.org/education/resources.php.

New Therapies for Advanced Parkinson's Disease

The course *New Therapies for Advanced Parkinson's Disease* was recorded at Duke University in Durham, NC, USA on October 29, 2010. The following topics are covered:

- Current treatments for motor complications in advanced Parkinson's disease
- Parkinson's disease: Future medications for fluctuations and dyskinesias
- Surgical interventions
- Depression and anxiety in Parkinson's disease
- Dementia in Parkinson's disease
- Psychosis in Parkinson's disease
- Sleep/wake disorders in Parkinson's disease

MDS EDUCATIONAL RESOURCES

Educational Webcasts

2011 Edward I. Rudman Parkinson's Disease Patient and Caregiver Symposium Webcast: Recent advances in Parkinson's Disease

This webcast was created from the *Edward I. Rudman Parkinson's Disease Patient and Caregiver Symposium: Recent Advances in Parkinson's Disease* which took place on October 22, 2011 at The Conference Center at Harvard Medical. Topics will cover the risk factors for Parkinson's disease, gene therapy, new and future treatments, advances in Deep Brain Stimulation, exercise and dance for Parkinson's disease, and creating a center of excellence.

To view the webcast, please visit: www.movementdisorders.org/education/patient_education/bidmc_2011/.

Internet-Based Certified CME

Online Journal CME

Visit www.movementdisorders.org/education/journalcme/ to view a list of *Movement* Disorders Journal articles available for CME credit. MDS is accredited by the Accreditation Council for Continuing Medical Education to provide certified continuing medical educational for physicians. MDS designates a maximum of 1.0 *AMA PRA Category 1 Credit™* each. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Coffee Break CME

Coffee Break CME is The *Movement* Disorder Society's first online CME program specially designed for the busy clinician. For physicians who care for Parkinson's disease (PD) and movement disorders patients, continuing education is critical to providing the best care possible. The knowledge of PD and movement disorders is expanding rapidly, and the need for concise information about clinical features, diagnosis, genetics and treatment is increasingly important. This program is designed to provide this information in a modular format. Each module focuses on a single topic that can be completed in a short period of time and provide the clinician with updated information that is relevant to their practice. Both standard approaches and new advances will be highlighted.

Each module is broken into sub-topics that are discussed in a short article and demonstrated in 1-5 case study videos. The scope of this project includes modules on: parkinsonism, tremor, dystonia, chorea, restless legs syndrome, and other topics as identified. These modules are being rolled out over several months, beginning with three modules covering tremors. After users have registered for a module, they are able to log in to the site as many times as needed to view all the material. At the beginning and completion of each module, participants are asked content-related questions to gauge their learning. MDS is accredited by the Accreditation Council for Continuing Medical Education to certify a maximum of 2.0 *AMA PRA Category 1 Credits™* for each module. Coffee Break CME can be accessed at: www.mdscoffeebreakcme.org/.

General Movement Disorders Resources

The Basic Movement Disorders Curriculum

The Basic Movement Disorders (BMD) Curriculum is an overview of movement disorders and a clinical approach to the evaluation and management of common movement disorders. This curriculum is specially developed for trainees, internists, general neurologists and other clinicians interested in acquiring basic understanding of movement disorders. It is possible to apply for use of any specific topics or for the full curriculum to supplement an existing program. To learn more about how to apply to use the BMD Curriculum, please visit: www.movementdisorders.org/education/bmd_curriculum/.

Request for use may also be included with an application to any of the MDS Outreach Education Programs at: www.movementdisorders.org/education/outreach_education.php.

Available topics:

- Basal ganglia anatomy and physiology
- Phenomenology of Movement Disorders
- Etiology and pathogenesis of Parkinson's disease
- Diagnosis and differential diagnosis of Parkinson's disease
- Management of early Parkinson's disease
- Management of Advanced Parkinson's disease
- Tremor
- Dystonias
- Chorea, athetosis and ballism
- Myoclonus
- Gait disorders
- Restless legs syndrome and movement disorders in sleep
- Management of MSA, PSP, and CBGD
- Tics and Tourette Syndrome
- Drug-Induced Parkinsonism (DIP)
- Psychogenic Movement Disorders

RATING SCALES AND TRAINING VIDEOS

Rating Scales

MDS provides rating scales and related resources published the *Movement* Disorders journal to physicians, researchers and health professionals interested in Parkinson's disease and other movement disorders. By making these scales available, MDS works to improve the diagnosis of movement disorders and patient care, as well as increase the validity and reliability of research studies. You can access the rating scales below online by visiting www.movementdisorders.org/publications/rating_scales/. Links to the MDS-UPDRS training program and rating scales use permission form are also available at this address. Licensing rates are free for individual use, but fees may apply for government, nonprofit or industry funded research.

The following rating scales are currently available:
Global Assessment Scale for Wilson's Disease (GAS for WD)
Measuring Health-Related Quality of Life in MDA (MSA-QoL)
Non-Motor Symptoms Questionnaire (NMSQ) +
Rating Scale for Psychogenic Movement Disorders (PMD)
Rush Dyskinesia Rating Scale *
Rush Videobased Tic Rating Scale
UFMG Sydenham's Chorea Rating Scale (USCRS)
Unified Dyskinesia Rating Scale (UDysRS) + *
Unified Dystonia Rating Scale (UDRS)
Unified Multiple System Atrophy Rating Scale (UMSARS)
Unified Parkinson's Disease Rating Scale (MDS-UPDRS) + *
Toronto Western Spasmodic Torticollis Rating Scale (TWSTRS)

Asterisk (*) indicates scale was developed by MDS; plus symbol (+) indicates translations of the scale are available.

Training Videos

The *Movement* Disorder Society publishes several audio-visuals, which are available for sale from the MDS International Secretariat. All materials are available in DVD or VHS format. Special reduced rates are available to MDS members. For more information or to place an order, visit: www.movementdisorders.org/publications/estore.php.

The titles that are currently available for purchase include:

Instructional Video for Motor Fluctuation Diaries in Parkinson's Disease
Authored by C.G. Goetz, M. Grobman, L. Blasucci, and G.T. Stebbins, this instructional video demonstrates the 3 states of Parkinson's disease, off, on, and on with dyskinesia, with the intent to assist patients in completion of their motor fluctuation diaries. This video is 15 minutes.

Toronto-Western Spasmodic Torticollis Rating Scale TWSTRS Training Video
Authored by C. Comella, S. Bressman, C.G. Goetz, and A. Lang, this instructional video demonstrates the 10 categories in the TWSTRS scale with verbal and visual examples of scoring in each category. This video is approximately 1 hour and 25 minutes.

Unified Dyskinesia Rating Scale Teaching Program (UDysRS)
Authored by C.G. Goetz, John G. Nutt and G.T. Stebbins. This teaching program provides guidelines and rating examples of the Unified Dyskinesia Rating Scale, a new scale used for evaluating Parkinson's disease. This video is approximately 52 minutes.

Utility of an Objective Dyskinesia Rating Scale for Parkinson's Disease: (Rush Dyskinesia Rating Scale)
Authored by Goetz, et al. *Movement* Disorders Volume 9, Video Supplement. 2. This video provides guidelines and rating examples of the Rush Dyskinesia Rating Scale, a scale widely used for evaluating dyskinesias in Parkinson's disease. This video is approximately 17 minutes.

Unified Parkinson's Disease Rating Scale Training Video
(1995) Authored by C. G. Goetz, G.T. Stebbins, T. Chmura, S. Fahn, H. Klawans, and C. D. Marsden, this video demonstrates the different categories of the motor section of the UPDRS, with verbal and visual examples of scoring in each category. This video is approximately 1 hour.

Standardized Training Tools for the UPDRS Activities of Daily Living Scale" (UPDRS Part II)
(2003) Authored by C.G. Goetz, P.A. Lewitt, and M. Weidenman. *Movement* Disorders Volume 18, Video Supplement. 2. This video provides suggestions on the application and interview techniques for Part II of the UPDRS with patient examples and guidelines for raters. This video is approximately 1 hour and 15 minutes.

The *Movement* Disorder Society's Unified Parkinson's Disease Rating Scale (MDS-UPDRS) Training Video (2010)
The *Movement* Disorder Society (MDS)-sponsored new version of the UPDRS is founded on the critique that was formulated by the Task Force for Rating Scales in Parkinson's disease (*Mov Disord* 2003;18:738-750). The MDS-UPDRS has four parts: Part I (non-motor experiences of daily living), Part II (motor experiences of daily living), Part III (motor examination) and Part IV (motor complications). This video is approximately 2 hours and 5 minutes.

RATING SCALES AND TRAINING VIDEOS

Members-Only Educational Resources

The following resources are available to members only.

Case of the Month

Case of the Month is the MDS interactive online feature that presents unique and challenging movement disorders cases. MDS accepts submission for Case of the Month on a rolling basis. Case of the Month provides and opportunity for members to share interesting cases for educational purposes in the forum dedicated to movement disorders experts. To view the current Case of the Month, please visit: www.movementdisorders.org/membersonly/com/. For information about submission requirements, including video format and patient consent forms, please visit: www.movementdisorders.org/membersonly/com/submit.php.

Slide Sets

This service enables learners to become familiar with the differential diagnosis and clinical features that define the various common involuntary movements as well as the course of treatment and complications of movement disorders.

Slide sets are available at: www.movementdisorders.org/membersonly/slidesets/.

Currently available slide sets are:
Ataxia (Jennifer G. Goldman MD)
Chorea (Kathleen M. Shannon MD)
The Diagnosis and Management of Dystonia (Steven J. Frucht MD)
Myoclonus: Diagnosis and Treatment (Steven J. Frucht MD)
Parkinsonism* (Kathleen M. Shannon MD)
Restless Legs Syndrome (Charles H. Adler MD)
Tics and Tourette Syndrome (Jennifer G. Goldman MD)

*This slide set is also available in Spanish.

Video Library

The Video Library consists of video supplements from *Movement Disorders* journal since 1986. You may search the Video Library by keyword, author, volume and issue, or a combination of these fields. The Video Library is available at: www.movementdisorders.org/membersonly/videolibrary/.

CME INFORMATION

Purpose

The purpose of the MDS International Congress is to offer a forum for clinical and basic discussion on a variety of movement disorder topics, including presentations of current research and available treatments.

Learning Objectives

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

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

Target Audience

The target audience of the 16th International Congress of Parkinson's Disease and Movement Disorders includes clinicians, researchers, post-doctoral fellows, medical residents, medical students and other healthcare professionals with an interest in the current research and approaches for the diagnosis and treatment of movement disorders.

Faculty Financial Disclosure Information

It is the policy of The *Movement* Disorder Society (MDS) to ensure balance, independence, objectivity and scientific rigor in all sponsored educational activities. All faculty participating in any MDS sponsored activities are required to disclose to the activity audience any real or apparent conflict(s) of interest that may have a direct bearing on the subject matter of the Continuing Medical Education (CME) activity. This pertains to relationships with pharmaceutical companies, biomedical device manufacturers, or other corporations whose products or services are related to the subject matter of the presentation topic. The intent of this policy is not to prevent a speaker with a potential conflict of interest from making a presentation. It is merely intended that any potential conflict should be identified openly so that the listeners may form their own judgments about the presentation with the full disclosure of the facts. It remains for the audience to determine whether the speaker's outside interest may reflect a possible bias in either the exposition or the conclusions presented.

Faculty financial disclosure information will be provided to participants onsite in Dublin.

Accreditation Statements

ACCME

The *Movement* Disorder Society is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The *Movement* Disorder Society designates this educational activity for a maximum of 35.5 *AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Royal College of Physicians of Ireland

The Royal College of Physicians of Ireland will award up to 39 CPD credits for the Congress.

The Royal College of Physicians of the United Kingdom

The 16th International Congress of Parkinson's Disease and Movement Disorders has been approved by the Federation of the Royal College of Physicians of the United Kingom for 35 category 1 (external) CPD credit(s).

EACCME

The 16th International Congress of Parkinson's Disease and Movement Disorders is accredited by the European Accreditation Council for Continuing Medical Education (EACCME) to provide the following CME activity for medical specialists. The EACCME is an institution of the European Union of Medical Specialists (UEMS), www.uems.net.

The 16th International Congress of Parkinson's Disease and Movement Disorders is designated for a maximum of 29 hours of European external CME credits. Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

Through an agreement between the European Union of Medical Specialists and the American Medical Association, physicians may convert EACCME credits to an equivalent number of *AMA PRA Category 1 Credits*™. Information on the process to convert EACCME credit to AMA credit can be found at www.ama-assn.org/go/internationalcme.

Live educational activities, occurring outside of Canada, recognized by the UEMS-EACCME for ECMEC credits are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of The Royal College of Physicians and Surgeons of Canada.

Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity. The EACCME credit system is based on 1 ECMEC per hour with a maximum of 3 ECMECs for half a day and 6 ECMECs for a full-day event.

CME INFORMATION

Claiming CME/CPD Credit

To claim CME credit for your participation in the MDS 16th International Congress of Parkinson's Disease and Movement Disorders, International Congress participants must complete and submit an online CME Request Form. This form will be available beginning June 21st.

Instructions for claiming credit:

- After June 21st, visit www.mdscongress2012.org/registration/cme.
- Log in after reading the instructions on the page. You will need your International Congress File Number which is located on your name badge or e-mail congress@movementdisorders.org.
- Follow the on-screen instructions to claim CME Credit for the sessions you attended.
- You may print your certificate from your home or office, or save it as a PDF for your records.

The MDS website is reaching out to more members with its multilingual content and social media presence. Sections of the website are now in Japanese, Chinese, Spanish and Italian! In addition, stay connected with colleagues and friends when you visit the Society's Facebook or LinkedIn pages. View videos from past Congresses on the Society's YouTube Channel or follow MDS @movedisorder on Twitter to get regular updates about news and activities from the Society.

MDS Website: Your 'Communications Hub' at Congress and all year-round

We invite you to visit the MDS website – your Society's "Communications Hub" for education, news and resources about the field of Movement Disorders. Log on to *www.movementdisorders.org* to access Members-Only features such as the MDS Journal, Case of the Month, Quick Opinion Please, Video Library, and the Online Membership Directory. Be sure to visit the Regional Sections of the website (European, Asian and Oceanian, and Pan American) to find news and activities happening in your part of the world.

Learn about CME and professional development opportunities which are offered throughout the year from locales around the globe. Congresses, workshops, conferences and seminars are listed and updated regularly on the website.

MoveNet, a free online directory for members and non-members alike, is a new way for you to meet others who work in the field of Movement Disorders. When you join MoveNet, you will receive updates from MDS delivered right to your inbox.

Other website features and tools include:

- Editor's Choice Article with Podcast Review
- MDS-Owned Rating Scales at your fingertips
- MDS-UPDRS Training Program & Exercise
- EBM Reviews and Position Papers
- Podcasts of the latest *Movement* Disorders abstracts
- Health Professionals (Non-Physician) resource page
- Extensive Video Library
- Links to affiliated international organizations
- *Moving Along* newsletter

Twitter at the Congress. Stay on top of the 16th International Congress by following tweets that have this hashtag: #MDSCongress2012. Be sure to use this hashtag to search for Congress related topics at the conference.

INTERNATIONAL CONGRESS INFORMATION A-Z

Abstracts
All accepted abstracts are presented as a poster at the 2012 International Congress, and published in an electronic supplement to the *Movement* Disorders journal, online edition. Additionally, select abstracts are presented in a Guided Poster Tour. Please visit www.movementdisorders.org to access The *Movement* Disorders Journal, where you can download a PDF of accepted abstracts.

Please see Poster Sessions and Guided Poster Tours sections for the listing of daily presentations. For a complete listing of abstracts by topic, please see page 76-128.

Late-Breaking Abstracts
All Late-Breaking Abstract posters are displayed in The Forum Monday – Thursday throughout the duration of the Congress.

Late-Breaking Abstract Poster Presentations will take place Wednesday, June 20 from 12:00 – 13:30 in The Forum. A print supplement of the Late-Breaking Abstracts is available in the Congress registration bag.

Abstracts On CD-ROM
All abstracts are published in the supplement to the MDS Journal are available on CD-ROM at the registration desk.

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

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

Camera Policy
Cameras are not permitted in any 16th International Congress educational sessions or in the poster area.

Certificate of Attendance
A certificate of attendance is available in the back of the 2012 Final Program.

Coffee Breaks
Please check the Program-at-a-Glance, page 30, for scheduled daily breaks. Coffee and tea will be served on Sunday in the Foyer Levels 1 & 3, and Monday – Thursday in The Forum Level 3.

Congress Information Desk
Location: Ground Level Foyer

Continuing Medical Education (CME)
Please refer to page 13-14 for Continuing Medical Education information.

Currency
The local currency in Dublin is the Euro. The exchange rate for US Dollars as of May 21, 2012 is: 1 USD = 0.78 Euro.

Evaluations
Please take time to complete the evaluation forms provided for each session you attend. Your input and comments are essential in planning future educational programs for MDS.

Upon completion, evaluations may be returned to the session room attendants, or to the MDS Booth (The Forum).

Congress Events
Sunday, June 17, 2012
Welcome Ceremony
19:00 – 21:00
Location: The Auditorium, Levels 3, 4, 5

All International Congress attendees are warmly invited to meet friends and colleagues during the traditional International Congress Welcome Ceremony at The Convention Centre Dublin. This event is open to all registered delegates. Guests are able to purchase a Welcome Ceremony Pass that will allow them admission to this event; please check at the Registration Desk for availability.

Tuesday, June 19, 2012
Lúnasa and the Brain
20:00
The National Concert Hall
Earlsfort Terrace, Dublin 2, Ireland

The RTÉ Concert Orchestra invites you on an exploration of music and movement with Professor Steven Frucht as he focuses on the science of learning music and the effect this has on the brain followed by a full concert performance with Irish traditional phenomenon Lúnasa and the RTÉ Concert Orchestra. Music and the brain is an area of endless fascination - what governs hearing, learning, playing. The performance will be held at the National Concert Hall in Dublin rated by performing artists as one of the finest concert venues in Europe.

Tickets are $35 USD and can be purchased at the Registration desk.

Lúnasa and the Brain is brought to you by the RTÉ Concert Orchestra in partnership with The Movement Disorder Society.

INTERNATIONAL CONGRESS INFORMATION A-Z

Wednesday, June 20, 2012
MDS Video Games
19:00 – 23:00
Location: The Auditorium, Levels, 3, 4, 5

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

The two teams of Experts are:

TEAM 1:
Alberto Espay, *Cincinnati, OH, USA*
Daniel Healy, *Dublin, Ireland*
Christine Klein, *Lübeck, Germany*
Marcelo Merello, *Buenos Aires, Argentina*

VS.

TEAM 2:
Bastiaan Bloem, *Nijmegen, Netherlands*
Hubert Fernandez, *Cleveland, OH, USA*
Thomas Warner, *London, United Kingdom*
Ruey-Meei Wu, *Taipei, Taiwan*

Following the International Congress, the cases presented could be developed further for publication in the Journal or presentation on the Society's website. This event is open to all registered delegates.

Exhibit Hall

Location: The Forum
For more information, please refer to pages 56-67.

Exhibit Hall hours are as follows:
Monday, June 18 ..... 10:00 – 18:30
Tuesday, June 19..... 10:00 – 18:00
Wednesday, June 20..... 10:00 – 18:00
Thursday, June 21 ..... 9:30 – 15:00

Floor Plans of the Convention Centre Dublin

Please refer to page 20.

Food For Purchase

Concessions will be available for purchase Sunday – Thursday in the Ground Level Foyer, as well ast Monday – Thursday in the Forum (Exhibit Hall).

Guided Poster Tours

Attendees may sign up to attend a Guided Poster Tour at the MDS Booth, located inside the The Forum.

Guided Poster Tours will be led by members of the MDS faculty & leadership and the authors will be present to discuss the abstracts. There will be 16 total Guided Poster Tours with four simultaneous tours per day from Monday, June 18 through Thursday, June 21. Each tour will feature abstracts on a specific topic.

*All Guided Poster Tour Sessions require a ticket. Please visit the MDS Booth to receive your ticket.

Monday, June 18
12:45 – 14:15
GPT 1 – Basic science (Liffey Hall 1, Level 1)
GPT 2 – Lewy body dementia and other dementias in movement disorders (Liffey Hall 2, Level 1)
GPT 3 – Parkinson's disease: Cognition (Wicklow Hall 1, Level 2)
GPT 4 – Sleep disorders and RLS (Wicklow Hall 2, Level 2)
For a listing of abstracts in each tour, please see pages 68-69.

Tuesday, June 19
12:15 – 13:45
GPT 5 – Parkinson's disease: Clinical trials (Liffey Hall, Level 1)
GPT 6 – Surgical therapy: Parkinson's disease (Liffey Hall 2, Level 1)
GPT 7 – Rating scales and assessment tools (Wicklow Hall 1, Level 2)
GPT 8 – Parkinson's disease: Neuropharmacology (Wicklow Hall 2, Level 2)
For a listing of abstracts in each tour, please see pages 70-71.

Wednesday, June 20
12:00 – 13:30
GPT 9 – Genetics (Liffey Hall 1, Level 1)
GPT 10 – Parkinson's disease: Phenomenology (Liffey Hall 2, Level 2)
GPT 11 – Huntington's disease (Wicklow Hall 1, Level 2)
GPT 12 – Parkinson's disease: Behavioral disorders (Wicklow Hall 2, Level 2)
For a listing of abstracts in each tour, please see pages 72-73.

Thursday, June 21
12:00 – 13:30
GPT 13 – Dystonia (Liffey Hall 1, Level 1)
GPT 14 – Parkinsonisms (parkinson plus and secondary) (Liffey Hall 2, Level 1)
GPT 15 – Tremor (Wicklow Hall 1, Level 2)
GPT 16 – Surgical therapy of movement disorders other than Parkinson's disease (Wicklow Hall 2, Level 2)
For a listing of abstracts in each tour, please see pages 74-75.

INTERNATIONAL CONGRESS INFORMATION A-Z

Internet Café

Location: The Forum, Ground Level

Internet access is available for meeting attendees in the The Forum. Please limit your Internet use to 15 minutes to allow other attendees use of this service.

Open hours are as follows:
Monday, June 18 .....10:00 – 18:30
Tuesday, June 19 .....10:00 – 18:00
Wednesday, June 20.....10:00 – 18:00
Thursday, June 21 ..... 9:30 – 15:00

MDS Booth

Location: The Forum, Ground Level

The *Movement* Disorder Society (MDS) is an international society of healthcare professionals committed to research and patient care in the fields of Parkinson's disease and other disorders of movement and motor control.

Created not only to further the goals and objectives of MDS International, The *Movement* Disorder Society's regional sections, the Asian and Oceanian Section and European Section strive to increase the interest, education and participation of neurologists, Movement Disorder specialists, non-Movement Disorder specialists, trainees, allied health professionals and scientists in the Asian, Oceania and European regions.

MDS supports and promotes a wide range of educational programming and other initiatives to advance scientific understanding and standards of care as they pertain to Movement Disorders. For this, MDS provides forums such as a high-ranking journal, scientific symposia and International Congresses.

Attendees are invited to take advantage of MDS member benefits by applying to the Society. Learn more about MDS initiatives and speak with a representative at the MDS.

The MDS Booth hours are as follows:
Monday, June 18 .....10:00 – 18:30
Tuesday, June 19 .....10:00 – 18:00
Wednesday, June 20.....10:00 – 18:00
Thursday, June 21 ..... 9:30 – 15:00

MDS-Unified Parkinson's Disease Rating Scale Training Program & Exercise

Location: Wicklow Meeting Room 4, Level 2

- See examples of a rater administering the test to patients
- View examples of the rating items for the Motor Examination (Part III)
- Take an exercise at the end of the Training Program

The MDS-UPDRS Training Room hours are as follows:
Sunday, June 17 .....12:30 – 14:00
Monday, June 18 .....12:45 – 15:45
Tuesday, June 19 .....12:15 – 15:15
Wednesday, June 20 .....12:00 – 15:00
Thursday, June 21 .....12:00 – 15:00

Official Language

The official language of the International Congress is English.

Poster Session Schedule

All poster sessions will take place in the Linear Park Marquee, located just west of The Convention Center exterior.

Sunday, June 17, 12:30 – 14:00
Poster viewing: 9:00 – 18:00
Abstract numbers: 1-276
- Clinical Electrophysiology (Marquee 4)
- Wilson's disease, storage and metabolic movement disorders (Marquee 4)
- Pediatric movement disorders (Marquee 3)
- Lewy Body Dementia and other dementias in movement disorders (Marquee 3)
- Huntington's disease (Marquee 3)
- Parkinson's disease: Neuropharmacology (Marquee 3)
- Parkinson's disease: Cognition (Marquee 2)
- Epidemiology (Marquee 1)

Monday, June 18, 12:45 – 14:15
Poster viewing: 9:00 – 18:00
Abstract numbers: 277-611
- Ataxia (Marquee 4)
- Quality of life/caregiver burden in movement disorders (Marquee 3)
- Surgical Therapy: Parkinson's disease (Marquee 3)
- Gene Therapies (Marquee 3)
- Parkinson's disease: Clinical trials (Marquee 2&3)
- Spasticity (Marquee 2)
- Parkinson's disease: Rating scales (Marquee 1&2)
- Rating scales (Marquee 1)
- History (Marquee 1)

Tuesday, June 19, 12:15 – 13:45
Poster viewing: 9:00 – 18:00
Abstract numbers: 612-945
- Parkinson's disease: Quality of Life/Caregiver burden (Marquee 3&4)
- Education in movement disorders (Marquee 3)
- Parkinson's disease: Behavioral disorders (Marquee 3)
- Neuroimaging (Marquee 2&3)
- Parkinson's disease: Sleep disorders (Marquee 2)
- Parkinson's disease: Electrophysiology (Marquee 1&2)
- Myoclonus (Marquee 1)

INTERNATIONAL CONGRESS INFORMATION A-Z

Wednesday, June 20, 12:00 – 13:30
Poster viewing: 9:00 – 18:00
Abstract numbers: 946-1281
- Tremor (Marquee 4)
- Restless legs syndrome (Marquee 3)
- Parkinsonism (Marquee 3)
- Dystonia (Marquee 2&3)
- Choreas (non-Huntington's disease) (Marquee 2)
- Surgical Therapies: other movement disorders (Marquee 1)

Thursday, June 21, 12:00 – 13:30
Poster viewing: 9:00 – 16:00
Abstract numbers: 1282-1598
- Parkinson's disease: Phenomenology (Marquee 3&4)
- Basic Science (Marquee 3)
- Genetics (Marquee 2)
- Parkinson's disease: Dystautonomia (Marquee 2)
- Tics/Stereotypies (Marquee 2)
- Drug-induced movement disorders (Marquee 1)
- Neuropharmacology (Marquee 1)

Poster Session Schedule

(listed alphabetically by topic):

Ataxia (Monday, June 18, 12:45 – 14:15, Marquee 4)
Basic Science (Thursday, June 21, 12:00 – 13:30, Marquee 3)
Choreas (non-Huntington's disease)
(Wednesday, June 20, 12:00 – 13:30, Marquee 2)
Clinical Electrophysiology
(Sunday, June 17, 12:30 – 14:00, Marquee 4)
Drug-induced movement disorders
(Thursday, June 21, 12:00 – 13:30, Marquee 1)
Dystonia (Wednesday, June 20, 12:00 – 13:30, Marquee 2&3)
Education in movement disorders
(Tuesday, June 19, 12:15 – 13:45, Marquee 3)
Epidemiology (Sunday, June 17, 12:30 – 14:00, Marquee 1)
Gene Therapies (Monday, June 18, 12:45 – 14:15, Marquee 3)
Genetics (Thursday, June 21, 12:00 – 13:30, Marquee 2)
History (Monday, June 18, 12:45 – 14:15, Marquee 1)
Huntington's disease
(Sunday, June 17, 12:30 – 14:00, Marquee 3)
Lewy Body Dementia and other dementias in movement disorders (Sunday, June 17, 12:30 – 14:00, Marquee 3)
Myoclonus (Tuesday, June 19, 12:15 – 13:45, Marquee 1)
Neuroimaging (Tuesday, June 19, 12:15 – 13:45, Marquee 2&3)
Parkinsonism (Wednesday, June 20, 12:00 – 13:30, Marquee 3)
Parkinson's disease: Behavioral disorders
(Tuesday, June 19, 12:15 – 13:45, Marquee 3)
Parkinson's disease: Clinical trials
(Monday, June 18, 12:45 – 14:15, Marquee 2&3)
Parkinson's disease: Cognition (Sunday, June 17, 12:30 – 14:00, Marquee 2)
Parkinson's disease: Dystautonomia
(Thursday, June 21, 12:00 – 13:30, Marquee 2)
Parkinson's disease: Electrophysiology
(Tuesday, June 19, 12:15 – 13:45, Marquee 1&2)
Parkinson's disease: Neuropharmacology
(Sunday, June 17, 12:30 – 14:00, Marquee 3)
Parkinson's disease: Phenomenology
(Thursday, June 21, 12:00 – 13:30, Marquee 3&4)
Parkinson's disease: Quality of Life/Caregiver burden
(Tuesday, June 19, 12:15 – 13:45, Marquee 3&4)
Parkinson's disease: Rating scales
(Monday, June 18, 12:45 – 14:15, Marquee 1&2)
Parkinson's disease: Sleep disorders
(Tuesday, June 19, 12:15 – 13:45, Marquee 2)
Pediatric movement disorders
(Sunday, June 17, 12:30 – 14:00, Marquee 3)
Quality of life/caregiver burden in movement disorders
(Monday, June 18, 12:45 – 14:15, Marquee 3)
Rating scales (Monday, June 18, 12:45 – 14:15, Marquee 1)
Restless legs syndrome
(Wednesday, June 20, 12:00 – 13:30, Marquee 3)
Spasticity (Monday, June 18, 12:45 – 14:15, Marquee 2)
Surgical Therapies: other movement disorders
(Wednesday, June 20, 12:00 – 13:30, Marquee 1)
Surgical Therapy: Parkinson's disease
(Monday, June 18, 12:45 – 14:15, Marquee 3)
Tics/Stereotypies
(Thursday, June 21, 12:00 – 13:30, Marquee 2)
Tremor (Wednesday, June 20, 12:00 – 13:30, Marquee 4)
Wilson's disease, storage and metabolic movement disorders
(Sunday, June 17, 12:30 – 14:00, Marquee 4)

Press Room

Location: Wicklow Meeting Room 2b, Level 2

Members of the working media receive waived registration for the 16th International Congress. Journalists and writers should report to the Press Room with their credentials to register for the International Congress and wear their name badge for admittance into MDS sessions.

The Press Room will be open during the following hours:
Sunday, June 17 ..... 9:00 – 17:00
Monday, June 18 ..... 9:00 – 17:00
Tuesday, June 19 ..... 9:00 – 17:00
Wednesday, June 20 ..... 9:00 – 17:00
Thursday, June 21 ..... 9:00 – 16:00

INTERNATIONAL CONGRESS INFORMATION A-Z

Registration

Location: Ground Level, Foyer

Name badges, scientific session tickets, purchased Welcome Ceremony Passes and International Congress bags can be collected at the International Congress Registration.

Registration Desk hours are as follows:
Saturday, June 16 ..... 16:00 – 20:00
Sunday, June 17 ..... 7:00 – 18:00
Monday, June 18..... 7:00 – 18:00
Tuesday, June 19..... 7:00 – 18:00
Wednesday, June 20 ..... 7:00 – 18:00
Thursday, June 21 ..... 7:00 – 16:00

Please note that these hours are subject to change.

Scientific Sessions

The 2012 Scientific Program will incorporate Therapeutic Plenary Sessions, Plenary and Parallel Sessions, Teaching Courses, Video Sessions, Skills Workshops, Guided Poster Tours and Blue Ribbon Highlights.

Sessions will focus on the latest developments in:

- Behavioral and motor interfaces of movement disorders: From laboratory to patient care
- Movement Disorder topics, including, but not limited to, ataxia, chorea, dystonia, myoclonus, Parkinson's disease, restless legs syndrome, spasticity, stereotypies, tics and tremors
- Basic Science issues, including, but not limited to, genetics, neuroimaging, neuropharmacology, surgical therapy and transplantation
- Other less common clinical conditions

Tickets are required for admission into all Parallel Sessions, Teaching Courses, Video Sessions, and Skills Workshops. There is no additional fee for tickets to these sessions. Please check the Registration Desk for ticket availability.

Speaker Ready Room

Location: Wicklow Meeting Room 3, Level 2

All speakers must check in at the Speaker Ready Room with their presentation materials on the day prior to their scheduled presentation. Equipment is available to allow faculty to review their presentations. Audio/Visual personnel will be available for assistance.

The Speaker Ready Room hours are as follows:
Saturday, June 16 ..... 16:00 – 20:00
Sunday, June 17 ..... 7:00 – 18:00
Monday, June 18 ..... 7:00 – 18:00
Tuesday, June 19 ..... 7:00 – 18:00
Wednesday, June 20 ..... 7:00 – 18:00
Thursday, June 21 ..... 7:00 – 16:00

Ticketed Sessions

Tickets are required for admission into all Parallel Sessions, Teaching Courses, Video Sessions, Skills Workshops, and Guided Poster Tours*. There is no additional fee for tickets to these sessions. Please check the Registration Desk for ticket availability.

*Guided Poster Tour tickets are available at the MDS Booth The Forum.

Plenary Sessions and general Poster Sessions do not require a ticket to attend.

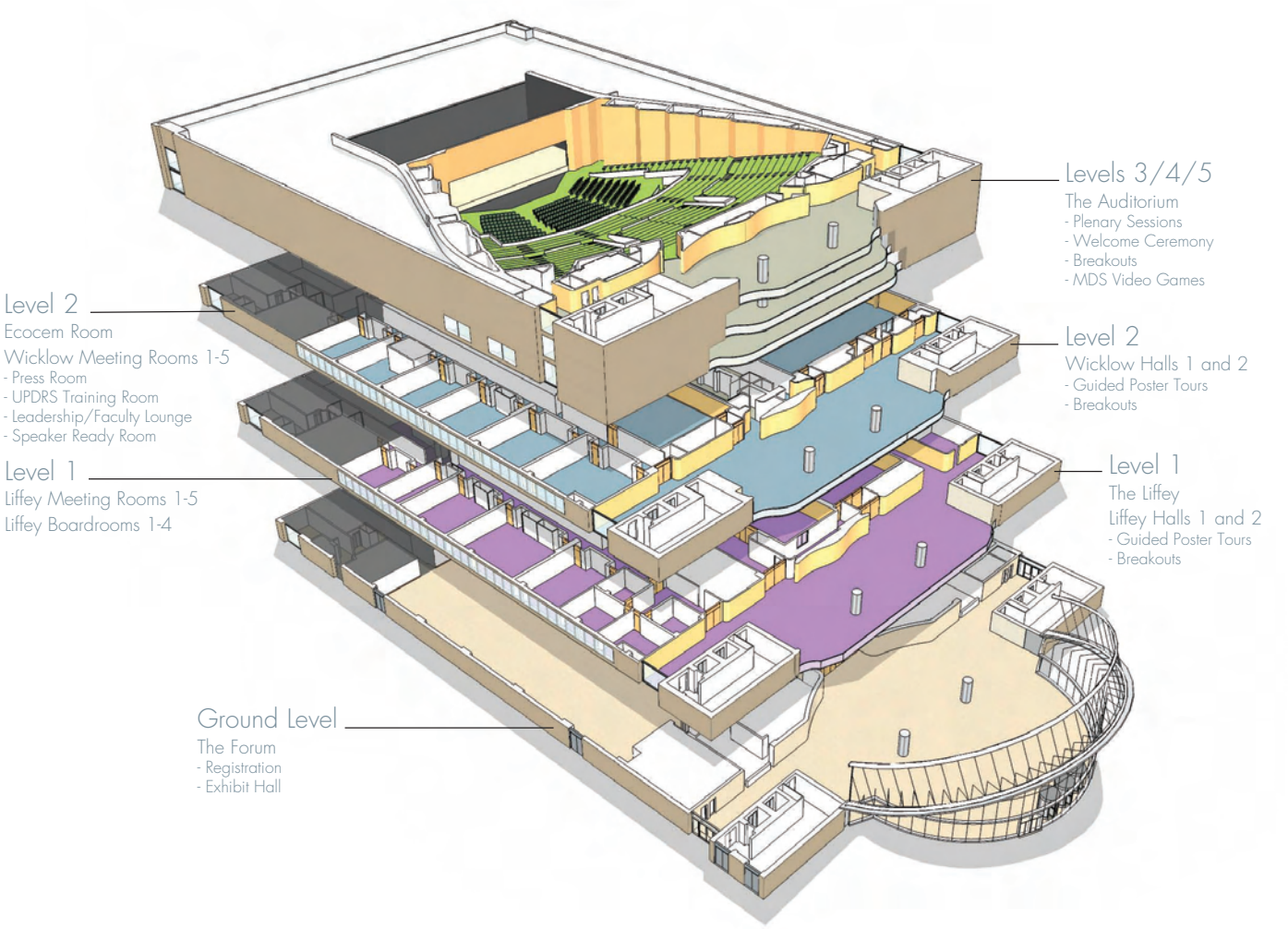
Venue

The Convention Centre Dublin
Spencer Dock, North Wall Quay
Dublin 1
Ireland

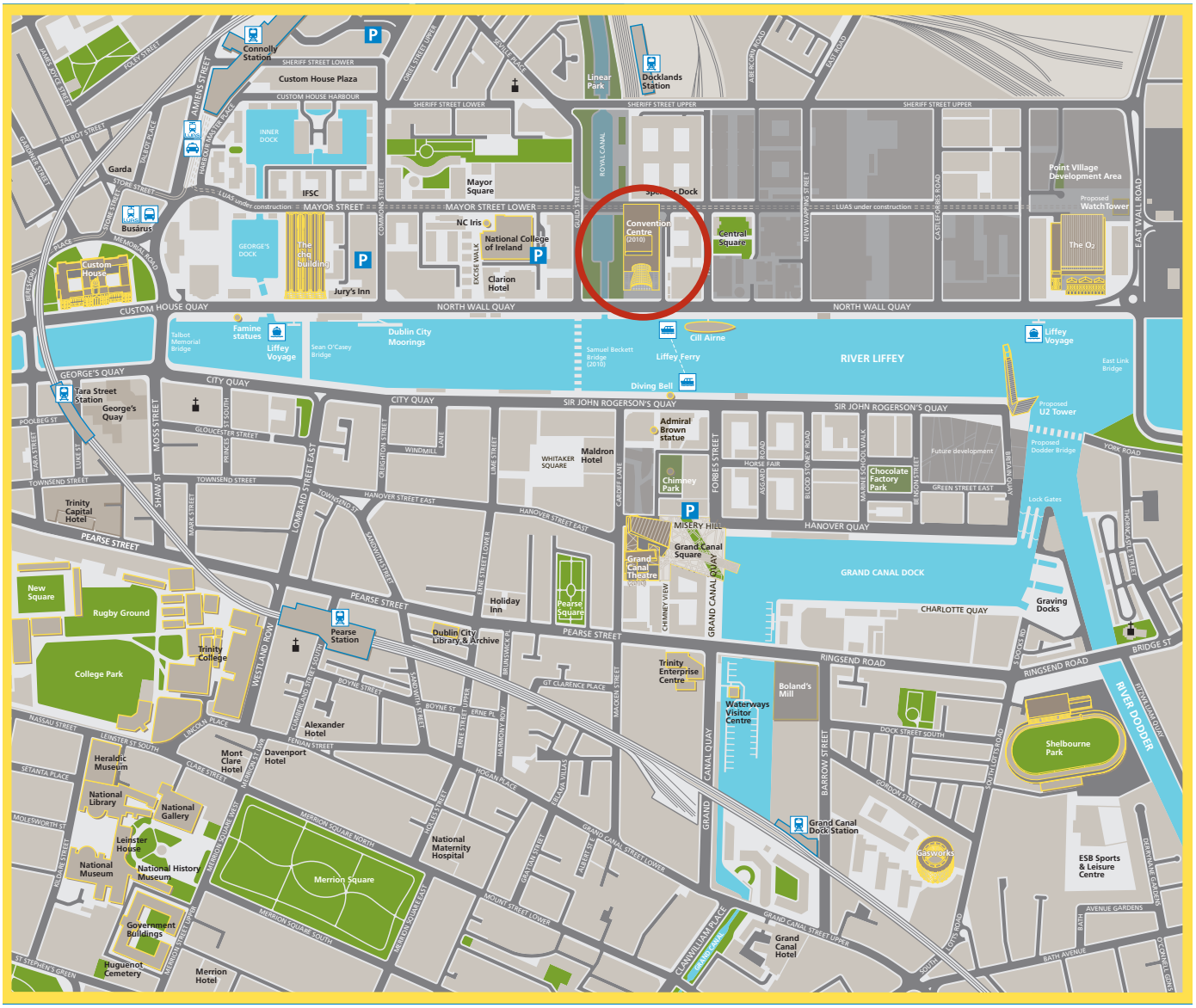
Weather

The average daytime temperature in Dublin in June is about 57° F (14° C).

INTERNATIONAL CONGRESS FLOOR PLAN



DOCKLANDS AREA MAP



TOP ATTRACTIONS IN DUBLIN

Guinness Storehouse

Just outside the city center, the Guinness Storehouse is one of Dublin's most popular tourist attractions. Visitors can experience the Guinness craft firsthand with guided tours and beer tasting. The Gravity Bar, located on the seventh floor, offers a beautiful panoramic view of Dublin.

Temple Bar

This stylish and artsy neighborhood features a variety of trendy restaurants, galleries, shopping centers, theatres and pubs. Here, you can easily find live music, free street theatre, and modern art juxtaposed with Temple Bar's characteristic narrow, cobbled streets.

Kilmainham Gaol

Close to the Guiness Storehouse, Kilmainham Gaol is a former political prison which housed many famous independence fighters. Opened in 1796, it closed in 1924 but was restored in the 1960s to serve as a reminder of the heartbreak and heroism of Ireland's historic fight for independence.

TOP ATTRACTIONS IN DUBLIN

Trinity College

Founded by Queen Elizabeth I in 1592, Trinity College is Ireland's most famous college, and is located within walking distance of the Convention Centre. Here, you can take a guided walking tour of the beautiful campus, led by one of the students (please check for times / availability). Trinity College's biggest attractions include the Book of Kells in the Old Library and a 15th century harp, the oldest harp in Ireland.

National Museum

Just south of Trinity College, the National Museum houses some of the largest collections of Irish artifacts. Recording Ireland's history from the Stone Age to today, visitors will find Celtic jewelry, Irish art, Viking artifacts, and detailed exhibitions. The building itself is a piece of art on its own, with a large rotunda, marble pillars, and mosaic floors.

Dublin Castle

Originally a Viking fortress, the Dublin Castle now serves as an administrative and historical site. The State Apartments are open for visitors who wish to learn more about British rule in Ireland. Many smaller museums are contained within Dublin Castle, including The Revenue Museum, The Garda (Police) Museum, the Chapel Royal, and the Cheater Beatty Library.

Grafton Street

This popular and fashionable shopping area has a variety of department stores, restaurants, and cafes to explore, including the famous Bewley's Oriental Café. The street is blocked off from traffic for a pedestrian and tourist friendly shopping experience. Walking south on Grafton Street will take you to St. Stephen's Green, a beautiful 22 acre enclosed park that offers a quiet refuge for tourists and Dubliners alike.

St. Patricks Cathedral and Marsh's Library

Origin of Jonathan Swift's Gulliver's Travels, Marsh's Library is situated in St. Patrick's Close, adjacent to St. Patrick's Cathedral, Dublin, and is the oldest public library in Ireland. It was built to the order of Archbishop Narcissus Marsh in 1701 and has a collection of over 25,000 books and 300 manuscripts.

Phoenix Park

An urban park in Dublin, lying 2–4 km west of the city centre, just north of the River Liffey, is one of the largest walled city parks in Europe. The park includes large areas of grassland and tree-lined avenues, and is home to a herd of wild Fallow deer.

Number Twenty Nine Georgian House Museum

Located within walking distance of the Convention Centre, this home was first built in 1794 and was opened as a museum in 1991. Refurnished with original furniture and décor from the time period, visitors will experience firsthand the elegance of the wealthy Dublin elite in the late 18th century.

Merrion Square

This 12 acre Georgian square is within walking distance of the Convention Centre and offers a beautiful view of the famous 18th century terrace homes and their brightly colored doors. Merrion Square is also home to the National Gallery, a free museum containing over 15,000 Irish and European artworks, as well as the Natural History Museum.

MDS AWARDS

Honorary Membership Awards

Sunday, June 17
Welcome Ceremony
19:00 – 21:00
Location: The Auditorium, Levels 3, 4, 5

The Honorary Membership Awards recognize individuals who have made extraordinary contributions to the field of Movement Disorders or otherwise to The *Movement* Disorder Society.

Mark Hallett, MD
Bethesda, MD, USA

Eduardo Tolosa, MD
Barcelona, Spain

President's Distinguished Service Award

Sunday, June 17
Welcome Ceremony
19:00 – 21:00
Location: The Auditorium, Levels 3, 4, 5

The President's Distinguished Service Award is given in recognition of long and distinguished service to The *Movement* Disorder Society.

Stanley Fahn Lecture

Wednesday, June 20 *as part of 4103 Plenary Session IX: The Presidential Lectures*
8:00 – 8:30

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

The Edgelands of the Shaking Palsy

Stanley Fahn Lecturer – Andrew Lees, MD, FRCP

Professor of Neurology, The National Hospital for Neurology and Neurosurgery, Queen Square and Director, Reta Lila Weston Institute of Neurological Studies, University College London, Institute of Neurology.

Born on Merseyside, Andrew Lees qualified in medicine at the Royal London Hospital Medical College in 1970. His neurological training was at University College London Hospitals and the National Hospital for Neurology and Neurosurgery, Queen Square. He also spent time at L'Hopital Salpetriere in Paris. At the age of thirty-two he was appointed to the consultant staff at the National Hospitals, The Middlesex, and Whittington Hospitals and in 1987 he was elected a Fellow of the Royal College of Physicians. He was later appointed Professor of Neurology at the National Hospital for Neurology and Neurosurgery, Queen Square and in 1998 became Director of the Reta Lila Weston Institute for Neurological Studies. He is Clinical Director of the Queen Square Brain Bank for Neurological Disorders and Director of the Sara Koe PSP Research Centre. Professor Lees is a Visiting Professor at the University of Liverpool and has close collaborations with a number of Brazilian universities. For his contributions to Brazilian neurology he was elected an overseas member of the Academia Nacional de Medicina and the Academia Brasileira de Neurologica. In 2007 he was elected Fellow of the Academy of Medical Sciences and received a NIHR Senior Investigators Award in 2008.

Professor Lees has achieved international recognition for his work on Parkinson's disease and abnormal movement disorders and served as President of The *Movement* Disorder Society from 2004-2006. In 2006, he was awarded the Movement Disorders Research Award by the American Academy of Neurology. In the last four years he has delivered the Gowers Memorial Lecture at the National Hospital, The inaugural Lord Brain Memorial Lecture at Barts and the Royal London Hospitals and the David Marsden Memorial Lecture at the EFNS. He was Co-Editor in Chief of The *Movement Disorders* Journal from 1995-2003, and is an original member of the Highly Cited Researchers ISI Database with a H-index of 85.

C. David Marsden Lecture

Wednesday, June 20 *as part of 4103 Plenary Session IX: The Presidential Lectures*
9:30 – 10:00

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

MDS AWARDS

Using Genetic Analysis to get at the Biology of Parkinson's disease

C. David Marsden Lecturer – John Hardy, MD

Department of Molecular Neuroscience and Reta Lila Weston Laboratories, UCL Institute of Neurology UK

John Hardy received his degree in Biochemistry from Leeds in 1976 and his PhD from Imperial College in Neuropharmacology in 1979. He did postdocs at the MRC Neuropathogenesis Unit and the Swedish Brain Bank, in Umea, where he started to work on Alzheimer's disease. In 1985 he took the job of Lecturer in Biochemistry and Molecular Genetics at St Mary's Hospital, Imperial College, where he began working on the genetics of Alzheimer's disease.

In 1991 Dr. Hardy led the group which found the first mutation in the amyloid gene which caused Alzheimer's disease. This finding led him and others to formulate the amyloid hypothesis for the disease. In 1992 he moved to the United States, to the University of South Florida. In 1996 he moved to the Mayo Clinic where he became Chair of the Department of Neuroscience in 2000. In 1998 he was part of the consortium which identified mutations in the tau gene in Pick's disease, and in 2001 Dr. Hardy moved to the NIH to become the Chief of the Laboratory of Neurogenetics, where he was part of the group which found triplications in the synuclein gene caused Parkinson's disease. He returned to the Department of Molecular Neuroscience at the Institute of Neurology in 2007.

Dr. Hardy has won the Allied Signal, Potamkin, MetLife and Kaul Prizes, for his work on Alzheimer's disease and the Anna Marie Opprecht Prize for his work on Parkinson's disease. Just recently he was awarded the 2011 Khalid Iqbal Lifetime Achievement Award in Alzheimer's Disease Research and the IFRAD 2011 European Grand Prize for Alzheimer's Research. He has been elected a member of the Academy of Medical Sciences and has been awarded an honorary MD by the University of Umea, Sweden. He was made an FRS by the Royal Society in 2009 and in 2010 was awarded an honorary Doctor of Science degree by the University of Newcastle. He has three adult children and two grandchildren who live in the US.

Junior Awards

Three Junior Award recipients have been selected based on their significant contribution to research in the field of Movement Disorders.

Wednesday, June 20 *as part of 4103: Plenary Session IX: Presidential Lectures*
8:30 – 9:30
Chairs: Günther Deuschl, Matthew Stern

Marios Politis, MD, MSc, PhD
London, United Kingdom

Serotonergic mediated peak-dose L-DOPA-induced dyskinesias in Parkinson's disease

Marios Politis, MD, PhD[IC], Kit Wu, MRCP[IC], Clare Loane, BSc[IC], Lorenzo Kiferle, MD[UOP], Sophie Molloy, MD[IC], Peter Bain, PhD[IC], David Brooks, PhD[IC] and Paola Piccini, PhD[IC]. [1]Centre for Neuroscience, Division of Experimental Medicine, Imperial College, London, United Kingdom

Objective: To investigate the role of serotonergic (5-HT) terminals in peak-dose L-DOPA-induced dyskinesias (LIDs) in Parkinson's disease (PD).

Background: Peak-dose LIDs have been suggested to result from loss of buffering capacity of degenerating dopamine (DA) terminals leading to excessive/sudden release of L-DOPA derived DA. Positron emission tomography (PET) studies have shown increased DA turnover in PD patients with LIDs. Animal models of PD have shown that striatal 5-HT terminals cause or aggravate LIDs by mishandling exogenous L-DOPA and releasing DA as a false neurotransmitter and that administration of 5-HT agonists improve LIDs. However, this mechanism has not been tested in PD patients.

Methods: We studied 16 PD patients with peak-dose LIDs and 12 PD patients with stable response to L-DOPA using 11C-DASB (marker of 5-HT transporter availability) and 11C-raclopride (RAC) (marker of DA type 2 receptor availability) PET, and medication challenges with suprathreshold doses of L-DOPA and 5-HT1A agonist (Buspirone).

Results: No significant differences were found in striatal 11C-DASB binding (BPND) between PD patients with LIDs and stable response to L-DOPA. PD patients with LIDs showed 18.0±2.2 % (mean ± SE) reduction (compared to baseline) in putaminal RAC BPND after a L-DOPA challenge reflecting high synaptic DA turnover, while the reduction in putaminal RAC BPND in the PD stable group after a L-DOPA challenge was considerable less (8.0±2.0 %). When administration of Buspirone (0.35mg per Kg) preceded that of L-DOPA, putaminal RAC BPND in the PD patients with LIDs was reduced to 12.6±2.3% ($p<0.05$), while release in the stable PD

group was largely unaffected. Clinically, PD patients with LIDs after administration of both Buspirone and L-DOPA showed significant attenuation on their LIDs at t=60 to t=105min ($p<0.05$) in a 150min follow-up.

Conclusions: These data indicate a key role of 5-HT terminals in peak-dose LIDs in PD and justify the use and development of 5-HT1A agonists. While 5-HT terminals in PD patients with LIDs are preserved, the significant loss of DA terminals results in 5-HT mediated dysregulated release of DA and consequently LIDs. 5-HT1A agonists have the ability to dampen the transmitter release from 5-HT neurons, alleviate excessive synaptic DA levels and thus attenuate LIDs.

Norbert Brüggemann, MD
Lübeck, Germany

Beneficial prenatal levodopa therapy in autosomal recessive GTP cyclohydrolase I deficiency

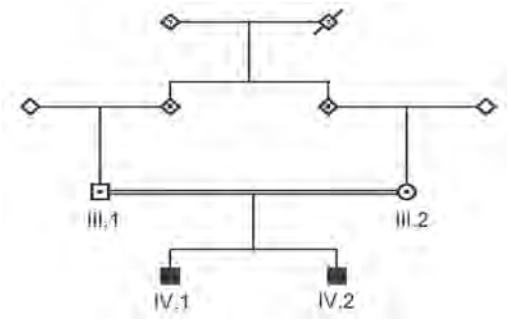
Norbert Brüggemann, MD[1], Juliane Spiegler, MD[2], Yorck Hellenbroich, MD[3], Thomas Opladen, MD[4], Susanne A Schneider, MD[1], Rainer Boor, MD[5], Ulrich Stephani, MD[6], Gabriele Gillessen-Kaesbach, MD[3], Jürgen Sperner, MD[2] and Christine Klein, MD[1]. [1]Section of Clinical and Molecular Neurogenetics at the Department of Neurology, University of Lübeck, Lübeck, Germany; [2]Departement of Pediatrics, University of Lübeck, Lübeck, Germany; [3]Institut für Humangenetik, University of Lübeck, Lübeck, Germany; [4]Division of Inborn Metabolic Diseases, University Children's Hospital Heidelberg, Heidelberg, Germany; [5]Northern epilepsy center for children and adolescents, Schwentinental/Raisdorf, Germany and [6]Department of Neuropediatrics, University of Kiel, Kiel, Germany.

Objective: To report the first prenatal dopaminergic replacement therapy in autosomal recessive GTP cyclohydroxylase (AR GTPCH) deficiency without hyperphenylalaninemia.

Background: AR GTPCH deficiency without hyperphenylalaninemia is a rare form of dopa-responsive dystonia presenting with a complex phenotype, distinct clinical features and an infantile onset in most cases. Prenatal diagnosis and initiation of dopaminergic replacement therapy have not been described so far.

Methods: Mutation analysis of the GCH1 gene, longitudinal case descriptions.

Results: The figure shows the pedigree of a consanguineous family with two siblings (IV.1 and IV.2, filled symbols) carrying homozygous mutations in the GTP cyclohydroxylase 1 (GCH1) gene.



Confirmed asymptomatic carriers of a single GCH1 mutation are marked by a dot.

In fibroblasts of IV.1, the GTPCH activity was considerably reduced with values between 17 and 31%. He presented with typical features of AR GTPCH deficiency including truncal dystonia, severe spastic tetraparesis, lack of head control as well as intermittent opisthotonus and oculogyric crises. Levodopa treatment was initiated at the age of 10 months and resulted in a distinct motor improvement including a complete resolution of spasticity. Re-occurrence of oculogyric crises, spasticity and abnormal head position were good clinical predictors for the necessity to increase the levodopa dosage. Mental development was, however, moderately delayed despite levodopa treatment.

In the younger sibling IV.2, prenatal replacement therapy was initiated after a prenatal diagnosis of AR GTPCH deficiency was made. At the age of 17 months, both motor and mental development was normal for his age.

Conclusions: Reduced dopaminergic neurotransmission in the developing brain of children may result in an impairment of motor and mental maturation. This report highlights the importance of an early diagnosis, including prenatal diagnosis, of complex dopa-responsive extrapyramidal syndromes.

Karin Tuschl, MD
London, United Kingdom

Syndrome of hepatic cirrhosis, dystonia, polycythaemia and hypermanganesaemia - caused by mutations in SLC30A10, a manganese transporter in man

Karin Tuschl, MD[1], Peter T Clayton, MD[1], Sidney M Gospe Jr., MD, PhD[2], Gulab Shamshad, FCPS[3], Shahnaz Ibrahim, FCPS[3], Prathiba Singhi, MD[4], Reinaldo T Ribeiro, MD[5], Maha S Zaki, PhD[6], Maria Luz del Rosario, MD[7], Sarah Dyack, MD[8], Victoria Price, MD[8], Ron A Wevers, PhD[9] and Philippa B Mills, PhD[1]. [1]Clinical and Molecular Genetics Unit, UCL Institute of Child Health, London, United Kingdom; [2]University of Washington and Seattle Children's Hospital, Seattle, WA, United States; [3]Aga Khan University

MDS AWARDS

Hospital, Karachi, Pakistan; [4]Postgraduate Institute of Medical Education and Research, Chandigarh, India; [5]Federal University of Sao Paulo, Sao Paulo, Brazil; [6]National Research Center, Cairo, Egypt; [7]St. Lukes Medical Center, Quezon City, Philippines; [8]IWK Health Centre, Halifax, NS, Canada and [9]Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands.

Objective: To identify the genetic defect underlying a syndrome of hepatic cirrhosis, dystonia, polycythaemia and hypermanganesaemia [MIM613280].

Background: We have recently reported a suspected autosomal recessively inherited disorder of manganese (Mn) metabolism (Tuschl et al., JIMD, 2008) and have identified 18 patients from 9 families affected by this disease. Patients present in early childhood with difficulties walking and fine motor impairment due to dystonia and many become wheelchair bound in their teens. Some die of liver cirrhosis at a young age. They have high levels of whole-blood Mn with accumulation of Mn in the brain and liver leading to characteristic MRI brain appearances with high signal return from the globus pallidus on T1 weighted sequences.

Methods: Whole genome mapping was performed using an Illumina CytoSNP-12 and the candidate gene sequenced on an ABI DNA sequencer. Expression studies were performed in the Mn sensitive yeast strain Δ*pmr1* using Gateway technology (Invitrogen). Wild-type cells BY4743 and Δ*pmr1* cells transformed with empty vector pYES-Dest52, wild-type *SLC30A10* and *SLC30A10* carrying a nonsense and a missense mutation were grown on SC-Ura plates supplemented with or without 1.5 mM MnCl2.

Results: Homozygosity mapping of two consanguineous families identified *SLC30A10*, a previously presumed zinc transporter, as the affected gene in this inherited form of hypermanganesemia. Homozygous sequence changes in *SLC30A10* were found in all affected individuals. Expressing human wild-type *SLC30A10* in the Δ*pmr1* yeast strain rescued growth in high Mn conditions confirming its role in Mn transport. The presence of missense (c.266T>C, Leu89Pro) and nonsense (c.585del, Thr196Profs*17) mutations in *SLC30A10* failed to restore Mn resistance.

Conclusions: We have confirmed that *SLC30A10* functions as a Mn transporter in man that, when defective, causes a syndrome of hepatic cirrhosis, dystonia, polycythaemia and hypermanganesaemia. This is an important step towards understanding Mn transport and its role in neurodegenerative processes.

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The 2012 Travel Grant Program was partially supported by an unrestricted educational grant from Merz Pharmaceuticals, LLC.

MDS 16TH INTERNATIONAL CONGRESS SESSION DEFINITIONS

Blue Ribbon Session:

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

Controversies:

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

Corporate Therapeutic Symposia:

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

Guided Poster Tours:

Guided Poster Tours give small groups of delegates an opportunity to hear discussion on a select group of abstracts in several sub-categories. Delegates interested in attending a Guided Poster Tour may pick up a tour ticket at the MDS Booth beginning Monday, June 18. Attendance is limited, and tickets will be given on a first-come, first-served basis. Delegates are encouraged to sign up early to ensure availability.

There will be four simultaneous tours per day from Monday, June 18 through Thursday, June 21.

Parallel Sessions:

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

Plenary Sessions:

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

Poster Sessions:

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

Skills Workshops:

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

Teaching Courses:

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

Therapeutic Plenary Sessions:

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

Video Sessions:

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

SPECIAL MEETING THEME:

The perils and promises of genetics in movement disorders

At each annual International Congress, the Congress Scientific Program Committee selects a theme that is highlighted throughout the meeting. This year's theme, "The perils and promises of genetics in movement disorders" will be showcased in two Plenary Sessions, five Parallel Sessions, three Skills Workshops, one Teaching Course, and two Video Sessions. International experts will serve as faculty, and the presentations will run the gamut of the field, from new research to practical applications. Meeting participants can elect to attend any or all of the sessions.

These sessions are designated with a .

PROGRAM-AT-A-GLANCE

Daily Schedule

Time	Sunday, June 17, 2012	Monday, June 18, 2012	Tuesday, June 19, 2012	Wednesday, June 20, 2012	Thursday, June 21, 2012
7:00	Committee Meetings 7:00 - 8:00	Committee Meetings 7:00 - 8:00	Committee Meetings 7:00 - 8:00	Committee Meetings 7:00 - 8:00	Committee Meetings 7:00 - 8:00
7:30					
8:00	Therapeutic Plenary Session I 8:00 - 10:00	Plenary Session V 8:00 - 10:00	Plenary Session VII 8:00 - 10:00	Plenary Session IX (Presidential Lectures) 8:00 - 10:00	Plenary Session XI 8:00 - 9:30
8:30					
9:00					
9:30					Break 9:30 - 10:00
10:00	Break 10:00 - 10:30	Break 10:00 - 10:45 / General Assemblies 10:00 - 10:45	Break 10:00 - 10:45 / MDS Business Meeting 10:00 - 10:45	Break 10:00 - 10:30	Controversies 10:00 - 11:00
10:30	Therapeutic Plenary Session II 10:30 - 12:30	Plenary Session VI 10:45 - 12:45	Plenary Session VIII 10:45 - 12:15	Plenary Session X 10:30 - 12:00	
11:00					Blue Ribbon Highlights 11:00 - 12:00
11:30					
12:00				Break/ Guided Poster Tours/ Poster Sessions 12:00 - 13:30	Break/ Guided Poster Tours/ Poster Sessions 12:00 - 13:30
12:30	Break/ Poster Sessions 12:30 - 14:00	Break/ Guided Poster Tours/ Poster Sessions 12:45 - 14:15	Break/ Guided Poster Tours/ Poster Sessions 12:15 - 13:45		
13:00					
13:30			Corporate Therapeutic Symposia 13:45 - 14:45	Corporate Therapeutic Symposia 13:30 - 14:30	Corporate Therapeutic Symposia 13:30 - 14:30
14:00	Therapeutic Plenary Session III 14:00 - 16:00	Corporate Therapeutic Symposia 14:15 - 15:15			
14:30			Break 14:45 - 15:15	Break 14:30 - 15:00	Break 14:30 - 15:00
15:00				Parallel Sessions 15:00 - 17:00	Parallel Sessions 15:00 - 17:00
15:30		Break 15:15 - 15:45	Parallel Sessions 15:15 - 17:15		
16:00	Break 16:00 - 16:30	Parallel Sessions 15:45 - 17:45			
16:30	Therapeutic Plenary Session IV 16:30 - 18:30			Break 17:00 - 17:30	END
17:00			Break 17:15 - 17:45		
17:30				Skills Workshops/ Video Sessions 17:30 - 19:00	
18:00		Break 17:45 - 18:15	Skills Workshops/ Video Sessions 17:45 - 19:15		
18:30	Break 18:30 - 19:00	Skills Workshops/ Video Sessions 18:15 - 19:45			
19:00	Welcome Ceremony 19:00 - 21:00			MDS Video Games 19:00 – 23:00	
19:30					
20:00					
20:30					
21:00					
21:30					
22:00					
22:30					
23:00					

SUNDAY, JUNE 17, 2012

1105 Therapeutic Plenary Session I

Novel neuropharmacological approaches to treating Parkinson's disease: Hope or hype?

8:00 - 10:00

Location: The Auditorium, Levels 3, 4, 5

Chairs: Olivier Rascol
Toulouse, France

Michael Schwarzschild
Sharon, MA, USA

8:00 **How to deliver the promise of neurotropic factors in Parkinson's disease**
C. Warren Olanow
New York, NY, USA

8:40 **Making dopamine treatments better: Still flogging a dead horse?**
Donald Grosset
Glasgow, United Kingdom

9:20 **Novel non-dopaminergic targets for the motor symptoms of Parkinson's disease**
Michael Schwarzschild
Sharon, MA, USA

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

1. Understand issues related to the use and delivery of neurotrophic factors as possible therapeutic options for Parkinson's disease
2. Describe novel dopaminergic agents in development and new delivery systems for levodopa/apomorphine
3. Outline the rationale for non-dopaminergic strategies in development for the motor symptoms of Parkinson's disease

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

1106 Therapeutic Plenary Session II

Recent developments in Deep Brain Stimulation

10:30 – 12:30

Location: The Auditorium, Levels 3, 4, 5

Chairs: Philip Starr
San Francisco, CA, USA

Lars Timmermann
Cologne, Germany

10:30 **Target choice in Parkinson's disease: GPi or STN?**
Ken Follett
Omaha, NE, USA

11:10 **Deep Brain Stimulation for cognitive enhancement**
Emad Eskandar
Boston, MA, USA

1106 Therapeutic Plenary Session II, cont.

11:50 **Closed-loop stimulation in Parkinson's disease**
Lars Timmermann
Cologne, Germany

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

1. Describe relative indications for DBS of STN versus GPi in Parkinson's disease
2. Understand basis for contingent (closed loop) stimulation in Parkinson's disease
3. Assess potential basis for improving human cognition using DBS

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

Supported by an unrestricted educational grant from Medtronic.

Poster Session 1

12:30 – 14:00

Location: Linear Park Marquee

Abstract Numbers: 1 – 276

Poster Viewing: 9:00 - 18:00

1107 Therapeutic Plenary Session III

Treatment of the psychiatric and cognitive disorders of Parkinson's disease: Evidence or expertise?

14:00 – 16:00

Location: The Auditorium, Levels 3, 4, 5

Chairs: Daniel Weintraub
Ardmore, PA, USA

Laura Marsh
Houston, TX, USA

14:00 **Treatment of dementia and mild cognitive impairment in Parkinson's disease: Do drugs really work?**
Jaime Kulisevsky
Barcelona, Spain

14:40 **Treatment of affective disorders in Parkinson's disease: How do I choose which drug to use?**
Laura Marsh
Houston, TX, USA

15:20 **Treatment of psychosis and behavioral disorders in Parkinson's disease: Help or hindrance?**
Daniel Weintraub
Ardmore, PA, USA

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

1. Summarize recent clinical trials for psychiatric and cognitive disorders in Parkinson's disease

1107 Therapeutic Plenary Session III, cont.

2. Critically evaluate the relative benefits and risks of various treatment strategies for common neuropsychiatric symptoms in Parkinson's disease
3. Assess benefit vs. tolerability of common psychiatric and cognitive treatments in Parkinson's disease

Recommended Audience: Basic scientists, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

1108 Therapeutic Plenary Session IV

The practical application of evidence-based medicine in Parkinson's disease

16:30 – 18:30

Location: The Auditorium, Levels 3, 4, 5

Chairs: Timothy Counihan
Galway, Ireland

Klaus Seppi
Innsbruck, Austria

16:30 **Neuroprotection and early symptomatic treatment**
Shen-Yang Lim
Kuala Lumpur, Malaysia

17:10 **Later motor problems**
Regina Katzenschlager
Vienna, Austria

17:50 **Non-motor features: Beyond neuropsychiatric**
Klaus Seppi
Innsbruck, Austria

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

1. Understand the status of neuroprotective/disease modifying therapy in Parkinson's disease
2. Recognize the pros and cons related to the available treatments for the motor symptoms of Parkinson's disease
3. Apply treatments shown to be of benefit for the non-cognitive, non-neuropsychiatric non-motor features of Parkinson's disease

Recommended Audience: Clinical academicians, Health Professionals (Non-Physician), Students/Residents/Trainees, Practitioners

Supported by an unrestricted educational grant from GlaxoSmithKline.

Welcome Ceremony

19:00 – 21:00

Location: The Auditorium, Levels 3, 4, 5

MONDAY, JUNE 18, 2012

2103 Plenary Session V

Is it time to change how we define Parkinson's disease?

8:00 – 10:00

Location: The Auditorium, Levels 3, 4, 5

Chairs: Anthony Lang
Toronto, ON, Canada
Matthew Stern
Philadelphia, PA, USA

8:00 **A clinical diagnosis based on bradykinesia, tremor and rigidity: Pathology and genetics are irrelevant**
Bastiaan Bloem
Nijmegen, Netherlands

8:40 **Parkinson's disease is a synucleinopathy: The clinical syndrome and genetics are irrelevant**
Glenda Halliday
Randwick, Australia

9:20 **Parkinson's disease is a genetic disorder and should be defined as such: The clinical syndrome and pathology are irrelevant**
Matthew Farrer
Vancouver, BC, Canada

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

1. Describe the different pathological changes associated with genetic Parkinson's disease
2. Identify the clinical features associated with Lewy body pathology
3. Recognize the various genetic factors that are associated with Parkinson's disease

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

AOS General Assembly

10:00 – 10:45

Location: Wicklow Hall 1, Level 2

All delegates from Asia and Oceania are encouraged to attend.

ES General Assembly

10:00 – 10:45

Location: Liffey Hall 2, Level 1

All delegates from Europe and North Africa are encouraged to attend.

PAS General Assembly

10:00 – 10:45

Location: Liffey Hall 1, Level 1

All delegates from Pan America are encouraged to attend.

2104 Plenary Session VI

Revising translational research approaches in neurodegeneration

10:45 – 12:45

Location: The Auditorium, Levels 3, 4, 5

Chairs: Virginia Lee
Philadelphia, PA, USA
John Trojanowski
Philadelphia, PA, USA

10:45 **Re-engineering translational sciences: New approaches to the development of diagnostics and therapeutics in neurodegenerative diseases**
John Trojanowski
Philadelphia, PA, USA

11:25 **Pre-clinical efficacy testing: The future role of animal vs. newer efficacy models**
Virginia Lee
Philadelphia, PA, USA

12:05 **Newer clinical trial designs for future therapeutic studies**
Bernard Ravina
Cambridge, MA, USA

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

1. Understand the need to re-engineer the translational process and the options that modern technologies provide
2. Understand the challenges to standard animal models and the potential for new models of efficacy testing
3. Recognize the potential and need for new clinical trial designs including adaptive trial designs, new approaches to patient stratification, etc.

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

Supported by an unrestricted educational grant from Elan Pharmaceuticals, Inc.

Guided Poster Tours

*Ticket required for all Guided Poster Tours – visit the MDS Booth (Exhibition Hall) for tickets and information.

GPT 1: **Basic science**
12:45 – 14:15
Location: Liffey Hall 1, Level 1
Leaders: Serge Przedborski
New York, NY USA
Ryuji Kaji
Tokushima City, Japan

Guided Poster Tours, cont.

GPT 2: **Lewy body dementia and other dementias in movement disorders**
12:45 – 14:15
Location: Liffey Hall 2, Level 1
Leaders: David John Burn
Newcastle upon Tyne, United Kingdom
Timothy Counihan
Galway, Ireland

GPT 3: **Parkinson's disease: Cognition**
12:45 – 14:15
Location: Wicklow Hall 1, Level 2
Leaders: Murat Emre
Istanbul, Turkey
Hubert Fernandez
Cleveland, OH, USA

GPT 4: **Sleep disorders and RLS**
12:45 – 14:15
Location: Wicklow Hall 2, Level 2
Leaders: Per Odin
Bremerhaven, Germany
Bart Van De Warrenburg
Nijmegen, Netherlands

Supported by an unrestricted educational grant from UCB Pharma SA.

Poster Session 2

12:45 – 14:15

Location: Linear Park Marquee

Abstract Numbers: 277 – 611

Poster Viewing: 9:00 – 18:00

Corporate Therapeutic Symposium

14:15 – 15:15

Please see pages 52–53 for more information.

2206 Parallel Session TICKET

Molecular methodology for dummies: New investigative tools to shake up our understanding of Parkinson's disease

15:45 – 17:45

Location: Liffey B, Level 1

Chairs: Thomas Gasser
Tübingen, Germany
Dolores Cahill
Dublin, Ireland

15:45 **What have genome wide association studies taught us that is new in Parkinson's disease?**
Thomas Gasser
Tübingen, Germany

16:25 **Transcriptomics: Does it contribute to our understanding of Parkinson's disease?**
Ron Shamir
Tel Aviv, Israel

MONDAY, JUNE 18, 2012

2206 Parallel Session TICKET, cont.

17:05 **Proteomic approach to Parkinson's disease: What does this mean?**
Mauro Fasano
Busto Arsizio, Italy

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

1. Understand the value of GWAS in the genetic basis for Parkinson's disease
2. Identify the nature and use of "-omic" approaches as tools for studying Parkinson's disease
3. Understand what have these "–omic" approaches have revealed that is new in Parkinson's disease

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

2207 Parallel Session TICKET

Whatever happened to environmental factors in the etiology of Parkinson's disease? Are they still important?

15:45 – 17:45
Location: Liffey Hall 1, Level 1

Chairs: Francesca Cicchetti
Quebec, PQ, Canada
Riona Mulcahy
Waterford, Ireland

15:45 **Environmental toxins and parkinsonism**
Alberto Ascherio
Boston, MA, USA

16:25 **Environmental factors: What have we learned from animal models?**
Francesca Cicchetti
Quebec, PQ, Canada

17:05 **Epigenetics of psychiatric and neurological diseases**
Art Petronis
Toronto, ON, Canada

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

1. Describe the role of environmental factors and toxins in causing parkinsonism
2. Understand how animal models inform our understanding of the pathophysiology of Parkinson's disease
3. Explain epigenetic mechanisms and their possible relevance to the pathogenesis of Parkinson's disease

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

2208 Parallel Session TICKET

Gait and postural control in movement disorders: New perspectives

15:45 – 17:45
Location: The Auditorium, Levels 3, 4, 5

Chairs: Fay Horak
Portland, OR, USA
Lynn Rochester
Newcastle upon Tyne, United Kingdom

15:45 **Imaging gait and postural control: Methods, mechanisms and pathology**
Ivan Toni
Nijmegen, Netherlands

16:25 **Gait and postural control as biomarkers of Parkinson's disease progression**
Fay Horak
Portland, OR, USA

17:05 **Non-dopaminergic contribution to gait and postural dysfunction in Parkinson's disease and its therapeutic implications**
Nicolaas Bohnen
Saline, MI, USA

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

1. Understand developments in neuroimaging gait and postural control, limitations and neural correlates
2. Identify the role of gait and postural control in predicting outcome in movement disorders
3. Understand the role of non-dopaminergic pathology in gait and postural control and alternative therapeutic approaches

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

2209 Parallel Session TICKET

What do I say when my patient asks me about cell and gene therapies for their Parkinson's disease?

15:45 – 17:45
Location: Wicklow Hall 1, Level 2

Chairs: Roger Barker
Cambridge, United Kingdom
Stanley Fahn
New York, NY, USA

15:45 **How could stem cells be useful for Parkinson's disease?**
Lorenz Studer
New York, NY, USA

2209 Parallel Session TICKET, cont.

16:25 **Can gene therapies really help patients with Parkinson's disease?**
William Marks
San Francisco, CA, USA

17:05 **Will cell and gene therapy ever be competitive with DBS?**
Thomas Foltynie
London, United Kingdom

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

1. Understand how stem cells can be used for modeling and treating Parkinson's disease
2. Summarize the current data on gene therapies for Parkinson's disease
3. Understand the debate about how cell and gene therapies compare to DBS

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

2210 Parallel Session TICKET

Infectious diseases, autoimmunity and movement disorders

15:45 – 17:45
Location: Liffey A, Level 1

Chairs: Russell Dale
Sydney, Australia
Sean O'Riordan
Dublin, Ireland

15:45 **The spectrum of Streptococcal-related movement disorders**
Davide Martino
Bari, Italy

16:25 **Post-encephalitic movement disorders**
Usha Misra
Lucknow, India

17:05 **Autoimmune mediated movement disorders**
Russell Dale
Sydney, Australia

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

1. Identify movement disorders associated with infectious and autoimmune diseases
2. Describe infectious and autoimmune mechanisms causing movement disorders in infectious diseases
3. Discuss the prevention and treatment of movement disorders associated with infections or autoimmunity

Recommended Audience: Basic Scientists, Clinical academicians, Practitioners

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2308 Teaching Course TICKET

Update on psychogenic movement disorders

15:45 – 17:45

Location; Liffey Hall 2, Level 1

Chairs: Mark Hallett
Bethesda, MD, USA
Jon Stone
Edinburgh, United Kingdom

15:45 **Assessment of the patient with suspected PMD**
Mark Edwards
London, United Kingdom

16:25 **Approach to the patient: How to discuss the diagnosis with patients with PMD**
Jon Stone
Edinburgh, United Kingdom

17:05 **Management of PMD: Is this a treatable disorder?**
Karen Anderson
Baltimore, MD, USA

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

1. Recognize PMDs in patients
2. Discuss diagnosis of PMDs with the patient
3. Manage PMDs in patients

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

2309 Teaching Course TICKET

Update on diagnosis and management of early parkinsonism

15:45 – 17:45

Location: Wicklow Hall 2, Level 2

Chairs: Shu-Leong Ho
Hong Kong
Timothy Lynch
Dublin, Ireland

15:45 **Clinical characteristics of early parkinsonism and its differential diagnosis**
Timothy Lynch
Dublin, Ireland

16:25 **Neuroimaging techniques and other diagnostic procedures in the differential diagnosis of Parkinson's disease**
Christoph Scherfler
Innsbruck, Austria

17:05 **Treatment of the early Parkinson's disease patients**
Shu-Leong Ho
Hong Kong

2309 Teaching Course TICKET, cont.

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

1. Describe the major features for Parkinson's disease compared to red flags for atypical parkinsonism
2. Determine essential diagnostic procedures and how meaningful they are
3. Manage the start of treatment of Parkinson's disease

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

2403 Skills Workshop TICKET

Is my movement disorder genetic and what does that mean for me and my family?

18:15 – 19:45

Location: Liffey Hall 2, Level 1

In this interactive session, the faculty will review construction of pedigrees, modes of inheritance and will discuss examples of familial movement disorders and the impact of a molecular diagnosis on the patient and his/her family.

Rachel Saunders-Pullman
New York, NY, USA
Katja Lohmann
Lübeck, Germany

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

1. Describe how to take a detailed family history and draw an appropriate pedigree
2. Interpret pedigrees with respect to different possible modes of inheritance
3. Appreciate the important ethical issues and principles involved in genetic counseling

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

2404 Skills Workshop TICKET

Lessons I learned from my patients

18:15 – 19:45

Location: Liffey Hall 1, Level 1

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

Philip Thompson
Adelaide, Australia
Eduardo Tolosa
Barcelona, Spain

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

1. Recognize the lessons for clinical practice from critically reviewing cases where diagnostic or management revisions were made

2404 Skills Workshop TICKET, cont.

2. Identify frequent and preventable pitfalls in the evaluation of movement disorders patients
3. Recognize the merits of periodic reassessment of clinical features and patient's management

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

2405 Skills Workshop TICKET

The role of the nurse in the management of behavioral problems in movement disorders

18:15 – 19:45

Location: Wicklow Hall 1, Level 2

In this interactive session, the faculty will review the role of the movement disorders nurse in identifying complex behavioral problems, discuss the limitations of current therapy and the implications and alternatives for therapeutic management of symptoms.

Stephen Smith
Norfolk, United Kingdom
Brian Magennis
Dublin, Ireland

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

1. Recognize potential behavioral problems associated with therapy
2. Discuss strategies to management of behavioral problems
3. Identify how and when to discuss behavioral problems with patient and family

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

2406 Skills Workshop TICKET

Getting the best out of botulinum toxin treatment

18:15 – 19:45

Location: Wicklow Hall 2, Level 2

In this interactive session, the faculty will review the best approach to evaluate patients requiring botulinum toxin injections, how to deploy clinical strategies to manage such patients, and the best techniques to administer botulinum toxin.

A. Peter Moore
Liverpool, United Kingdom
Erle Chuen-Hian Lim
Singapore

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

1. Develop an approach to evaluate patients for botulinum toxin treatment

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2406 Skills Workshop TICKET, cont.

2. Deploy effective clinical strategies for dealing with both challenging and apparently straightforward cases
3. Understand the basis for guidance techniques in botulinum toxin injections compared to surface marking

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

Supported by an unrestricted educational grant from Ipsen.

2407 Skills Workshop TICKET

How to distinguish Parkinson's disease subtypes

18:15 – 19:45

Location: The Auditorium, Levels 3, 4, 5

In this interactive session, the audience will be instructed on using clinical and investigational tools to identify different subtypes of Parkinson's disease. The latest research and thinking in this area will be highlighted.

Bob Van Hilten
Leiden, Netherlands

Ryan Uitti
Jacksonville, FL, USA

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

1. Describe different subtypes of Parkinson's disease
2. Discuss the clinical and prognostic significance of such subtyping
3. Identify future research trends in this area using the latest tools available

Recommended Audience: Basic scientists, Clinical academicians, Practitioners

2408 Skills Workshop TICKET

Movement disorders emergencies

18:15 – 19:45

Location: Liffey A, Level 1

In this interactive session, problematic movement disorder emergencies will be discussed. This session will include unusual presentations of known conditions that may be treatable and present with disorders of movement.

Marco Onofrj
Pescara, Italy

Helio Teive
Curitiba, Brazil

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

1. Develop an understanding of motor emergencies that occur in parkinsonism, including severe rigidity and hyperpyrexia

2408 Skills Workshop TICKET, cont.

2. Identify and learn to manage acute and/or severe movement disorder complications from DBS and other neurosurgical procedures
3. Recognize the unusual presentation of rare and often treatable movement disorders

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

2509 Video Session TICKET

Drug-induced movement disorders

18:15 – 19:45

Location: Liffey B, Level 1

In this interactive session, which will be well-illustrated with video examples, the clinical characteristics and management of movement disorders caused by drug therapy will be discussed as well as the classification and identification of the pharmaceutical agents that can lead to these iatrogenic syndromes.

Joseph Friedman
Barrington, RI, USA

Daniel Tarsy
Boston, MA, USA

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

1. Recognize and treat acute drug-induced movement disorders including parkinsonism, acute dystonic reaction, akathisia and neuroleptic malignant syndrome
2. Understand the pathogenesis, phenomenology, natural history and management of the tardive syndromes
3. Appreciate the range of drugs, in addition to typical antipsychotic agents, that can be responsible for inducing movement disorders

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

TUESDAY, JUNE 19, 2012

3103 Plenary Session VII

Lost in translation: Has genetics informed our knowledge of non-parkinsonian movement disorders?

8:00 – 10:00

Location: The Auditorium, Levels 3, 4, 5

Chairs: Michael Hutchinson
Dublin, Ireland

Christine Klein
Lübeck, Germany

TUESDAY, JUNE 19, 2012

3103 Plenary Session VII, cont.

8:00 **What is more important: DYT phenotype or genotype?**
Christine Klein
Lübeck, Germany

8:40 **Getting the balance right: Can we make sense of the SCAs?**
Bart van de Warrenburg
Nijmegen, Netherlands

9:20 **Has identification of the Huntington's disease gene mutation been the most over-hyped scientific news in the last twenty years?**
M. Flint Beal
New York, NY, USA

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

1. Describe how gene status affect the management of dystonia
2. Express the genotype-phenotype relationship (if any) of spinocerebellar ataxias
3. Understand the relevance of finding the gene for Huntington's disease to neurological practice

Recommended Audience: Clinical academicians, Practitioners

Supported by an unrestricted educational grant from Ipsen.

MDS Business Meeting

10:00 – 10:45

Location: Wicklow Hall 2, Level 2

Open to all delegates

3104 Plenary Session VIII

Recent and ongoing clinical trials in movement disorders

10:45 – 12:15

Location: The Auditorium, Levels 3, 4, 5

Chairs: Joseph Jankovic
Houston, TX, USA

Werner Poewe
Innsbruck, Austria

10:45 **Clinical trials in Parkinson's disease**
Werner Poewe
Innsbruck, Austria

11:15 **Clinical trials in other movement disorders**
Joaquim Ferreira
Lisbon, Portugal

11:45 **Clinical trials in DBS surgery**
Günther Deuschl
Kiel, Germany

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3104 Plenary Session VIII, cont.

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

1. Critically assess the most important recent clinical trials in Parkinson's disease and other movement disorders
2. Integrate clinical trials results into clinical practice
3. List unmet therapeutic needs which require further studies

Recommended Audience: Basic scientists, Health Professionals (Non-Physician), Students/Residents/Trainees

Guided Poster Tours

*Ticket required for all Guided Poster Tours – visit the MDS Booth (Exhibition Hall) for tickets and information

GPT 5: Parkinson's disease: Clinical trials
12:15 – 13:45
Location: Liffey Hall 1, Level 1
Leaders: Eduardo Tolosa
Barcelona, Spain
Anthony Schapira
London, United Kingdom

GPT 6: Surgical therapy: Parkinson's disease
12:15 – 13:45
Location: Liffey Hall 2, Level 1
Leaders: Philip Starr
San Francisco, CA, USA
Pierre Pollack
Geneva, Switzerland
Supported by an unrestricted educational grant from Medtronic.

GPT 7: Rating scales and assessment tools
12:15 – 13:45
Location: Wicklow Hall 1, Level 2
Leaders: A. Peter Moore
Liverpool, United Kingdom
Tove Henriksen
Copenhagen, Denmark

GPT 8: Parkinson's disease: Neuropharmacology
12:15 – 13:45
Location: Wicklow Hall 2, Level 2
Leaders: Joaquim Ferreira
Lisbon, Portugal
Thomas Foltynie
London, United Kingdom

Poster Session 3

12:15 – 13:45
Abstract Numbers: 612 – 945
Location: Linear Park Marquee
Poster Viewing: 9:00 – 18:00

Corporate Therapeutic Symposia

13:45 – 14:45
Please see pages 52–53 for more information.

3207 Parallel Session TICKET

Is Parkinson's disease a mitochondrial or proteostatic disorder?

15:15 – 17:15
Location: Liffey A, Level 1
Chairs: Gavin Davey
Dublin, Ireland
D. James Surmeier
Chicago, IL, USA

15:15 Oxidative stress and mitochondrial dysfunction in Parkinson's disease
D. James Surmeier
Chicago, IL, USA

15:55 Proteostatic dysfunction in Parkinson's disease
David Sulzer
New York, NY, USA

16:35 Crosstalk between mitochondria and the proteasome
J. Timothy Greenamyre
Pittsburgh, PA, USA

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

1. Describe the origins of mitochondrial oxidant stress in Parkinson's disease and how it might be mitigated
2. Describe the role of proteostatic dysfunction in neuronal vulnerability in Parkinson's disease
3. Describe how a combination of mitochondrial and proteostatic deficits might accelerate neuronal pathogenesis in Parkinson's disease

Recommended Audience: Basic scientists, Students/Residents/Trainees

3208 Parallel Session TICKET

Imaging genetics in movement disorders

15:15 – 17:15
Location: Liffey Hall 1, Level 1
Chairs: Jose Obeso
Pamplona, Spain
Antonio Strafella
Toronto, ON, Canada

15:15 Imaging genomics: Mapping preclinical changes in Parkinson's disease
A. Jon Stoessl
Vancouver, BC, Canada

3208 Parallel Session TICKET, cont.

15:55 Functional neural networks linking dopaminergic gene polymorphisms to behavioral cognition in Parkinson's disease
Antonio Strafella
Toronto, ON, Canada

16:35 Structural abnormalities in hereditary dystonia and other movement disorders
Stephane Lehericy
Paris, France

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

1. Describe functional imaging changes underlying preclinical Parkinson's disease and asymptomatic carriers
2. Identify abnormal connectivity and receptor changes in hereditary movement disorders
3. Explain how dopaminergic gene polymorphisms influence neural networks affecting behavior and cognition in Parkinson's disease

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

3209 Parallel Session TICKET

Update on DBS in hyperkinetic movement disorders

15:15 – 17:15
Location: Wicklow Hall 2, Level 2
Chairs: Paul Krack
Grenoble, France
Jens Volkmann
Würzburg, Germany

15:15 DBS in dystonia
Jens Volkmann
Würzburg, Germany

15:55 DBS in tremor
Valerie Fraix
Saint Martin D'Heres, France

16:35 DBS in Gilles de la Tourette syndrome
Veerle Visser-Vandewalle
Maastricht, Netherlands

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

1. Understand potential benefits and limitations of DBS in dystonia
2. Understand potential benefits and limitations of DBS in tremors
3. Understand potential benefits and limitations of DBS in Gilles de la Tourette syndrome

Recommended Audience: Clinical academicians, Practitioners

TUESDAY, JUNE 19, 2012

3210 Parallel Session TICKET

What is new in PSP?

15:15 – 17:15

Location: Liffey B, Level 1

Chairs: Irene Litvan
La Jolla, CA, USA
Günter Höglinger
Munich, Germany

15:15 **Etiopathogenesis of PSP: Genetics**
Günter Höglinger
Munich, Germany

15:55 **Etiopathogenesis of PSP: Occupation and Environment**
Irene Litvan
La Jolla, CA, USA

16:35 **Treatment of PSP and other tauopathies**
Adam Boxer
San Francisco, CA, USA

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

1. Recall the most recent advances in the potential role of genetics in the risk for PSP
2. Understand the most recent advances in the potential role of environmental and occupational factors in the etiopathogenesis of PSP
3. Explain the most recent advances in the treatment of PSP and other tauopathies

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

3309 Teaching Course TICKET

Frontotemporal dementias and parkinsonism

15:15 – 17:15

Location: Wicklow Hall 1, Level 2

Chairs: Hugh Harrington
Cork, Ireland
Ian Mackenzie
Vancouver, BC, Canada

15:15 **New advances in FTD genetics**
Bryan Traynor
Bethesda, MD, USA

15:55 **The molecular basis of FTD**
Ian Mackenzie
Vancouver, BC, Canada

16:35 **Clinical overlap of FTD and parkinsonism**
Zbigniew Wszolek
Jacksonville, FL, USA

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

1. Describe the relation of mutation in the C9ORF72 gene on chromosome 9 with the FTD, ALS and parkinsonian phenotypic presentations
2. Describe the heterogeneous molecular basis of FTD

3309 Teaching Course TICKET cont.

3. Discuss the overlap between FTD and parkinsonian syndromes

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

3310 Teaching Course TICKET

Update on levodopa-induced dyskinesias

15:15 – 17:15

Location: Liffey Hall 2, Level 1

Chairs: Giovanni Fabbrini
Rome, Italy
Susan Fox
Toronto, ON, Canada

15:15 **Pathophysiology of levodopa-induced dyskinesias**
Susan Fox
Toronto, ON, Canada

15:55 **Phenomenology, classification and assessment of levodopa-induced dyskinesias**
Giovanni Fabbrini
Rome, Italy

16:35 **Preventative and management strategies for levodopa-induced dyskinesias**
Federico Micheli
Buenos Aires, Argentina

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

1. Understand the current concepts of the pathophysiology of levodopa-induced dyskinesias
2. Be able to evaluate and assess patients with levodopa-induced dyskinesias
3. Understand how to prevent and manage levodopa-induced dyskinesias

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

3403 Skills Workshop TICKET

Movement Disorders Grand Rounds

15:15 – 17:15

Location: The Auditorium, Levels 3, 4, 5

In this interactive session, four to five volunteer patients with a known complex movement disorder will be in attendance. The patients, their history and clinical findings (including videotape of the movement disorder) will be presented by the Registrar/Resident/Fellow to one of the four movement disorder "experts." The expert will review the history with the patient and highlight and demonstrate the neurological signs to the audience, who can ask questions of the patient and the

3403 Skills Workshop TICKET, cont.

expert. The expert's job is to generate a differential diagnosis and management plan which can be critiqued by his/her fellow experts, the audience and the chairs. The session will show how a movement disorders expert takes a clinical history and performs a movement disorders examination of a patient to generate a diagnosis and a management plan. The faculty will discuss and debate the differential diagnosis. Audience participation and critique is encouraged. The final diagnosis and learning point will be presented after the expert and audience discussion is finished.

Chairs: Michael Farrell
Dublin, Ireland
Timothy Lynch
Dublin, Ireland

Experts: Niall Quinn
London, United Kingdom
Kapil Sethi
Augusta, GA, USA
Anthony Lang
Toronto, ON, Canada
Victor Fung
Westmead, Australia

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

1. Detail a movement disorder history including relevant family history
2. Identify how a movement disorder expert interacts with, examines and assesses a patient (and family) with a complex movement disorder
3. Assimilate clinical data and order relevant investigations to generate a differential diagnosis and management strategy for a complex movement disorder

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

3404 Skills Workshop TICKET

How to critically read and interpret genetic and molecular biological literature in movement disorders (e.g. GWAS studies)

17:45 – 19:15

Location: Wicklow Hall 2, Level 2

In this interactive session, faculty will review the conceptual framework and limitations of studies aimed at determining the role of genetic variation in the risk of developing movement disorders.

Vincenzo Bonifati
Rotterdam, Netherlands
Jeffery Vance
Miami, FL, USA

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3404 Skills Workshop TICKET, cont.

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

1. Understand the strengths and limitations of genetic models of movement disorders
2. Understand how GWAS studies should be designed
3. Know the common shortcomings of GWAS studies of movement disorders

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

3405 Skills Workshop TICKET

Lessons learned from the MDS-UPDRS

17:45 – 19:15

Location: Liffey Hall 1, Level 1

In this interactive session, new data related to the characteristics and performance of the MDS-UPDRS concerning transformation to and from UPDRS scores, comparison between samples from different countries, and outcomes research based on the MDS-UPDRS will be shown.

Marcelo Merello
Buenos Aires, Argentina

Pablo Martinez-Martin
Madrid, Spain

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

1. Better understand the structure, properties, and appropriateness of the MDS-UPDRS
2. Understand the relationship between scores from the UPDRS and MDS-UPDRS
3. Explain the experience in the application of the MDS-UPDRS by experts involved and not involved in its development

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

3406 Skills Workshop TICKET

Modern concepts of palliative care and end of life issues in parkinsonism

17:45 – 19:15

Location: Wicklow Hall 1, Level 2

In this interactive session, problematic end-stage Parkinson's disease cases submitted by the audience and by the faculty will be discussed and algorithms to improve quality of care and quality of life will be reviewed.

Peter Fletcher
Cheltenham, United Kingdom

Janis Miyasaki
Toronto, ON, Canada

3406 Skills Workshop TICKET, cont.

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

1. Understand the problems encountered in very advanced Parkinson's disease patients
2. Discuss management of motor and non-motor symptoms in these patients
3. Understand the role of palliative care in the context of Parkinson's disease

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

3407 Skills Workshop TICKET

Multidisciplinary care for Parkinson's disease: Why, who, and when?

17:45 – 19:15

Location: Liffey A, Level 1

In this interactive session, the faculty will engage in a debate with the audience to review the pros and cons of a multidisciplinary team approach for Parkinson's disease patients.

Nir Giladi
Tel Aviv, Israel

Marten Munneke
Nijmegen, Netherlands

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

1. Understand why Parkinson's disease patients require a multidisciplinary team approach
2. Summarize which professionals could be part of this team, and explain the various types of multidisciplinary care
3. Discuss the evidence base and cost-effectiveness of multidisciplinary care in Parkinson's disease

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

Supported by an unrestricted educational grant from Abbott.

3508 Video Session TICKET

Clinical clues and pearls in the recognition of the primary dystonias and dystonia-plus syndromes: Genotype-Phenotype correlation

17:45 – 19:15

Location: The Auditorium, Levels 3, 4, 5

In this interactive session, classical examples of primary dystonias and dystonia plus syndromes will be presented and discussed. Features helping in the differential diagnosis and in initiating adequate genetic testing will be elaborated by the audience.

Marie Vidailhet
Paris, France

Susan Bressman
New York, NY, USA

3508 Video Session TICKET, cont.

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

1. Understand the classification and genotype/phenotype of the primary dystonias and their classical presentations
2. Describe the spectrum of movement disorders associated with dystonia-plus syndromes
3. Discuss the most relevant differential diagnoses and initiate adequate genetic testing

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

Supported by an unrestricted educational grant from Ipsen.

3509 Video Session TICKET

The eyes as a window into the diagnosis of movement disorders

17:45 – 19:15

Location: Liffey Hall 2, Level 1

In this interactive session, participants will learn how to examine eye movements and observe the eye movement abnormalities that are characteristic of ataxic and extrapyramidal syndromes.

Janet Rucker
New York, NY, USA

R. John Leigh
Cleveland, OH, USA

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

1. Describe different forms of ocular motility disorder
2. Identify eye movement abnormalities in inherited ataxias
3. Identify eye movement abnormalities in extrapyramidal disorders

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

3510 Video Session TICKET

Unusual movement disorders: A potpourri

17:45 – 19:15

Location: Liffey B, Level 1

In this interactive session, the faculty will show a variety of rare and unusual hypokinetic and hyperkinetic movement disorders. An organized approach to the differential diagnosis will be discussed. Audience participation is encouraged and they may bring unusual cases for presentation.

Alberto Espay
Cincinnati, OH, USA

Kailash Bhatia
London, United Kingdom

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3510 Video Session TICKET, cont.

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

1. Identify rare hypokinetic movement disorders and differentiate these from the common varieties
2. Discuss unusual hyperkinetic movement disorders
3. Describe an approach to the differential diagnosis of unusual movement disorders

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

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4103 Plenary Session IX

Presidential Lectures

8:00 – 10:00

Location: The Auditorium, Levels 3, 4, 5

Chairs: Günther Deuschl
Kiel, Germany

Matthew Stern
Philadelphia, PA, USA

8:00 **Stanley Fahn Lecture: The Edgelands of the Shaking Palsy**
Andrew Lees
London, United Kingdom

8:30 **Junior Award Lectures**
Marios Politis
London, United Kingdom

Norbert Brüggemann
Lübeck, Germany

Karin Tuschl
London, United Kingdom

9:30 **C. David Marsden Lecture: Using genetic analysis to get at the biology of Parkinson's disease**
John Hardy
London, United Kingdom

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

1. Emphasize the ongoing importance of scrupulous history taking, meticulous observations and adductive reasoning in the specialty of movement disorders
2. Investigate the role of serotonergic (5-HT) terminals in peak-dose L-DOPA-induced dyskinesias (LIDs) in Parkinson's disease (PD)
3. Understand disease mechanisms and therapeutical options in complex doparesponsive syndromes
4. Understand the role of manganese metabolism in movement disorders
5. Understand the genetics of Parkinson's disease and the extent to which we can map the genes we hae found onto biochemical pathways

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

4104 Plenary Session X

At-risk cohorts for Parkinson's disease: Where do we stand?

10:30 – 12:00

Location: The Auditorium, Levels 3, 4, 5

Chairs: Daniel Healy
Dublin, Ireland

Matthew Stern
Philadelphia, PA, USA

10:30 **Markers for pre-manifest Parkinson's disease**
Matthew Stern
Philadelphia, PA, USA

11:00 **What are we learning from our pre-manifest Parkinson's disease cohorts?**
Daniela Berg
Tübingen, Germany

11:30 **Are we ready to conduct clinical trials in pre-manifest Parkinson's disease?**
Olivier Rascol
Toulouse, France

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

1. Understand the challenges of diagnosing pre-manifest Parkinson's disease and characterize markers according to their predictive value
2. Consider essentials for designing a pre-Parkinson's disease study
3. Discuss prerequisites to conduct clinical trials in pre-manifest Parkinson's disease

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

Guided Poster Tours

*Ticket required for all Guided Poster Tours – visit the MDS Booth (Exhibition Hall) for tickets and information.

GPT 9: Genetics
12:00 – 13:30
Location: Liffey Hall 1, Level 1
Leaders: Thomas Gasser
Tübingen, Germany
Matthew Farrer
Vancouver, BC, Canada

GPT 10: Parkinson's disease: Phenomenology
12:00 – 13:30
Location: Liffey Hall 2, Level 1
Leaders: Stanley Fahn
New York, NY, USA
Joseph Jankovic
Houston, TX, USA

Guided Poster Tours, cont.

GPT 11: Huntington's disease
12:00 – 13:30
Location: Wicklow Hall 1, Level 2
Leaders: M. Flint Beal
New York, NY, USA
John Hardy
London, United Kingdom

GPT 12: Parkinson's disease: Behavioral disorders
12:00 – 13:30
Location: Wicklow Hall 2, Level 2
Leaders: Daniel Weintraub
Ardmore, PA, USA
K. Ray Chaudhuri
London, United Kingdom

Poster Session 4

12:00 – 13:30
Location: Linear Park Marquee
Abstracts: 946 – 1281
Poster Viewing: 9:00 – 18:00

Late-Breaking Abstracts Poster Session

12:00 – 13:30
Location: The Forum
Poster Viewing:
9:00 – 18:00 (June 18 – 20)
9:30 – 16:00 (June 21)

Corporate Therapeutic Symposia

13:30 – 14:30
Please see pages 52–53 for more information.

4208 Parallel Session TICKET

What is essential tremor?

15:00 – 17:00

Location: Liffey A, Level 1

Chairs: Günther Deuschl
Kiel, Germany

Rodger Elble
Springfield, IL, USA

15:00 **A clinical perspective**
Rodger Elble
Springfield, IL, USA

15:40 **A neurophysiological perspective**
Alfons Schnitzler
Düsseldorf, Germany

16:20 **A biological perspective**
Alexander Rajput
Saskatoon, SK, Canada

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

1. Identify the controversies related to what constitutes essential tremor and its association with other movement disorders

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4208 Parallel Session TICKET, cont.

2. Recognize the genetic heterogeneity of essential tremor and the challenges to defining its genetic basis
3. Discuss the various pathological findings that have been associated with essential tremor and the controversies related to these

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

4209 Parallel Session TICKET

Paraneoplastic and other autoimmune movement disorders

15:00 – 17:00

Location: The Auditorium, Levels 3, 4, 5

Chairs: Victor Fung
Westmead, Australia
Angela Vincent
Headington, United Kingdom

15:00 **Pathogenesis of paraneoplastic syndromes**
Angela Vincent
Headington, United Kingdom

15:40 **Diagnosis and management of paraneoplastic syndromes which present with a hyperkinetic movement disorder**
Thomas Kimber
Adelaide, Australia

16:20 **Diagnosis and management of paraneoplastic syndromes which present with stiffness or rigidity**
Hans-Michael Meinck
Heidelberg, Germany

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

1. Understand the pathogenesis of different paraneoplastic syndromes
2. Describe specific paraneoplastic syndromes which present with movement disorders
3. Describe an approach to the diagnosis and management of paraneoplastic syndromes

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

4210 Parallel Session TICKET

What is new in mild cognitive impairment in Parkinson's disease?

15:00 – 17:00

Location: Liffey B, Level 1

Chairs: Dag Aarsland
Stavanger, Norway
Roger Barker
Cambridge, United Kingdom

4210 Parallel Session TICKET, cont.

15:00 **Defining mild cognitive impairment in Parkinson's disease**
Jennifer Goldman
Chicago, IL, USA

15:40 **Epidemiology and etiology of mild cognitive impairment in Parkinson's disease**
Dag Aarsland
Stavanger, Norway

16:20 **Etiology of mild cognitive impairment in Parkinson's disease**
Roger Barker
Cambridge, United Kingdom

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

1. Identify novel criteria for defining mild cognitive impairment in Parkinson's disease
2. Define the epidemiology of mild cognitive impairment in Parkinson's disease
3. Understand the underlying etiopathologyof mild cognitive impairment in Parkinson's disease

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

4211 Parallel Session TICKET

Movement disorders in the arts

15:00 – 17:00

Location: Liffey Hall 1, Level 1

Chairs: Francisco Cardoso
Belo Horizonte, Brazil
Gerald Stern
London, United Kingdom

15:00 **Movement disorders and the visual arts**
Gerald Stern
London, United Kingdom

15:40 **Movement disorders in music**
Eckart Altenmüller
Hannover, Germany

16:20 **Movement disorders and literature**
Francisco Cardoso
Belo Horizonte, Brazil

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

1. Describe representations of movement disorders in visual arts and literature
2. Explain how famous musicians were afflicted by movement disorders
3. Discuss the potential role of movement disorders of authors in shaping their works

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

4212 Parallel Session TICKET

Does the sensory system play a role in movement disorders?

15:00 – 17:00

Location: Wicklow Hall 1, Level 2

Chairs: Michael Hutchinson
Dublin, Ireland
John Rothwell
London, United Kingdom

15:00 **The sensory systems control movement**
John Rothwell
London, United Kingdom

15:40 **Abnormalities of the sensory systems in dystonia**
Ryuji Kaji
Tokushima City, Japan

16:20 **Do changes in the sensory system play a role in Parkinson's disease**
Alfredo Berardelli
Rome, Italy

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

1. Understand the principal ways in which sensory input is used to control voluntary movement
2. Describe how demonstrated disorders of sensory processing contribute to symptoms of focal and generalized dystonia
3. Interpret how sensory deficits may contribute to motor disturbances in Parkinson's disease

Recommended Audience: Basic scientists, Clinical academicians, Health Professionals (Non-Physician), Students/Residents/Trainees

4307 Teaching Course TICKET

Update on chorea

15:00 – 17:00

Location: Liffey Hall 2, Level 1

Chairs: Oscar Gershanik
Buenos Aires, Argentina
Richard Walsh
Dublin, Ireland

15:00 **Phenomenology and differential diagnosis**
Oscar Gershanik
Buenos Aires, Argentina

15:40 **Non-genetic choreas**
Mohit Bhatt
Mumbai, India

16:20 **Genetic choreas**
Sarah Tabrizi
London, United Kingdom

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

1. Understand the principal ways in which sensory input is used to control voluntary movement

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4307 Teaching Course TICKET, cont.

2. Describe how demonstrated disorders of sensory processing contribute to symptoms of focal and generalized dystonia
3. Interpret how sensory deficits may contribute to motor disturbances in Parkinson's disease

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

4308 Teaching Course TICKET

Update on atypical parkinsonism

15:00 – 17:00

Location: Wicklow Hall 2, Level 2

Chairs: Fiona Molloy
Dublin, Ireland
Louis Tan
Singapore

15:00 **Nosology of atypical parkinsonism**
Roongroj Bhidayasiri
Bangkok, Thailand

15:40 **Clinico-pathological correlation**
Helen Ling
London, United Kingdom

16:20 **Current treatment strategies for MSA, PSP and CBS**
Maria Stamelou
Corinth, Greece

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

1. Recognize the key clinical features of MSA, PSP and CBS
2. Review investigations that may help distinguish atypical parkinsonism
3. Discuss management strategies for atypical parkinsonism

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

4403 Skills Workshop TICKET

DBS technical and troubleshooting issues

17:30 – 19:00

Location: Liffey B, Level 1

In this interactive session, problematic DBS cases will be discussed by the audience and by the faculty consisting of a neurologist and a neurosurgeon and algorithms to improve outcome will be reviewed.

Karl Sillay
Madison, WI, USA
Michael Okun
Gainesville, FL, USA

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

1. Understand stimulation induced side effects and how they can influence decision on programming

4403 Skills Workshop TICKET, cont.

2. Define strategies in adaptation of stimulation parameters
3. Identify technical problems that need referral to the surgeon

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

Supported by an unrestricted educational grant from Medtronic.

4404 Skills Workshop TICKET

How to interpret the mysteries of RNA and mitochondrial-mediated pathophysiology in movement disorders

17:30 – 19:00

Location: Liffey Hall 1, Level 1

In this interactive session, discussion will be held on some of the emerging new ideas on the cellular pathology of movement disorders, especially in terms of mitochondrial and RNA processes and processing.

Peter Todd
Ann Arbor, MI, USA
Carolyn Sue
Sydney, Australia

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

1. Describe the mechanisms and techniques used to elucidate the role of RNA in neurodegeneration
2. Understand the range of movement disorders associated with mitochondrial disease
3. Explain the techniques involved to determine mitochondrial dysfunction

Recommended Audience: Basic scientists, Clinical academicians, Practitioners

4405 Skills Workshop TICKET

Pediatric movement disorders

17:30 – 19:00

Location: Liffey Hall 2, Level 1

In this interactive session, participants will learn how to recognize the phenomenology of movement disorders in infants and children due to inborn errors of metabolism or infectious and autoimmune causes of encephalitis.

Mary King
Dublin, Ireland
Teresa Temudo
Porto, Portugal

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

1. Recognize the phenomenology of movement disorders in infants and children
2. Identify an approach to the diagnosis of infantile onset movement disorders

4405 Skills Workshop TICKET, cont.

3. State an approach to the diagnosis of juvenile onset movement disorders

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

4406 Skills Workshop TICKET

Understanding and managing driving impairment in Parkinson's disease

17:30 – 19:00

Location: Wicklow Hall 1, Level 2

In this interactive session, typical impairments in driving performance seen in Parkinson's disease patients will be explored and the underlying mechanisms and rational management of this important disability will be discussed.

Ergun Yasar Uc
Iowa City, IA, USA
Sherrilene Classen
Gainesville, FL, USA

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

1. Discuss the common impairments in driving performance seen in Parkinson's disease patients
2. Understand the underlying mechanisms leading to driving difficulty in Parkinson's disease, including the contributions of impaired executive function and visual perception
3. Become familiar with the appropriate clinical evaluation and subsequent management of driving dysfunction in Parkinson's disease

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

4507 Video Session TICKET

Clinical clues and pearls in the recognition of genetic forms of parkinsonism

17:30 – 19:00

Location: Liffey A, Level 1

In this interactive session, the faculty will review clinical pearls of genetic parkinsonism and present and discuss video examples of the various known forms of hereditary parkinsonism.

Daniel Healy
Dublin, Ireland
Ebba Lohmann
Kavacik, Turkey

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

1. Identify red flags pointing towards genetic forms of parkinsonism

WEDNESDAY, JUNE 20, 2012

4507 Video Session TICKET, cont.

2. Distinguish between clinically typical and clinically atypical genetic forms of parkinsonism
3. Describe the pertinent clinical findings of the different forms of genetic parkinsonism and appreciate the broad phenotypic spectrum of these disorders

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

4508 Video Session TICKET

Episodic twitches and jumps: Paroxysmal dyskinesias and the startle conditions

17:30 – 19:00

Location: Wicklow Hall 2, Level 2

In this interactive session, the faculty will demonstrate different forms of paroxysmal dyskinesias and startle disorders pointing out the salient features to help recognize the different types. They will provide an update with regard to the genetic forms and secondary types and also provide guidelines to investigations using appropriate examples. Lastly, treatment strategies will be discussed again showing appropriate video examples.

Susanne Schneider
Lübeck, Germany

Marina de Koning-Tijssen
Amsterdam, Netherlands

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

1. Recognize and identify different forms of paroxysmal movement disorders and startle and related conditions
2. Be updated regarding genetic advances in the primary conditions and form an approach to investigations in patients with a suspected secondary cause
3. Identify effective treatments and management strategies in different forms of paroxysmal dyskinesias and startle syndromes and related disorders

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

4509 Video Session TICKET

Unusual presentations of common movement disorders

17:30 – 19:00

Location: The Auditorium, Levels 3, 4, 5

In this interactive session, the faculty will present videos of unusual presentations of common hyperkinetic and hypokinetic movement disorders and discuss the clues to recognize these conditions with audience participation. They will highlight appropriate investigations and treatment strategies.

Steven Frucht
New York, NY, USA

Matthew Brodsky
Portland, OR, USA

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

1. Identify and recognize unusual presentations of some common hyperkinetic and hypokinetic movement disorders
2. Form a plausible list of differential diagnosis in a given patient with a unusual movement disorder
3. Plan an investigation and management strategy

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

MDS Video Games Pre-Event Gathering

19:00 – 20:00

Location: Foyers, Levels 3, 4, 5

MDS Video Games

20:00 – 23:00

Location: The Auditorium, Levels 3, 4, 5

Masters of Ceremony:
Anthony Lang
Kapil Sethi

The two teams of Experts:

TEAM 1:

Alberto Espay
Daniel Healy
Christine Klein
Marcelo Merello

TEAM 2:

Bastiaan Bloem
Hubert Fernandez
Thomas Warner
Ruey-Meei Wu

THURSDAY, JUNE 21, 2012

5101 Plenary Session XI

What have we learned about alpha-synuclein biology recently?

8:00 – 9:30

Location: The Auditorium, Levels 3, 4, 5

Chairs: Robert Edwards
San Francisco, CA, USA

Maria Grazia Spillantini
Cambridge, United Kingdom

THURSDAY, JUNE 21, 2012

5101 Plenary Session XI, cont.

8:00 **The role of alpha-synuclein in exocytosis**
Robert Edwards
San Francisco, CA, USA

8:30 **Alpha-synuclein aggregation and pathogenesis in Parkinson's disease**
Maria Grazia Spillantini
Cambridge, United Kingdom

9:00 **Animal models of synucleinopathy**
Deniz Kirik
Lund, Sweden

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

1. Understand the normal role of alpha-synuclein in neurons and if this role is linked to pathogenesis
2. Describe how over-expression or mutation of alpha-synuclein leads to aggregation and, potentially, spread of the pathology within the brain
3. Define how the understanding of alpha synuclein biology informs the development of therapeutics

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

5102 Controversies

Controversies in Movement Disorders

10:00 – 11:00

Location: The Auditorium, Levels 3, 4, 5

Chairs: Andrew Lees
London, United Kingdom

Antonio Strafella
Toronto, ON, Canada

10:00 **(YES) Animal models predict neuroprotection in Parkinson's disease**
Serge Przedborski
New York, NY, USA

10:15 **(NO) Animal models predict neuroprotection in Parkinson's disease**
Anthony Lang
Toronto, ON, Canada

10:30 **(YES) Essential tremor is predictive of Parkinson's disease**
Elan Louis
New York, NY, USA

10:45 **(NO) Essential tremor is predictive of Parkinson's disease**
Charles Adler
Scottsdale, AZ, USA

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5102 Controversies, cont.

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

1. Describe the limits, disadvantages and advantages of animal models
2. Evaluate whether animal models may have a role in neuroprotection
3. Evaluate the role of essential tremor in Parkinson's disease

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

5103 Blue Ribbon Highlights

11:00 – 12:00
Location: The Auditorium, Levels 3, 4, 5

Chairs: Christopher Goetz
Chicago, IL, USA
Timothy Lynch
Dublin, Ireland

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

Hubert Fernandez
Cleveland, OH, USA
Jose Obeso
Pamplona, Spain

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

1. Understand the key new scientific findings from the poster presentations at the 2012 MDS International Congress
2. List the target areas of research focus for 2012-2013
3. Identify future primary areas of research in movement disorders

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

Guided Poster Tours

*Ticket required for all Guided Poster Tours – visit the MDS Booth (Exhibition Hall) for tickets and information

GPT 13: Dystonia
12:00 – 13:30
Location: Liffey Hall 1, Level 1
Leaders: Cynthia Comella
Chicago, IL, USA
Susan Bressman
New York, NY, USA

Supported by an unrestricted educational grant from Medtronic.

Guided Poster Tours, cont.

GPT 14: Parkinsonisms (parkinson plus and secondary)
12:00 – 13:30
Location: Liffey Hall 2, Level 1
Leaders: Adam Boxer
San Francisco, CA, USA
Maria Stamelou
London, United Kingdom

GPT 15: Tremor
12:00 – 13:30
Location: Wicklow Hall 1, Level 2
Leaders: Victor Fung
Westmead, Australia
Roger Elble
Springfield, IL, USA

GPT 16: Surgical therapy of movement disorders other than Parkinson's disease
12:00 – 13:30
Location: Wicklow Hall 2, Level 2
Leaders: Antonio Strafella
Toronto, ON, Canada
Paul Krack
Grenoble, France

Supported by an unrestricted educational grant from Medtronic.

Poster Session 5

12:00 – 13:30
Location: Linear Park Marquee
Abstract Numbers: 1282 – 1598
Poster Viewing: 9:00 – 16:00

Corporate Therapeutic Symposium

13:30 – 14:30
Please see pages 52–53 for more information.

5205 Parallel Session TICKET

Gaucher's and Parkinson's disease: How are they linked?

15:00 – 17:00
Location: Liffey A, Level 1
Chairs: Gregory Grabowski
Cincinnati, OH , USA
Ellen Sidransky
Bethesda, MD, USA

15:00 Glucocerebrosidase mutations as a risk factor for parkinsonism
Ellen Sidransky
Bethesda, MD, USA

5205 Parallel Session TICKET, cont.

15:40 How is glucocerebrosidase linked to synucleinopathies?
Joe Mazzulli
Charlestown, MA, USA

16:20 Experimental models of Gaucher's disease: Therapeutic strategies for synucleinopathies
Gregory Grabowski
Cincinnati, OH , USA

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

1. Understand the role of glucocerebrosidase mutations in Parkinson's disease
2. Discuss how rare diseases inform about common disorders
3. Evaluate the emerging role of lysosomes in neurodegeneration

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

5206 Parallel Session TICKET

New genes, knowledge and treatments for multiple system atrophy

15:00 – 17:00
Location: Liffey B, Level 1
Chairs: Glenda Halliday
Randwick, Australia
Gregor Wenning
Innsbruck, Austria

15:00 Genetic news in multiple system atrophy
Hidenao Sasaki
Sapporo, Japan

15:40 Progression of degeneration in multiple system atrophy
Maria Teresa Pellecchia
Naples, Italy

16:20 Treatment developments for multiple system atrophy
Gregor Wenning
Innsbruck, Austria

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

1. Identify new genes implicated in multiple system atrophy
2. Describe the progression of degeneration in multiple system atrophy
3. Understand new treatment developments for multiple system atrophy

Recommended Audience: Basic scientists, Clinical academicians, Practitioners

THURSDAY, JUNE 21, 2012

5207 Parallel Session TICKET

Markers of cognitive decline and dementia in Parkinson's disease

15:00 – 17:00

Location: The Auditorium, Levels 3, 4, 5

Chairs: David John Burn
Newcastle upon Tyne, United Kingdom
Marcelo Merello
Buenos Aires, Argentina

15:00 **Biochemical biomarkers of mild cognitive impairment and dementia in Parkinson's disease**
Alice Chen-Plotkin
Philadelphia, PA, USA

15:40 **Neuroimaging in mild cognitive impairment and Parkinson's disease dementia**
David Brooks
London, United Kingdom

16:20 **Clinical markers of dementia development in Parkinson's disease**
David John Burn
Newcastle upon Tyne, United Kingdom

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

1. List biomarkers of cognitive impairment in non-demented Parkinson's disease patients
2. Describe which biomarkers predict long term cognitive decline in Parkinson's disease patients
3. Discuss which biomarkers may serve as pre-clinical biomarkers of cognitive impairment in Parkinson's disease patients

Recommended Audience: Basic scientists, Clinical academicians, Practitioners

5208 Parallel Session TICKET

Breakthroughs in animal models in neurodegeneration

15:00 – 17:00

Location: Liffey Hall 1, Level 1

Chairs: Erwan Bezard
Bordeaux, France
Chenjian Li
New York, NY, USA

15:00 **New animal models for Parkinson's disease using BAC technology**
Chenjian Li
New York, NY, USA

5208 Parallel Session TICKET, cont.

15:40 **Development of transgenic monkeys using local or systemic viral vector delivery**
Erwan Bezard
Bordeaux, France

16:20 **The future is enhancing cell specific viral vector delivery**
Deniz Dalkara
Berkeley, CA, USA

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

1. Describe bacterial artificial chromosome (BAC) technology and its value for modeling neurodegeneration
2. Understand the capabilities of adeno-associated virus subtypes for transfecting the brain after systemic administration
3. Know the potential of "directed evolution" for producing cell-specific viral vectors with therapeutic potential

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

5209 Parallel Session TICKET

Making sense of disability and quality of life in Parkinson's disease

15:00 – 17:00

Location: Wicklow Hall 1, Level 2

Chairs: Pablo Martinez-Martin
Madrid, Spain
Andrew Siderowf
Philadelphia, PA, USA

15:00 **Patient-reported outcomes and Parkinson's disease**
Christopher Goetz
Chicago, IL, USA

15:40 **Impairments, disability and quality of life in Parkinson's disease**
Matilde Leonardi
Milano, Italy

16:20 **Decisional capacity in Parkinson's disease**
Andrew Siderowf
Philadelphia, PA, USA

5209 Parallel Session TICKET, Cont.

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

1. Understand the distinction between disability, health status, and quality of life concepts, and how these constructs can be measured, with particular reference to the MDS Task Force recommendations on health-related quality of life
2. Understand the concept, importance and methodology for identifying the disability and quality of life determinants, and the science to determine the effect of the change
3. Understand how Parkinson's disease affects patients abilities to make decisions including the decision to receive aggressive treatments and consent to research participation

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

5307 Teaching Course TICKET

Invasive therapies for advanced Parkinson's disease

15:00 – 17:00

Location: Liffey Hall 2, Level 1

Chairs: Per Odin
Bremerhaven, Germany
Pierre Pollak
Geneva, Switzerland

15:00 **Subcutaneous Apomorphine infusion**
Erik Wolters
Amsterdam, Netherlands

15:40 **Intestinal Levodopa infusion**
Per Odin
Bremerhaven, Germany

16:20 **Deep Brain Stimulation**
Pierre Pollak
Geneva, Switzerland

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

1. Describe methodology and expected clinical effects of the invasive therapies
2. Describe possible side effects and complications of the therapies
3. Discuss patient selection for invasive therapies, based on indications and contraindications

Recommended Audience: Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

Supported by an unrestricted educational grant from EVER Neuro Pharma GmbH.

THURSDAY, JUNE 21, 2012

5308 Teaching Course TICKET

The non-motor features of Parkinson's disease

15:00 – 17:00

Location: Wicklow Hall 2, Level 2

Chairs: Angelo Antonini
Venice, Italy
K. Ray Chaudhuri
London, United Kingdom

15:00 **Phenomenology of non-motor features in Parkinson's disease**
K. Ray Chaudhuri
London, United Kingdom

15:40 **How to assess the patients non-motor complaints**
Angelo Antonini
Venice, Italy

16:20 **Treatment of non-motor symptoms: What is available?**
Tove Henriksen
Copenhagen, Denmark

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

1. Describe the different types of non-motor features of Parkinson's disease
2. Evaluate the importance of non-motor features and assess their severity with validated tools
3. Recognize the need of therapy for non-motor features and select appropriate medications

Recommend Audience: Basic scientists, Clinical academicians, Practitioners, Health Professionals (Non-Physician), Students/Residents/Trainees

Dysport®

BOTULINUM TOXIN TYPE A

Be you

Presentation: Vials of 500 units of Clostridium botulinum type A toxin-haemagglutinin complex. **Indications:** The treatment of spasticity of the arm in patients following a stroke; and dynamic equinus foot deformity due to spasticity in ambulant paediatric cerebral palsy patients, 2 years of age or older. Spasmodic torticollis, blepharospasm and hemifacial spasm in adults. Persistant severe primary hyperhidrosis of the axillae, which interferes with the activities of daily living and is resistant to topical treatment. **Administration:** Dysport® should only be injected by specialists who have had administration training. Blepharospasm, hemifacial spasm and axillary hyperhidrosis reconstitute 500 units in 2.5 ml normal saline. Spasmodic torticollis and focal spasticity, reconstitute in 1 ml. **The units of Dysport® are specific to the preparation and are not interchangeable with other preparations of botulinum toxin. Posology:** The dose should be lowered for patients with low muscle mass or in whom the suggested dose may result in excessive weakness. See SPC for recommendations. **Arm spasticity:** The recommended dose is 1000 units in total, distributed among the most active arm muscles; biceps brachii (300-400 units); flexor digitorum profundus (150 units); flexor digitorum superficialis (150-250 units); flexor carpi ulnaris (150 units); flexor carpi radialis (150 units). Sites of injection should be guided by standard EMG locations, although actual sites will be determined by palpation. All muscle should be injected at one site, except for the biceps which should be injected at two sites. **Paediatric cerebral palsy:** Starting dose is 20 units/kg body weight given intramuscularly as a divided dose between calf muscles. If only one calf is affected, a dose of 10 units/kg body weight should be used. Consideration should be given to lowering this starting dose if there is evidence to suggest that this dose may result in excessive weakness of the target muscles. Subsequent treatment may be titrated within the range 10 units/kg and 30 units/kg divided between both legs. The maximum dose administered must not exceed 1000 units/patient. Injections may be repeated approximately every 16 weeks or as required to maintain response, but not more frequently than every 12 weeks. **Spasmodic torticollis:** The initial recommended dose is 500 units given intramuscularly as a divided dose to the two or three most active neck muscles. The split amongst muscles will vary according to the type of torticollis diagnosed. See the SPC for recommendations. Injections should be repeated approximately every 12 weeks or as required to prevent recurrence of symptoms. **Blepharospasm and hemifacial spasm:** The initial recommended dose is 120 units per affected eye; injections are given subcutaneously, medially and laterally into the junction between the preseptal and orbital parts of both the upper and lower orbicularis oculi muscles of each eye. Injections should be repeated approximately every 12 weeks or as required to prevent recurrence of symptoms. Subsequently the dose may be reduced to 80 units per eye and then to 60 units by omitting the medial lower lid injection. **Axillary hyperhidrosis:** The recommended initial dose is 100 units per axilla. Up to 200 units per axilla can be administered for subsequent injections. Maximum effect should be seen by week two after injection. Repeat injections not more often than every 16 weeks. See SPC **Contra-indications:** Dysport® is contraindicated in individuals with known hypersensitivity to any component of Dysport®. **Warnings and precautions:** Dysport® should be administered with caution to patients with existing swallowing or breathing difficulties or with subclinical or clinical evidence of marked defective neuromuscular transmission. Careful consideration should be given to the use of Dysport® in patients with a history of allergic reaction to a product containing botulinum toxin type A. Dysport® contains a small amount of human albumin. The risk of transmission of viral infection cannot be excluded with absolute certainty following the use of human blood products. Antibody formation to botulinum toxin has been noted rarely in patients receiving Dysport®. **Interactions:** The effect of botulinum toxin may be potentiated by aminoglycoside antibiotics or any other drugs that interfere with neuromuscular transmission, eg. tubocurarine-type muscle relaxants. **Pregnancy and lactation:** Teratological and other reproductive studies have not been performed with Dysport®. The safety of its use in pregnant or lactating women has not been demonstrated. **Side effects:** Side effects may occur due to deep or misplaced injections of Dysport® temporarily paralysing other nearby muscle groups. In general, adverse events reported in clinical trials included: *common:* generalised weakness, fatigue, flu-like syndrome, pain/bruising at injection site; *uncommon:* itching; *rare:* neuralgic amyotrophy, skin rashes. **Arm spasticity:** *common:* dysphagia, arm muscle weakness, accidental injury/falls. **Paediatric cerebral palsy:** *common:* diarrhoea, leg muscle weakness, urinary incontinence, abnormal gait, accidental injury due to falling. **Spasmodic torticollis:** *very common:* dysphagia; *common:* dysphonia, neck muscle weakness; *uncommon:* headache, diplopia, blurred vision, dry mouth; *rare:* respiratory disorders. **Blepharospasm and hemifacial spasm:** *very common:* ptosis; *common:* facial muscle weakness, diplopia, dry eyes, tearing, eyelid oedema; *uncommon:* facial nerve paresis; *rare:* entropion, ophthalmoplegia. **Axillary Hyperhidrosis:** *common:* Compensatory sweating; *uncommon:* paraesthenia. **Overdose:** Respiratory support may be required where excessive doses cause paralysis of respiratory muscles. There is no specific antidote; antitoxin should not be expected to be beneficial. **Pharmaceutical precautions:** Unopened vials must be maintained at temperatures between 2°C and 8°C. Reconstituted Dysport® may be stored in a refrigerator (2-8°C) for up to 8 hours prior to use. Do not freeze. **PA 583/1/1**. PA Holder: Ipsen Ltd, 190 Bath Road, Slough, Berkshire, SL1 3XE. Date of preparation of PI April 2009. Dysport® is a registered trademark. 3154. Further Information is available on request from: Ipsen Pharmaceuticals Ltd., 7 Upper Leeson Street, Dublin 4. Tel: 01 6681377 www.ipsen.ie - Before commencing treatment with Dysport® please consult the Summary of Product Characteristics for recommended dilutions and dosage.

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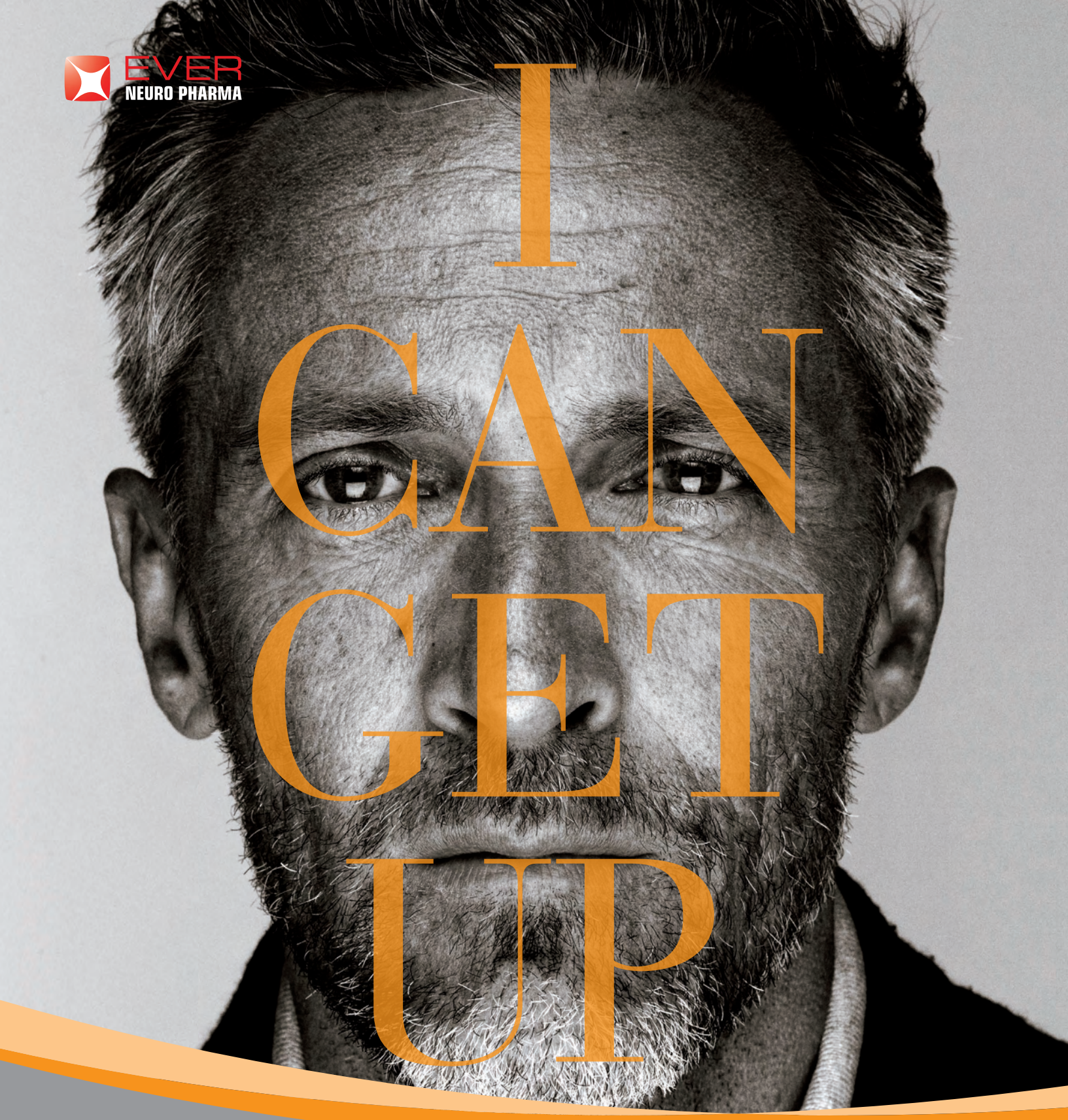
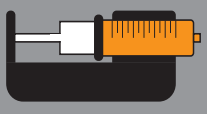


Parkinson's Disease in the advanced stage:
It´s a dire existence. It´s odd. Really. Caught in a cage of stiffness and unability. **Dacepton® gets them back to life.**
As the strongest non selective dopamine agonist, Dacepton® shortens the „off"-phases[1] and reduces the intensity of dyskinesias[2].
Dacepton® is the therapy with continuous dopaminergic stimulation for advanced Parkinson's disease via subcutaneous infusion.

1) Gunzler, 2009, 2) Kanovsky et al., 2002



SUBCUTANEOUS USE

Dacepton®
Apomorphine Hydrochloride

CORPORATE THERAPEUTIC SYMPOSIA

Monday, June 18, 2012

Ipsen

14:15 – 15:15
Location: Liffey A, Level 1

New perspectives in management of patients with cervical dystonia

Chair: Kailash Bhatia
London, United Kingdom

Patient perspectives in the management of cervical dystonia
Alistair Newton
Helensburgh, United Kingdom

Peter Misra
London, United Kingdom

Real life use of abobotulinum Toxin: Interim analysis of ANCHOR-CD study
Richard Trosch
Southfield, MI, USA

Torticollis & Torticaput classification: Refining the assessment of cervical dystonia
Wolfgang Jost
Wiesbaden, Germany

Tuesday, June 19, 2012

Abbott

13:45 – 14:45
Location: Liffey A, Level 1

The new standard of care in advancing Parkinson's disease: Continuous dopaminergic stimulation therapy?

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

Chair's Introduction
C. Warren Olanow
New York, NY, USA

Levodopa carbidopa intestinal gel (LCIG): Latest evidence and its implications for Parkinson's disease management?
Hubert Fernandez
Cleveland, OH, USA

Continuous dopaminergic stimulation therapy: Effect on symptoms, quality of life and outcomes
Per Odin
Bremerhaven, Germany

The value of care in optimizing outcomes in Parkinson's disease
Bastiaan Bloem
Nijmegen, Netherlands

Chair's Summary
Daniel Healy
Dublin, Ireland

Teva Pharmaceutical Industries Ltd., Teva Neuroscience Inc., and H. Lundbeck A/S

13:45 – 14:45
Location: Liffey B, Level 1

The evolution of treatment decisions in Parkinson's disease

Chair: Anthony Schapira
London, United Kingdom

Treating motor symptoms of PD – New considerations
Robert Hauser
Tampa, FL, USA

Treating PD – More than just motor control
Werner Poewe
Innsbruck, Austria

Panel discussion and Q&A

CORPORATE THERAPEUTIC SYMPOSIA

Wednesday, June 20, 2012

Allergan, Inc.

13:30 – 14:30
Location: Liffey A, Level 1

Great debates and hot topics in cervical dystonia

Chair: Giovanni Fabbrini
Rome, Italy

Opening remarks
Giovanni Fabbrini
Rome, Italy

Botulinum toxin differences and similarities – the great debate
Markus Naumann
Augsburg, Germany

Hot topics in cervical dystonia – what's the buzz?
Giovanni Fabbrini
Rome, Italy

EMG vs. no EMG and what about ultrasound – the great needle guidance debate
Axel Schramm
Erlangen, Germany

Panel discussion

Boehringer Ingelheim GmbH

13:30 – 14:30
Location: Liffey B, Level 1

Translating the evidence base to clinical practice:
A panel discussion
Tailor-made treatment in Parkinson's disease

Chair: Anthony Schapira
London, United Kingdom

Panel: Anthony Lang
Toronto, ON, Canada

Jose Obeso
Pamplona, Spain

Werner Poewe
Innsbruck, Austria

Matthew Stern
Philadelphia, PA, USA

Thursday, June 21, 2012

UCB Pharma SA

13:30 – 14:30
Location: Liffey A, Level 1

The many dimensions of Parkinson's disease

Chair: K. Ray Chaudhuri
London, United Kingdom

Mood and apathy in Parkinson's disease: Is it an important issue to my patient?
Robert Hauser
Tampa, FL, USA

From physiopathology to the symptom in Parkinson's disease: The gut theory
Dirk Woitalla
Bochum, Germany

Cognition in Parkinson's disease: A therapeutic conundrum
Paolo Barone
Napoli, Italy

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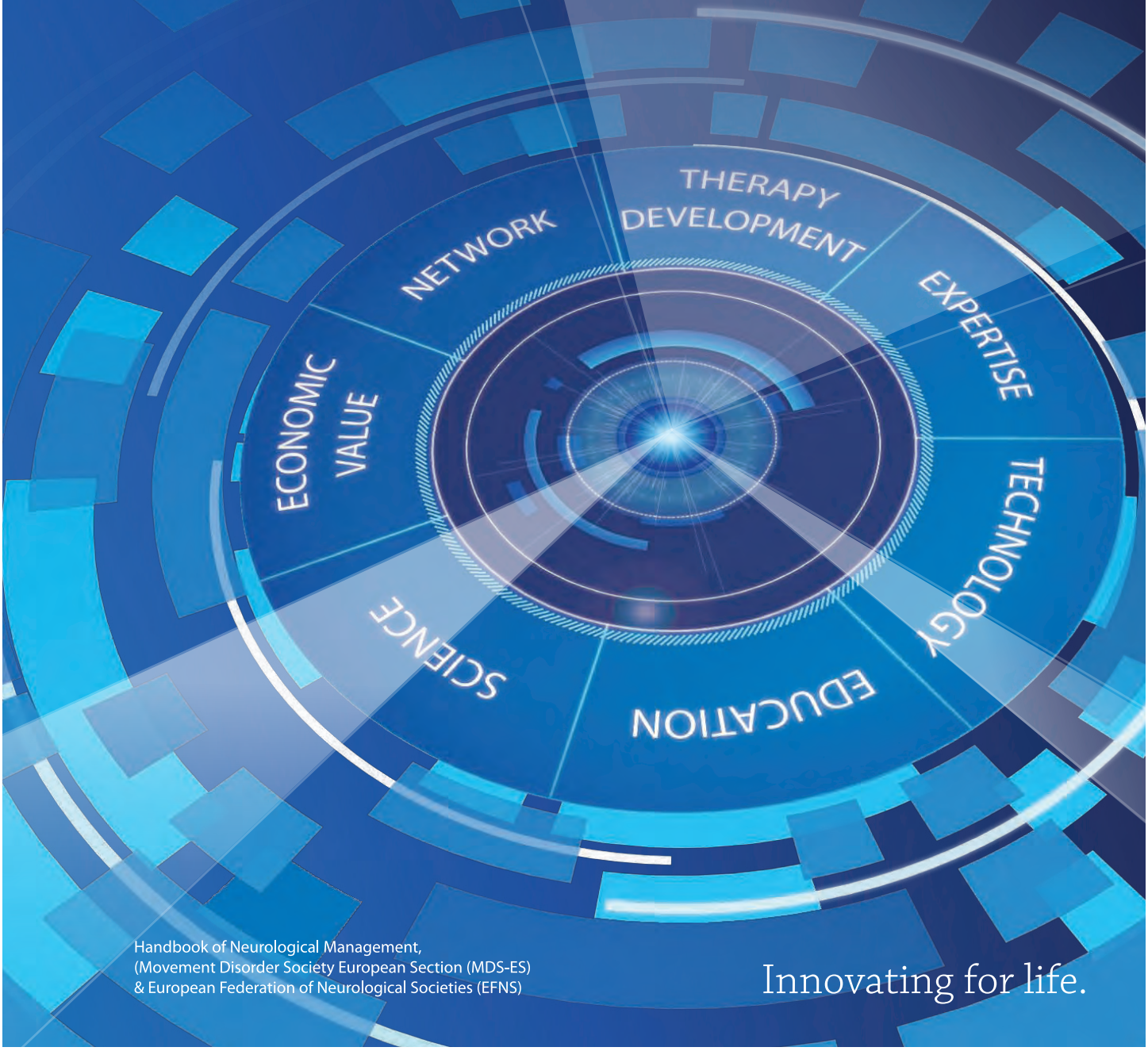
Level A recommended therapy by MDS-ES & EFNS for treating refractory PD



Handbook of Neurological Management,
(Movement Disorder Society European Section (MDS-ES)
& European Federation of Neurological Societies (EFNS)

Innovating for life.

EXHIBITOR INFORMATION

Exhibit Hall

Location: The Forum, Ground Level

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

Exhibit Hall hours are as follows:
Monday, June 18 ..... 10:00 – 18:30
Tuesday, June 19 ..... 10:00 – 18:00
Wednesday, June 20 ..... 10:00 – 18:00
Thursday, June 21 ..... 9:30 – 15:00

Exhibitor Registration

Location: Ground Level Foyer

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

Exhibitor Registration Desk hours are as follows:
Saturday, June 16 ..... 16:00 – 20:00
Sunday, June 17 ..... 7:00 – 18:00
Monday, June 18..... 7:00 – 18:00
Tuesday, June 19..... 7:00 – 18:00
Wednesday, June 20 ..... 7:00 – 18:00
Thursday, June 21 ..... 7:00 – 16:00

Exhibitor Badge Policy

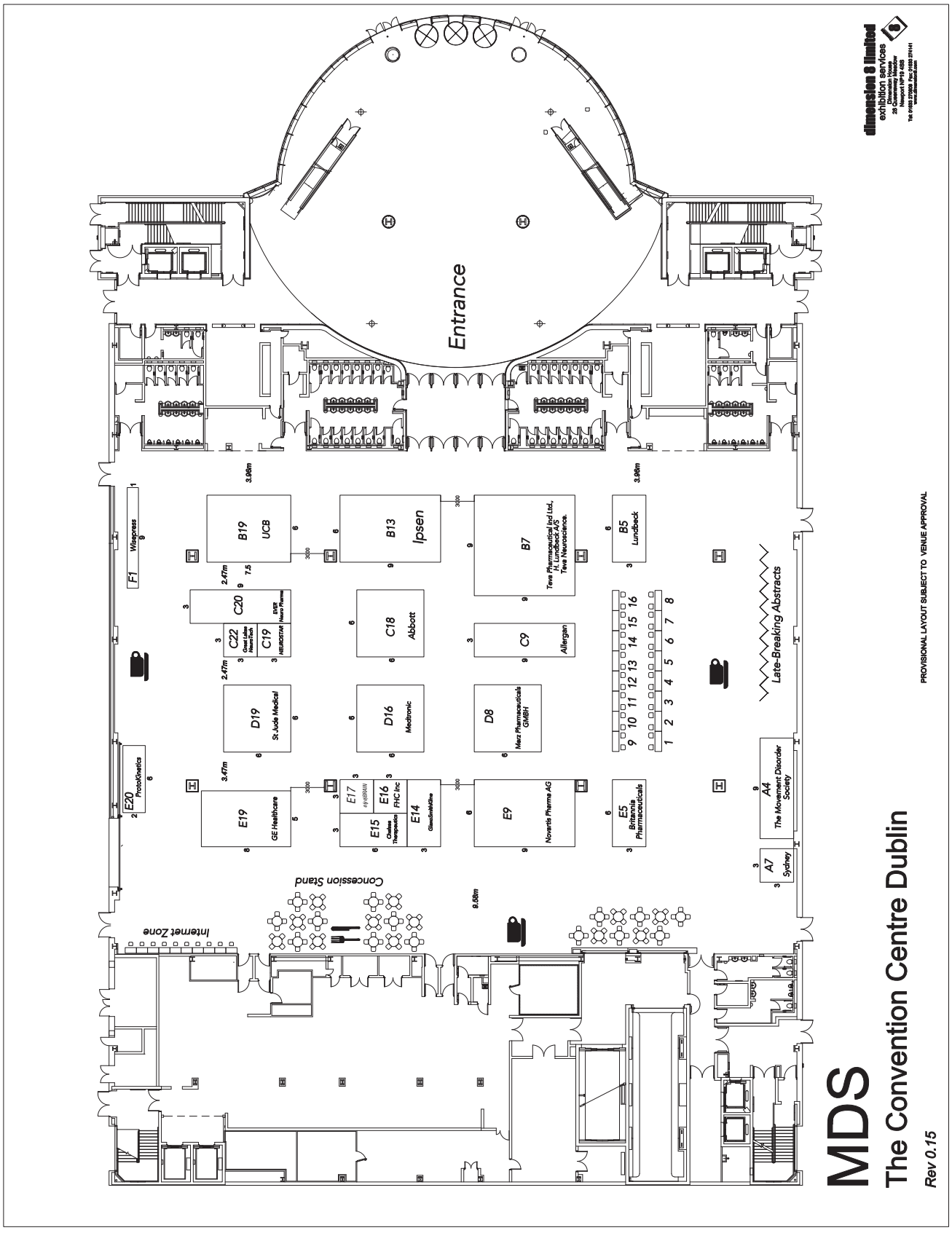
Admission to the Exhibit Hall will be by name badge only. Security guards will monitor Exhibit Hall entrances for proper identification. Exhibit stand personnel must show an official MDS exhibitor name badge in order to gain access to the Exhibit Hall during installation, show, or dismantlement hours.

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

Endorsement Disclaimer

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

EXHIBIT HALL FLOOR PLAN



EXHIBITOR DIRECTORY

ABBOTT

200 Abbott Park Road
Abbott Park, IL 60064
United States
Telephone: +1 414-937-6100
Website: www.abbott.com

Booth #: C18

Abbott is a global, broad-based health care company devoted to the discovery, development, manufacturing and marketing of pharmaceuticals and medical products, including nutritionals, devices and diagnostics. The company employs nearly 90,000 people and markets its products in more than 130 countries.

ALLERGAN, INC.

2525 Dupont Drive
Irvine, CA 92612
United States
Telephone: +1 714-246-4500
Fax: +1 714-246-6987
Website: www.allergan.com

Booth #: C9

Founded in 1950, Allergan, Inc., is a multi-specialty health care company that discovers, develops and commercializes innovative pharmaceuticals, biologics and medical devices that enable people to live life to its greatest potential – to see more clearly, move more freely, express themselves more fully. The Company employs approximately 8,000 people and operates state-of-the-art R&D facilities and world-class manufacturing plants. In addition to its discovery-to-development research organization, Allergan has global marketing and sales capabilities with a presence in more than 100 countries.

ARIZONA PARKINSON'S DISEASE CONSORTIUM AND THE NATIONAL BRAIN AND TISSUE RESOURCE FOR PARKINSON'S DISEASE AND RELATED DISORDERS

10515 W. Santa Fe Drive
Sun City, AZ 85351
USA
Telephone: +1 623-876-5643
Fax: +1 623-815-2967
Website: www.brainandbodydonationprogram.org

Table #: 15

The National Brain and Tissue Resource for Parkinson's Disease and Related Disorders is funded by the US National Institute of Neurological Disorders and Stroke to provide short post-mortem brain tissue and matching clinical characterization data to researchers at subsidized cost-recovery rates. See our exhibitor table and our website at www.brainandbodydonationprogram.org.

ATAXIA IRELAND

4 Leopardstown Business Centre
Ballyogan Avenue
Dublin 18
Ireland
Telephone: +353 860 200545
Fax: +353 12999 055
Website: www.ataxia.ie

Table #: 14

Ataxia Ireland is the national charity in Ireland supporting members with an Ataxia and their families. We provide essential services to our members, respite counselling and socials for members and friends.

We support research projects in all Ataxias worldwide.

EXHIBITOR DIRECTORY

BRITANNIA PHARMACEUTICALS LTD

Park View House
65 London Road
Newbury, Berkshire RG14 1JN
United Kingdom
Telephone: +44 1635 568400
Fax: +44 1635 568401
Website: www.britannia-pharm.com

Booth #: E5

Britannia Pharmaceuticals Limited is a UK based pharmaceutical company specializing in niche innovative products for medical conditions, and in particular, the treatment of patients in the complex stage of Parkinson's disease.

The need for apomorphine as a treatment option for Parkinson's disease has led to the development of our APO-go, and other APO products which are available in many countries through our Distribution or Licensing Partners.

CHELSEA THERAPEUTICS

3530 Toringdon Way, Suite 200
Charlotte, NC 28277
United States
Telephone: +1 704-341-1516
Fax: +1 704-752-1479
Website: www.chelseatherapeutics.com

Booth #: E15

Chelsea Therapeutics is a US based biopharmaceutical development company that acquires and develops innovative products for the treatment of a variety of human diseases. Chelsea's most advanced drug candidate, NORTHERA™ (droxidopa), is an orally active synthetic precursor of norepinephrine initially being developed for the treatment of neurogenic orthostatic hypotension.

DYSTONIA IRELAND

33, Larkfield Grove,
Harold's Cross
Dublin 6W
Ireland
Telephone: +353 1 492 2514
Fax: +353 1 492 2565
Website: www.dystonia.ie

Table #: 5

Dystonia Ireland was founded in 1998. The aims of Dystonia Ireland are to promote and encourage scientific research into the causes and treatments of dystonia, raise the level of awareness amongst the general public and the medical profession, offer support and information to all people with dystonia and their families nationwide.

DYSTONIA MEDICAL RESEARCH FOUNDATION

1 E. Wacker Drive, Suite 2810
Chicago, IL 60601
USA
Telephone: +1 312-755-0198
Fax: +1 312-803-0138
Website: www.dystonia-foundation.org

Table #: 13

The Dystonia Medical Research Foundation is dedicated to advancing research for improved treatments and ultimately a cure, promoting awareness and education, and supporting the well-being of affected individuals and families.

EXHIBITOR DIRECTORY

EU JOINT PROGRAMME – NEURODEGENERATIVE DISEASE RESEARCH

Health Research Board
73 Lower Baggot St.
Dublin 2
Ireland
Telephone: +353 1234 5203
Website: www.neurodegenerationresearch.eu

Table #: 9

The EU Joint Programme in Neurodegenerative Disease Research (JPND) is an innovative, collaborative research initiative established to combat the mounting challenges posted by neurodegenerative diseases, in particular Alzheimer's. The JPND was established as the pilot of the Joint Programming collaborative approach to research in which 25 member countries have come together to define a common vision, a strategic research agenda and a management structure.

EUROPEAN PARKINSON'S DISEASE ASSOCIATION

1 Northumberland Avenue
Trafalgar Square
London WC2N 5 BW
United Kingdom
Telephone: +44 207 872 5510
Fax: +44 207 872 5611
Website: www.epda.eu.com

Booth #: 10

EPDA is the only European umbrella organization for Parkinson's disease, representing 45 member organizations and advocates for the rights and needs of over 1.2 million people. Its vision is to enable a full life whilst supporting the search for a cure; aiming to raise the profile of Parkinson's, enabling people to be treated effectively and equally throughout Europe.

EVER NEURO PHARMA GMBH

Oberburgau 3
Unterach, 4866
Austria
Telephone: +43 7665 20 555530
Fax: +43 7665 20 555910
Website: www.everpharma.com

Booth #: C20

Apomorphin for advanced stage of Parkinson's disease
à Dompamine Agonist

E(YE)BRAIN

1 bis, rue Jean le Galleu
Ivry-sur-Seine F-94200
France
Telephone: +33 1 8364 3738
Fax: +33 1 4672 5190

Booth #: E17

The EyeBrain Tracker is the first medical device based on a powerful functional marker: eye movements. EyeBrain Trackers have proved its efficacy in helping diagnose early, discriminate and follow up Parkinsonian syndromes.

EXHIBITOR DIRECTORY

FHC, INC.

1201 Main Street
Bowdoin, ME 04287
United States
Telephone: +1 207-666-8190
Fax: +1 207-666-8292
Website: www.fh-co.com

Booth #: E16

Advancing Cranial microTargeting Worldwide

For over 40 years FHC has served the neuroscience community with a commitment to innovate through collaboration. New: Telescoping Insertion Tube for 28cm DBS Lead Placement. Demo: FHC's WayPoint™ Navigator Cranial Planning , LP+™ Recording/Stimulating , microTargeting™ Platform Patient Customizable Stereotactic , and STar™ Microdrive Systems plus D.ZAP™ microelectrodes - supported with 24X7 NeuroServices.

FRIEDREICH'S ATAXIA RESEARCH ALLIANCE IRELAND (FARA IRELAND)

40 Templeroan Avenue, Rathfarnham
Dublin
Ireland
Telephone: +353 1 493 0413
Fax: +353 45 401 371
Website: www.faraireland.ie

Table #: 6

FARA Ireland is a non-profit NGO representing people with Friedreich's Ataxia.
Objectives:
1. To raise awareness of the condition among professionals and increase public awareness,
2. To communicate results of the latest studies and clinical trials to Friedreich's Ataxia patients,
3. To raise funds for research into the condition.

GE HEALTHCARE

Pollards Wood, Nightingales Lane
Chalfont, St. Giles, Bucks HP8 4SP
United Kingdom
Telephone: +44 1494 544000
Website: www.gehealthcare.com

Booth #: E19

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, patient monitoring systems, drug discovery and biopharmaceutical manufacturing technologies help our customers to deliver better care to more people around the world at a lower cost. We partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

GLAXOSMITHKLINE

980 Great West Road
Brentford, Middlesex TW8 9GS
United Kingdom
Telephone: +44 20 8047 5000
Website: www.gsk.com

Booth #: E14

GlaxoSmithKline – one of the world's leading research-based pharmaceutical and healthcare companies – is committed to improving the quality of human life by enabling people to do more, feel better and live longer.

GSK makes medicines, vaccines and consumer healthcare products. Its business accounts for 4.8% of the world's pharmaceutical market.

GSK provides products, money, time and equipment to non-profit organizations to help improve health and education in under-served communities. It focuses on programs that are innovative, sustainable, and bring real benefits to those most in need.

EXHIBITOR DIRECTORY

GREAT LAKES NEUROTECH

10055 Sweet Valley Drive, Suite 1
Cleveland, OH 44125
United States
Telephone: +1 216-361-5410
Fax: +1 216-361-5420
Website: www.GLNeurotech.com

Booth #: C22

Kinesia HomeView™ is a compact, web-based motor assessment system that captures Parkinson's symptoms at home: 1. Clinicians use a web interface to define an evaluation. 2. The patient takes home a tablet-based kit to record diary information and follow video guided assessments. 3. The clinician views online reports and videos.

HDYO (HUNTINGTON'S DISEASE YOUTH ORGANIZATION)

116 Yewdale Crescent
Coventry CU2 2FT
England
Website: www.hdyo.org

Table #: 8

International non-profit voluntary organization set up to specifically provide support for young people around the world impacted by Huntington's disease.

HUNTINGTON'S DISEASE ASSOCIATION OF IRELAND

Carmichael Centre
North Brunswick Street
Dublin 7
Ireland
Telephone: +353 1 872 1303
Website: www.huntingtons.ie

Table #: 7

Huntington's Disease Association of Ireland is a national voluntary organization providing consultation, information and individualized support to those diagnosed with Huntington's disease, those at risk, their families and their health care teams.

IPSEN

65 Quai Georges Gorse
Boulogne Billancourt 92650
France
Telephone: +33 1 58 33 5179
Website: www.ipsen.com

Booth #: B13

Ipsen is an innovation-driven international specialty pharmaceutical group with over 20 products on the market and a total worldwide staff of nearly 4,500. Its development strategy is based on its activities in specialty medicine, growth drivers in targeted therapeutic areas (oncology, endocrinology, neurology and haematology) combined with primary care products.

KINETICS FOUNDATION

P.O. Box 645
Los Altos, CA 94023
United States
Telephone: +1 650-523-1310
Fax: +1 650-917-2130
Website: www.kineticsfoundation.org

Table #: 16

The Kinetics Foundation focuses on drug delivery research across the blood brain barrier by utilizing multiple scientific disciplines. It created the Objective Parkinson's Disease Measurement (OPDM) System compromised of dexterity and Mobility measurement devices to assist researchers in better measuring patients' symptoms for Parkinson's disease.

EXHIBITOR DIRECTORY

LUNDBECK US

Four Parkway North
Deerfield, IL 60015
United States
Telephone: +1 847-282-1000
Fax: +1 847-282-1001
Website: www.lundbeckinc.com/us

Booth #: B5

Headquartered in Deerfield, Illinois, with a portfolio of 17 specialty therapies and a pipeline of promising central nervous system (CNS) drugs, Lundbeck Inc. is committed to providing innovative therapies that fulfill unmet medical needs of people with CNS disorders and rare diseases for which few, if any, effective treatments are available.

MEDTRONIC, INC.

710 Medtronic Parkway
Minneapolis, MN 55432
United States
Telephone: +1 800-328-2518
Fax: +1 763-505-1000
Website: www.medtronic.com

Booth #: D16

At Medtronic, we're committed to *Innovating for life* by pushing the boundaries of medical technology and changing the way the world treats chronic disease. Each year, 7 million patients benefit from our technology. Medtronic DBS Therapy has been used in more than 80,000 patients for the treatment of Parkinson's disease, essential tremor and dystonia.

MERZ PHARMACEUTICALS GMBH

Eckenheimer Landstrasse 100
Frankfurt 60313
Germany
Telephone: +49 69 15030
Fax: +49 69 1503722
Website: www.merz.com

Booth #: D8

Merz Pharmaceuticals is a research based pharmaceutical company, headquartered in Frankfurt, Germany, with key competences in neuroreceptor biology. Merz has developed memantine for moderate to severe Alzheimer disease and Xeomin®, a botulinum toxin A free from complexing proteins.

MOVE 4 PARKINSONS

Unit 18, Canal Walk
Parkwest Industrial Park
Dublin 12
Ireland
Telephone: +353 876 817567
Website: www.move4parkinsons.blogspot.com

Table #: 1

M4P has been set up to draw on the experience and expertise of People With Parkinson's (PWP's) to educate, encourage and empower other PWP's to fulfill their potential and improve their quality of life.

EXHIBITOR DIRECTORY

NATIONAL SPASMODIC TORTICOLLIS ASSOCIATION

9920 Talbert Ave.
Fountain Valley, CA 92708
United States
Telephone: +1 714-378-9837
Website: www.torticollis.org

Table #: 12

The National Spasmodic Torticollis Association is a non profit organization supporting the needs and well being of individuals and families affected by spasmodic torticollis/ cervical dystonia. We provide a support hotline; magazines; symposiums; network of support groups & contact people; website and email support; message forum; neurologists directory; and information packets.

NEUROSTAR

Dachsklingeweg 1771067
Germany
Telephone: +49 7071 41 5065
Fax: +49 7071 41 5067
Website: www.neurostar.de

Booth #: C19

The most powerful and easy-to-use MER-System for DBS-Surgery.
It integrates:
1. Electrophysiology Module (MER-Recording, Stimulation, Data Acquisition)
2. High precision Microdrive (motorized or manual)
3. Control Software (controls microrecording, microdrive, versatile possibilities for data analysis, patient adapted 2D/3D atlas, etc)
4. Planning Software optional (Fusion, Reformatting, optimal planning tools)

NOVARTIS PHARMA AG

Forum 1, Novartis Campus
Basel 4056
Switzerland
Telephone: +41 61 324 1111
Fax: +41 61 324 8001
Website: www.novartis.com

Booth #: E9

Novartis provides healthcare solutions that address the evolving needs of patients and societies. Headquartered in Basel, Switzerland, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, eye care, cost-saving generic pharmaceuticals, preventive vaccines and diagnostic tools, over-the-counter and animal health products. Novartis is the only global company with leading positions in these areas. Novartis Group companies employ approximately 121,000 full-time-equivalent associates and operate in over 140 countries around the world.

ORION CORPORATION ORION PHARMA

Orionintie 1
Espoo 02101
Finland
Telephone: +358 10 4261
Website: www.orion.fi

Booth #: E9

Orion Corporation is a Finnish listed company which is dedicated to treating and preventing disease by discovery and developing innovative medicinal treatments. Orion is the originator of Stalevo® (levodopa, carbidopa, entacapone) for Parkinson's disease.

EXHIBITOR DIRECTORY

PARKINSON'S MOVEMENT

1 St. Clement's Court
London EC4N 7HB
United Kingdom
Telephone: +44 1892 531123
Website: www.parkinsonsmovement.com

Table #: 2

PM is a research-driven, patient-driven, organization which aims to engage the international patient community, improve patient-scientist communication and encourage partnership to stimulate and drive the research agenda.

PROTOKINETICS

60 Garlor Drive
Havertown, PA 19083
USA
Telephone: +1 610-449-4879
Fax: +1 610-853-2925
Website: www.protokinetics.com

Booth #: E20

In addition to distributing the world leading GAITRite walkway system, the PrrotoKinetics PKMAS software and sensor system captures real-time temporal (timing) and spatial (distance) calculations, including the instantaneous center of pressure, along with static and dynamic movements and evaluations. Some of the testing and training protocols include: walking (with or without dual tasking), TUG, Figure 8's, FSST, 360° turns, Fukuda, side-stepping, unilateral and bilateral stability. The wide testing surface and low-profile allows for dynamic, real-world movements never before available on existing balance and/or pressure plate systems.

ST. JUDE MEDICAL

AV Da Vinci 11, Box F1
Zaventem 1935
Belgium
Telephone: +32 2 774 6810
Fax: +32 2 774 6843
Website: www.sjm.com

Booth #: D19

St. Jude Medical develops medical technology designed to put more control into the hands of those who treat neurological, cardiac and chronic pain patients worldwide. SJM has provided leading neurostimulation therapy innovations for 30 years. The company is dedicated to advancing the practice of medicine by reducing risk wherever possible and contributing to successful patient outcomes.

TEVA

5 Basel Street
Petah Tikva 49131
Israel
Telephone: +972 3 926 7607
Fax: +972 3 926 7878
Website: www.tevapharm.com

Booth #: B7

Teva Pharmaceutical Industries Ltd. is a leading global pharmaceutical company, committed to increasing access to high-quality healthcare by developing, producing and marketing affordable generic drugs as well as innovative and specialty pharmaceuticals and active pharmaceutical ingredients. Headquartered in Israel, Teva is the world's largest generic drug maker, with a global product portfolio of more than 1,300 molecules and a direct presence in about 60 countries. Teva's branded businesses focus on CNS, oncology, pain, respiratory and women's health therapeutic areas as well as biologics. Teva currently employs approximately 46,000 people around the world and reached $18.3 billion in net revenues in 2011.

EXHIBITOR DIRECTORY

H. LUNDBECK A/S

Ottiliavej 7-9
Valby 2500
Denmark
Website: www.lundbeck.com

Booth #: B7

H. Lundbeck A/S is an international pharmaceutical company dedicated in research and development of new drugs for treatment of CNS disorders including depression, schizophrenia, Alzheimer's disease and Parkinson's disease. Research has been the foundation of Lundbeck activities for more than 50 years, and the company's mission is to improve the quality of life for people suffering from psychiatric and neurological disorders.

TEVA NEUROSCIENCE

901 E. 104th Street, Suite 900
Kansas City, MO 64131
USA
Website: www.tevaneuroscience.com

Booth #: B7

Teva Neuroscience is dedicated to the investigation, development and commercialization of innovative products and services that address patient needs in the areas of multiple sclerosis, Parkinson's disease and other neurological disorders. Both Copaxone for MS, and Azilect for PD, have established leadership positions in their respective markets. Our vision is to be the North American leader in neurology through the quality of our people, the quality of our products and our focus on the patient.

THE CURE PARKINSON'S TRUST

1 St Clement's Court
London EC4N 7HB
United Kingdom
Website: www.cureparkinsons.org.uk

Table #: 3

The Cure Parkinson's Trust is dedicated to finding a cure. It funds and facilitates dynamic research and involves people with Parkinson's in this vision.

TREMOR ACTION NETWORK

PO Box 5013
Pleasanton, CA 94566-0513
United States
Telephone: +1 510-681-6565
Fax: +1 925-369-0485
Website: www.tremoraction.org

Table #: 11

TremorAction.org (TAN) connects the neurology bench to Tremor patients through awareness, advocacy and research. Stop by our table to discuss the healthcare professional and patient services we provide. "Life with Movement Disorders" DVD in English and Español, "Spikes & Spasms" quarterly newsletter, and other free resources are available.

UCB PHARMA SA

Allée de la Recherche 60
1070 Brussels
Belgium
Telephone: +32 2 559 9999
Fax: +32 2 559 9900
Website: www.ucb.com

Booth #: 19

UCB, headquartered in Brussels, Belgium, is a global biopharmaceutical company dedicated to the research, development and commercialization of innovative medicines with a focus on the fields of central nervous system and immunology disorders. Employing approximately 8,000 people in over 40 countries, UCB generated revenue of EUR 3.2 billion in revenue in 2010. UCB is listed on Euronext Brussels (symbol: UCB).

EXHIBITOR DIRECTORY

WISEPRESS MEDICAL BOOKSHOP

25 High Path
Merton Abbey
London
SW19 2JL
United Kingdom
Telephone: +44 208 715 1812
Fax: +44 208 715 1722
Website: www.wisepress.com

Booth #: F1

Wisepress.com, Europe's leading conference bookseller, has a complete range of relevant books and journals which can be purchased at the stand or, if you would rather not carry them, posted to you – Wisepress will deliver worldwide. We also have a comprehensive medical and scientific online bookshop with great offers.

WORLD PARKINSON CONGRESS

1359 Broadway, Suite 1509
New York, NY 10018
United States
Telephone: +1 800-457-6676
Fax: +1 212-923-4778
Website: www.worldpdcongress.org

Table #: 4

The 3rd World Parkinson Congress | WPC 2013 will take place from October 1-3, 2013 in Montreal, Canada. Physicians, neuroscientists, nurses, rehabilitation specialists, people with PD, care partners and government officials will come together to learn about the latest scientific discoveries, medical practices and care initiatives for Parkinson's disease. Visit www.worldpdcongress.org to learn more about this unique global event.

GUIDED POSTER TOURS—MONDAY, JUNE 18

GUIDED POSTER TOUR 1 – Basic science

Liffey Hall 1, Level 1
12:45 - 14:15
Monday, June 18, 2012
Tour Leaders:
Serge Przedborski, *New York, NY, USA*
Ryuji Kaji, *Tokushima City, Japan*

1473 The AAA-ATPase VPS4 regulates extracellular secretion and lysosomal targeting of *a*-synuclein
T. Hasegawa, M. Konno, T. Baba, N. Sugeno, A. Kikuchi, E. Miura, A. Takeda (Sendai, Japan)

1455 GDNF replacement augments motor impairments and nigrostriatal dopamine deficits in 12 month old mice with a partial deletion of GDNF
H.A. Boger, G.A. Gerhardt, A. C. Granholm, O.M. Littrell (Charleston, SC, USA)

1468 Characterization of adult neurogenesis in a transgenic mouse model of multiple system atrophy
P. Fuchs, L. Aigner, W. Poewe, G.K. Wenning, N. Stefanova (Innsbruck, Austria)

1469 ATP13A2 mutations impair mitochondrial function in fibroblasts from patients with Kufor-Rakeb syndrome
A. Grünewald, B. Arns, P. Seibler, A. Rakovic, A. Münchau, A. Ramirez, C.M. Sue, C. Klein (Lübeck, Germany)

1478 A rodent model for direct visualization of *a*-synuclein oligomers in the nigrostriatal system
L.V. Kalia, H. Dimant, S.K. Kalia, L.N. Kibuuka, D. Ebrahimi-Fakhari, N.R. McFarland, P.J. McLean (Toronto, ON, Canada)

1447 Inflammatory responses are attenuated in incidental Lewy body disease
R.S. Akhtar, J.M. Milber, J.V. Noorigian, L.R. White, H. Petrovitch, G.W. Ross, J.E. Duda (Philadelphia, PA, USA)

1476 Mild dopaminergic lesions are accompanied by robust changes in subthalamic nucleus activity
M.L.F. Janssen, D.G.M. Zwartjes, S.K.H. Tan, R. Vlamings, A. Jahanshahi, T. Heida, G. Hoogland, H.W.M. Steinbusch, V. Visser-Vandewalle, Y. Temel (Maastricht, Netherlands)

1480 Enteric and central nervous system pathology in a novel mouse model: Implications for pathogenesis in pre-motor Parkinson's disease
L.P. Kelly, P.M. Carvey, R.A.E. Bakay, J.H. Kordower (Chicago, IL, USA)

1521 Implication of autophagy in Parkinson's disease: Rotenone-based models
N. Xiong, M. Jia, J. Xiong, J. Huang, T. Wang (Wuhan, China)

GUIDED POSTER TOUR 2 – Lewy Body Dementia and other dementias in movement disorders

Liffey Hall 2, Level 1
12:45 - 14:15
Monday, June 18, 2012
Tour Leaders:
Timothy Counihan, *Galway, Ireland*
David John Burn, *Newcastle upon Tyne, United Kingdom*

211 Differential diagnosis between dementia with Lewy bodies and Creutzfeldt-Jakob disease: Two intriguing cases
T. Tsironis, G. Xiromerisiou, A. Mastrokosta, D. Kiourtidis, D. Tsiptsios, G. Deretzi, A. Tichalas, J. Rudolf, E. Koutlas, X. Fitsioris, I. Tsiptsios (Thessaloniki, Greece)

206 Cerebral vasculitis mimicking frontotemporal dementia
A. Mc Carthy, E. Mulroy, K. O'Rourke, T. Lynch (Dublin, Ireland)

37 Comparison of The Movement Disorder Society criteria for Parkinson's disease dementia with routine clinical neuropsychological testing
B.R. Barton, B. Bernard, G.T. Stebbins, J. Goldman, B. Dubois, C.G. Goetz (Chicago, IL, USA)

73 Parkinson's disease patients fulfilling level-I criteria for dementia differ in ADL functions and phenotype
I. Liepelt-Scarfone, D. Prakash, J.B.M. Christ, E. Riedl, I. Csoti, M. Fruhmann Berger, S. Graeber, D. Berg (Tuebingen, Germany)

207 The evolutionarily conserved function of HtrA2 in mice prevents neurodegeneration by oligomeric *a*-synuclein
M.M. Rahman, M. L. Liu, S. Akhter, H.J. Kim, S.T. Hong (Jeonju, Korea)

203 Safety, tolerability, and efficacy of armodafinil therapy for hypersomnia associated with dementia with Lewy bodies
B. Boeve, K. Kuntz, D. Drubach, L. Allen, D. Drubach (Rochester, MN, USA)

209 Neuropsychological differences in mild cognitive impairment (MCI) with symptoms of Lewy body disease (LBD)/Parkinson's disease (PD) and other MCI causes
M.J. García Basalo, D.J. Bauso, J.P. Tartari, C.V. Stefani, N. Cámpora, M. Fernández, J.I. Rojas, E. Cristiano, A. Golimstok (Buenos Aires, Argentina)

204 Pathological accumulation of *a*-synuclein and A in Parkinson's disease with dementia
M.C. Campbell, P.T. Kotzbauer, N.J. Cairns, B.A. Racette, S.D. Tabbal, J.S. Perlmutter (St. Louis, MO, USA)

44 Elevated homocysteine levels predict cognitive dysfunction in an incident cohort of non-demented Parkinson's disease patients
G.W. Duncan, T.K. Khoo, A.J. Yarnall, J.T. O'Brien, D.J. Brooks, R.A. Barker, D.J. Burn (Newcastle upon Tyne, United Kingdom)

113 Cognitive symptoms in a population-based cohort to study parkinsonism
E. J. Vollstedt, J. Graf, A. Lorwin, J. Hagenah, V. Tadic, N. Brüggemann, A. Schmidt, S. Tunc, J. Hampf, L. Piskol, C. Klein, M. Kasten (Lübeck, Germany)

GUIDED POSTER TOURS—MONDAY, JUNE 18

GUIDED POSTER TOUR 3 - Parkinson's disease: Cognition

Wicklow Hall 1, Level 2
12:45 - 14:15
Monday, June 18, 2012
Tour Leaders:
Murat Emre, *Istanbul, Turkey*
Hubert Fernandez, *Cleveland, OH, USA*

95 Correlation of cognitive impairment evaluated by Montreal Cognitive Assessment with functional brain imaging of Parkinson's disease patients
K. Ohta, T. Osada, T. Tajima, M. Seki, Y. Shinohara (Tokyo, Japan)

76 Visual sampling during walking in people with Parkinson's disease and the influence of task complexity
S. Lord, B. Galna, D. Daud, N. Archibald, D. Burn, L. Rochester (Newcastle upon Tyne, United Kingdom)

109 Severe olfactory dysfunction is predictive of dementia associated with Parkinson's disease: A 3-year longitudinal study
T. Baba, A. Kikuchi, K. Hirayama, Y. Nishio, Y. Hosokai, S. Kanno, T. Hasegawa, N. Sugeno, M. Konno, E. Miura, E. Mori, A. Takeda (Sendai, Japan)

110 A novel test for assessing gait under multiple-task conditions: Comparison of the performance among adults, elderly and patients with Parkinson's disease
E. Tardeli, N. Santo, R. Bovi, D. Bertolo, M.E.P. Piemonte (Sao Paulo, Brazil)

75 Olfactory dysfunction correlation to non-motor symptoms in Parkinson's disease patients
G.J. Lopez, K. Bayulkem, B. McElroy, M. Brooks, B. Bayulkem, M. Hallett (Bethesda, MD, USA)

83 GBA mutation carriers with Parkinson's disease are not at increased risk for cognitive impairment
I. Mata, J. Leverenz, J. Trojanowski, A. Chen-Plotkin, B. Ritz, S. Rhodes, S. Factor, C. Wood-Siverio, J. Quinn, K. Chung, A. Espay, F. Revilla, K. Edwards, T. Montine, C. Zabetian (Seattle, WA, USA)

106 Association between olfactory dysfunction and cognition in the PPMI study
A. Siderowf, J.F. Morley, J.E. Duda, D. Weintraub, For the PPMI Investigators (Philadelphia, PA, USA)

41 Motor impulsivity in Parkinson's disease subtypes: Postural instability with gait difficulty versus tremor predominant
D.O. Claassen, S.A. Wylie (Nashville, TN, USA)

116 Dual task effects during sentence production in Parkinson's disease
J.P. Wilson, L.J.P. Altmann, A.A. Hazamy, E. Stegemöller, M.S. Okun, C.J. Hass (Gainesville, FL, USA)

88 Baseline data of the DeNoPa-Kassel cohort: Biomarkers and non-motor features of 160 drug naïve PD subjects and 115 matched healthy controls
B. Mollenhauer, E. Trautmann, T. Wicke, J. Ebentheuer, F. Sixel-Döring, C. Trenkwalder, DeNoPa Study Group (Kassel, Germany)

GUIDED POSTER TOUR 4 - Sleep disorders and RLS

Wicklow Hall 2, Level 2
12:45 - 14:15
Monday, June 18, 2012
Tour Leaders:
Per Odin, *Bremerhaven, Germany*
Bart Van De Warrenburg, *Nijmegen, Netherlands*

Supported by an unresticted educational grant from UCB Pharma SA.

688 Restless legs syndrome in Korean patients with drug-naïve Parkinson's disease: A nation-wide study
J. Youn, H.Y. Shin, W.T. Yoon, J.S. Kim, H. Shin, J.Y. Ahn, J.W. Cho (Seoul, Korea)

676 Quantifying daytime sleepiness in Parkinson's disease
K. Kotschet, W. Johnson, R. Griffiths, M. Horne (Fitzroy, Australia)

683 How does parkinsonism start? Prodromal parkinsonism motor changes in idiopathic REM sleep behavior disorder
R.B. Postuma, A.E. Lang, J.F. Gagnon, A. Pelletier, J. Montplaisir (Montreal, QC, Canada)

1228 Restless legs syndrome outside the blood-brain barrier – Evidence from domperidone
S. Rios Romenets, Y. Dauvilliers, V. Cochen De Cock, B. Carlander, S. Bayard, C. Galatas, C. Wolfson, R. Postuma (Montreal, QC, Canada)

673 Sleep and circadian rhythm disruption in incident Parkinson's disease – A multimodal analysis
D.P. Breen, R. Vuono, K. Fisher, S. Nawarathna, J.M. Shneerson, A.B. Reddy, R.A. Barker (Cambridge, United Kingdom)

687 REM sleep without atonia and freezing of gait in Parkinson's disease
A. Videnovic, C.C. Marlin, J. Planetta, L. Alibiglou, D.E. Villancourt, C.D. MacKinnon (Chicago, IL, USA)

674 Effects of dopaminergic medications on objective and subjective sleep in Parkinson's disease
L.M. Chahine, J. Daley, S. Horn, A. Colcher, H. Hurtig, C. Cantor, N. Dahodwala (Philadelphia, PA, USA)

1227 A rare variant near a potassium channel-related gene in familial restless legs syndrome
I. Pichler, C. Schwienbacher, A. Zanon, C. Fuchsberger, A. Serafin, F. Marroni, M.F. Facheris, C. Tellgren-Roth, U. Gyllensten, J.F. Gusella, A.A. Hicks, P.P. Pramstaller (Bolzano, Italy)

1215 Comparison of pregabalin, pramipexole and placebo effects on symptoms, limb movements and sleep maintenance in restless legs syndrome (Willis-Ekbom disease)
R.P. Allen, P.M. Becker, J. Patrick, S. Dubrava, D. Garcia-Borreguero, A. Lankford, C. Chen, L. Knapp, J. Miceli (Baltimore, MD, USA)

684 Sleep disturbances and dysautonomic dysfunction are associated in patients with Parkinson's disease
S. Realmuto, V. Arnao, A. Cinturino, F. Valentino, G. Famoso, V. Perini, S. Mastrilli, P. Aridon, P. Ragonese, G. Savettieri, M. D'Amelio (Palermo, Italy)

GUIDED POSTER TOURS—TUESDAY, JUNE 19

GUIDED POSTER TOUR 5 - Parkinson's disease: Clinical trials

Liffey Hall 1, Level 1
12:15 - 13:45
Tuesday, June 19, 2012
Tour Leaders:
Eduardo Tolosa, *Barcelona, Spain*
Anthony Schapira, *London, United Kingdom*

409 Bilateral STN stimulation reduces the occurrence of freezing of gait in Parkinson's disease
H. Devos, G. Vervoort, L. Münks, W. Vandenberghe, B. Nuttin, A. Nieuwboer (Leuven, Belgium)

366 Fox Trial Finder (FTF): Online clinical trial matching to connect subjects with Parkinson's trials
M. Frasier, S. Chowdhury, C.C. Meunier, D. Brooks (New York, NY, USA)

349 Continuous subcutaneous carbidopa improves levodopa pharmacokinetics in Parkinson's disease patients
Y. Caraco, N. Giladi, S. Oren, P.A. LeWitt (Jerusalem, Israel)

346 A phase III clinical trial of coenzyme Q10 (QE3) in early Parkinson's disease: Parkinson Study Group QE3 Investigators
M.F. Beal (New York, NY, USA)

408 Accordion pill carbidopa/levodopa for improved treatment of advanced Parkinson's disease symptoms
P.A. LeWitt, H. Friedman, N. Giladi, T. Gurevich, H. Shabtai, R. Djaldetti, N. Roizen, S. Hassin-Baer, O. Cohen, G. Yahalom, I. Schlesinger, M. Nassar, R. Milo, N. Navon (Jerusalem, Israel)

433 Strength training outcomes for airway protection in PD
C.M. Sapienza, M. Troche, E.P. Silverman, J. Rosenbek, N. Musson (Gainesville, FL, USA)

419 Gait improvement in patients with Parkinson's disease after training in real and virtual enviroment
J.E. Pompeu, F.A. Mendes, K.G. Silva, T.P. Oliveira, A.M. Lobo, S.M.A.A. Pompeu, A.P. Zomignani, M.E.P. Piemonte (São Paulo, Brazil)

430 Dopamine agonists and dyskinesia in advanced Parkinson's disease: A network meta-analysis of rotigotine, pramipexole and ropinirole as adjunct therapy to levodopa
E. Senior, P. Dedeken, H. Naci (Brussels, Belgium)

411 Randomized, double-blind, double-dummy study of continuous infusion of levodopa-carbidopa intestinal gel in patients with advanced Parkinson's disease: Efficacy and safety
C.W. Olanow, A. Antonini, K. Kieburtz, H.H. Fernandez, A.J. Espay, D.G. Standaert, A.D. Vanagunas, K.L. Widnell, S. Freeman, W.Z. Robieson, Y. Pritchett, K. Chatamra, J. Benesh, R.A. Lenz (New York, NY, USA)

385 Randomized, phase 3, double-blind, double-dummy study of levodopa-carbidopa intestinal gel in patients with advanced Parkinson's disease: Functional and quality-of-life outcomes
K. Kieburtz, A. Antonini, C.W. Olanow, H.H. Fernandez, A.J. Espay, D.G. Standaert, S. Hass, K.L. Widnell, W.Z. Robieson, Y. Pritchett, K. Chatamra, J. Benesh (Rochester, NY, USA)

GUIDED POSTER TOUR 6 - Surgical Therapy: Parkinson's disease

Liffey Hall 2, Level 1
12:15 - 13:45
Tuesday, June 19, 2012
Tour Leaders:
Pierre Pollak, *Geneva, Switzerland*
Philip Starr, *San Francisco, CA, USA*

Supported by an unresticted educational grant from Medtronic.

533 Effects of subthalamic nucleus lesions and stimulation upon corticostriatalafferents in the 6-hydroxydopamine-lesioned rat
R.H. Walker, C. Moore, G. Davies, L. Dirling, R.J. Kock, C.K. Meshul (Bronx, NY, USA)

534 Evaluation of electrode design on activation volumes produced during deep brain stimulation
S.N. Washburn, C.R. Butson (Plano, TX, USA)

536 Parkinson's Study Group Neurosurgical Working Group (PSG-NSWG) deep brain stimulation (DBS) non-motor symptoms (NMS) survey: Real-world preoperative practice patterns
M.K. York, L. Marsh, J. Jimenez-Shahed, M.S. Okun, E. Moro, R. Kumar (Houston, TX, USA)

470 Deep brain stimulation and decision making in apathetic patients: A PET study
F. Antonelli, A.P. Strafella, Y.Y. Poon, A.M. Lozano, M. Hodaje, G. Pellecchia, F. Valzania, J.H. Ko, A. Lang, S. Houle, E. Moro (Toronto, ON, Canada)

462 Comprehensive, multi-disciplinary DBS screening for Parkinson's patients: No room for "short cuts"
H. Abboud, A. Machado, M. Deogaonkar, A. Ahmed, M. Gostkowski, S. Cooper, I. Itin, P. Sweeney, M. Pandya, C. Kubu, D. Floden, P. Ford, H. Fernandez (Cleveland, OH, USA)

521 Is age a predictor for length of hospital stay in deep brain stimulation?
E.M. Presant, Y. Song, P. Konrad, J. Neimat, F. Phibbs (Nashville, TN, USA)

484 Saccadic eye movement abnormalities in Parkinson's disease treated by levodopa and deep brain stimulation
M. Dec, M. Rudzinska, M. Tutaj, A. Szczudlik (Kraków, Poland)

522 The dominant subthalamic nucleus: A gait analysis study
M.G. Rizzone, I. Carpinella, C.A. Artusi, M. Lanotte, L. Lopiano, A. Marchisio, A. Merola, M. Rabuffetti, D.V. Roccatagliata, M. Zibetti, M. Ferrarin (Torino, Italy)

515 Randomized multicenter trial comparing bilateral subthalamic nucleus DBS and bilateral globus pallidus internus DBS for advanced Parkinson's disease (NSTAPS)
V.J. Odekerken, T. van Laar, A. Mosch, J. van Vugt, P.C. Nijssen, B.A. Schmand, P.R. Schuurman, R.M. de Bie (Amsterdam, Netherlands)

524 Stereotactic neurosurgery for movement disorders in a world perspective. Results from the WSSFN-supported survey
V. Jourdain, G. Schechtmann (Stockholm, Sweden)

GUIDED POSTER TOURS—TUESDAY, JUNE 19

GUIDED POSTER TOUR 7 - Rating scales and assessment tools

Wicklow Hall 1, Level 2
12:15 - 13:45
Tuesday, June 19, 2012
Tour Leaders:
A. Peter Moore, *Liverpool, United Kingdom*
Tove Henriksen, *Copenhagen, Denmark*

332 Patient-centeredness in Parkinson's disease care: Development and validation of a patient experience questionnaire
M. van der Eijk, M.J. Faber, J.W.M. Aarts, M. Munneke, B.R. Bloem (Nijmegen, Netherlands)

291 How slow is too slow? Objective measurement of bradykinesia in Parkinson's disease using novel non-invasive devices
J.E. Alty, S. Jamieson, M.A. Lones, S.L. Smith (Leeds, United Kingdom)

329 Calibration of the UPDRS to the MDS-UPDRS
G.T. Stebbins, C.G. Goetz, B.C. Tilley (Chicago, IL, USA)

326 How should pushing off or the use of assistive devices be incorporated in the timed Up and Go (TUG)?
P.N. Schmidt, J.G. Nutt, M. Guttman, A.D. Siderowf, E.C. Nelson, J. Zamudio, M.S. Okun (Miami, FL, USA)

330 The association between NT-proCNP, functional capacity and clinical stage in patients with Parkinson's disease
D. Koziorowski, R. Tomasiuk, S. Szlufik, A. Friedman (Warsaw, Poland)

334 Determining minimal clinically important difference for health-related quality of life scales in Parkinson's disease
Y. Winter, D. Lubbe, W.H. Oertel, R. Dodel (Marburg, Germany)

305 Freezing of gait in Parkinson's disease: Associations with disease severity, falls, quality of life and clinical balance measures
R.A. Gruber, L.R.S. Almeida, J.H. Goldstein Elman, N.N. Negreiros, G.T. Valenca (Toronto, ON, Canada)

322 Metric evaluation of a novel scale to assess psychosis in patients with Parkinson's disease
W.G. Ondo, H. Peng (Houston, TX, USA)

308 Quantifying freezing of gait in Parkinson's disease during the instrumented timed Up and Go test
F.B. Horak, M. Mancini, R. Cohen, J.J. Nutt (Portland, OR, USA)

304 MDS-UPDRS non-English translation program
C.G. Goetz, G.T. Stebbins, N. LaPelle, J. Huang, B.C. Tilley (Chicago, IL, USA)

GUIDED POSTER TOUR 8 - Parkinson's disease: Neuropharmacology

Wicklow Hall 2, Level 2
12:15 - 13:45
Tuesday, June 19, 2012
Tour Leaders:
Thomas Foltynie, *London, United Kingdom*
Joaquim Ferreira, *Lisbon, Portugal*

134 Determination of plasma, brain and cerebrospinal fluid levels of L-DOPA in the MPTP-lesioned cynomolgus macaque model of Parkinson's disease
P. Huot, T.H. Johnston, J.B. Koprich, S.H. Fox, J.M. Brotchie (Toronto, ON, Canada)

138 Medication reminder service for mobile phones; an open usability study in patients with Parkinson's disease
T. Keränen, S. Liikkanen (Kuopio, Finland)

140 Maintenance of constant steady state therapeutic plasma concentrations of levodopa following its continuous subcutaneous administration with carbidopa
O. Yacoby-Zeevi, P.A. LeWitt (West Bloomfield, MI, USA)

163 Adherence to once-daily dopamine agonists in levodopa-treated Parkinson's disease patients is related to first dopamine replacement therapy
D. Santos-García, M. Prieto-Formoso, R. de la Fuente-Fernández (Ferrol, Spain)

161 European multicentre survey of tolerability rates and impulse control behaviour trends of prolonged release dopamine agonists in young and old PD
A. Rizos, P. Martinez-Martin, A. Martin, T. Henriksen, B. Kessel, I. Koch, G. Durner, A. Antonini, P. Odin, C. Falup-Pecurariu, P. Reddy, S. Robinson, M. Silverdale, G. MacPhee, A. Douiri, S. Lindvall, K. Ray Chaudhuri (London, United Kingdom)

130 Human microdyalisis during acute high frequency stimulation of internus globus pallidus increases dopamine release and improves parkinsonian symptoms
R.R.C. Martinez, M.C. Carvalho, M.L. Brandão, M.J. Teixeira, J. Navarro, E.T. Fonoff (São Paulo, Brazil)

160 A multicentre European comparative survey of motor and non motor effects of subcutaneous apomorphine infusion and intrajejunal levodopa infusion in Parkinson's disease
P. Reddy, P. Martinez-Martin, A. Antonini, D. Calandrella, M. Pilleri, P. Odin, A. Martin, T. Henriksen, A. Rizos, R. Katzenschlager, N. Bryndum, A. Glad, L. Timmermann, H. Salimi Dafsari, G. Ebersbach, M.G. Kramberger, M. Trost, Z. Pirtosek, K. Wenzel, V. Tomantschger, A. Storch, H. Reichmann, A. Ceballos-Baumann, K.R. Chaudhuri (London, United Kingdom)

150 Parkinson's disease responding to smoking
A. Mc Carthy, K. O'Rourke, T. Lynch (Dublin, Ireland)

146 Peripheral neuropathy during continuous levodopa duodenal infusion: Outcome of 15 patients
F. Mancini, C. Comi, D. Calandrella, M. Lacerenza, G. Riboldazzi, C. Pacchetti, M. Coletti Moia, L. Manfredi, A. Antonini (Milan, Italy)

135 L-745,870 reduces L-DOPA-induced dyskinesia in the MPTP-lesioned primate at doses at which it is a selective antagonist at D4 dopamine receptors
P. Huot, T.H. Johnston, J.B. Koprich, S.H. Fox, J.M. Brotchie (Toronto, ON, Canada)

GUIDED POSTER TOURS—WEDNESDAY, JUNE 20

GUIDED POSTER TOUR 9 - Genetics

Liffey Hall 1, Level 1
12:00 - 13:30
Wednesday, June 20, 2012
Tour Leaders:
Thomas Gasser, *Tübingen, Germany*
Matthew Farrer, *Vancouver, BC, Canada*

1402 CAG analysis, haplotypes, unstable repeats, recombination, pedigrees, gene dosage, genotype-phenotype relationship and genetics polymorphisms in the SCA2 (ATXN2) locus
J.M. Laffita-Mesa, L.C. Velázquez-Pérez, Y. Vázquez Mojena, V. Kourí, A. Martínez, A. Miranda, L. Peña Serrano, D.A. Cuello Almarales, R. Aguilera Rodriguez, V. Berovides (Holguin, Cuba)

1407 PRRT2 mutations are a major cause of paroxysmal kinesigenic dyskinesia in the European population
A. Méneret, D. Grabli, C. Depienne, C. Gaudebout, F. Picard, A. Dürr, I. Lagroua, D. Bouteiller, M. Vidailhet, A. Brice, E. Roze (Paris, France)

1398 High COMT activity is associated with earlier age at onset in PD
S. Klebe, J.L. Golmard, R. Charfi, G. Kuhlenbäumer, C. Klein, J. Hagenah, T. Gasser, I. Wurster, S. Lesage, D. Lorenz, G. Deuschl, M. Saad, M. Martinez, F. Durif, P. Pollak, P. Damier, F. Tison, A. Dürr, P. Amouyel, J.C. Lambert, C. Tzourio, C. Maubaret, F. Charbonnier-Beaupel, K. Tahiri, M. Vidailhet, A. Brice, J.C. Corvol (Paris, France)

1417 Is the brain-derived neurotrophic factor (BDNF) Val66Met genetic polymorphism associated with impulsive-compulsive behaviours in Parkinson's disease?
S.S. O'Sullivan, P. Cheshire, A. Djamshidian, K. Bertram, D.R. Williams, A.J. Lees, T. Foltynie (Cork, Ireland)

1425 First genome-wide association study in multiple system atrophy
A. Sailer, on behalf of the MSA GWAS Consortium (London, United Kingdom)

1422 PINK1-dependent mitophagy in dopaminergic neurons does not require LC3 conversion
A. Rakovic, K. Shurkewitsch, P. Seibler, D. Krainc, C. Klein (Lübeck, Germany)

1377 A clinicopathological study of parkin-linked parkinsonism – A study of 5 cases and comparison with Parkinson's disease
K.M Doherty, L. Silveira-Moriyama, L. Parkkinen, D. Healy, M. Farrell, N.E. Mencacci, Z. Ahmed, F. Brett, J. Hardy, N. Quinn, T.T. Counihan, T. Lynch, T. Revesz, A.J. Lees, J.L. Holton (London, United Kingdom)

1418 Contiguous gene deletions involving the SGCE gene: A clinical description
K.J. Peall, A.J. Waite, M.A. Kurian, M. Smith, H. Pall, T. Nestor, M.D. King, D.J. Blake, M.J. Owen, H.R. Morris (Cardiff, United Kingdom)

1363 Prrt2 gene mutations: From paroxysmal dyskinesia to episodic ataxia and hemiplegic migraine
A. Gardiner, K.P. Bhatia, M. Stameou, R.C. Dale, M. Kurian, S. Schneider, G.M. Wali, T. Counihan, S. Spacey, E.M. Valente, L. Silveira-Moriyama, H.A. Taive, S. Raskin, J.W. Sander, A. Lees, T. Warner, D. Kullman, N.W. Wood, M. Hanna, H. Houlden (London, United Kingdom)

1360 Alpha-synuclein H50Q, a novel pathogenic mutation for Parkinson's disease
S. Appel-Cresswell, C. Vilarino-Guell, I. Yu, B. Shah, D. Weir, C. Thompson, J.A. Stoessl, M.J. Farrer (Vancouver, BC, Canada)

GUIDED POSTER TOUR 10 - Parkinson's disease: Phenomenology

Liffey Hall 2, Level 1
12:00 - 13:30
Wednesday, June 20, 2012
Tour Leaders:
Stanley Fahn, *New York, NY, USA*
Joseph Jankovic, *Houston, TX, USA*

1586 Abnormalities of voice quality in the course of disease progression in Parkinson's disease
W. Grönheit, U. Schlegel, S. Skodda (Bochum, Germany)

1570 An observational study of the impact of early versus delayed treatment on quality of life in Parkinson's disease
D.J.M. McGhee, R. Caslake, C.E. Harris, C.E. Counsell (Aberdeen, United Kingdom)

1551 Asymmetry of gait in parkinsonian patients and its role in the development of freezing
G. Frazzitta, G. Pezzoli, G. Bertotti, G. Riboldazzi, R. Rovescala, R. Maestri (Montescano, Italy)

1580 Baseline findings and Parkinson's disease prognosis
A.H. Rajput, M.L. Rajput, A.H. Rajput (Saskatoon, SK, Canada)

1533 Progressive cortical degeneration in Parkinson's disease
D. Benninger, J. Dukart, J. von Meyenburg, S. Thees, C. Bassetti, D. Waldvogel, S. Kollias, K. Iseki, B. Draganski (Lausanne, Switzerland)

1568 Unexplained lower limb pain syndrome in Parkinson's disease: A variant of central pain
A. Martin, S. Robinson, M. Parry, A.H.V. Schapira, A. Rizos, C. Clough, K. Ray Chaudhuri (London, United Kingdom)

1596 The CamPalGN study of incident Parkinson's disease: Natural history over the first 10 years
C.H. Williams-Gray, S.L. Mason, J.R. Evans, T. Foltynie, R.A. Barker (Cambridge, United Kingdom)

1588 Cognitive correlates of freezing phenomenon in Parkinson's disease
E. Stefanova, M. Jecmenica Lukic, F. Agosta, V. Spica, M. Filippi, V. Kostic (Belgrade, Serbia)

1565 Patterns of daily ambulatory activity are different in early Parkinson's disease compared with controls
S. Lord, A. Godfrey, B. Galna, D. Burn, L. Rochester (Newcastle upon Tyne, United Kingdom)

1543 Freezing of gait in Parkinson's disease under virtual reality conditions studied with a novel treadmill system: A pilot trial
K. Czarnecki, K. Iseki, C.R. Collins, P.T. Ghosh, H.S. Park, J.W. Yoon, M. Hallett (Bethesda, MD, USA)

GUIDED POSTER TOURS—WEDNESDAY, JUNE 20

GUIDED POSTER TOUR 11 - Huntington's disease

Wicklow Hall 1, Level 2
12:00 - 13:30
Wednesday, June 20, 2012
Tour Leaders:
M. Flint Beal, *New York, NY, USA*
John Hardy, *London, United Kingdom*

191 Frontal subcortical dysfunction underlying the applause sign: A study in Huntington's disease subjects
S. Nageshwaran, Y. Bordelon, S. Perlman (London, United Kingdom)

199 Molecular analysis of Huntington's disease in a Cuban population
Y. Vázquez-Mojena, J.M. Laffita-Mesa, L. Laguna-Salvia, Y. González-Zaldívar, D. Almaguer-Gotay, P. Zayas-Feria, L.E. Almaguer-Mederos, R. Rodríguez-Labrada, L. Velázquez-Pérez (Holguin, Cuba)

168 A proposal for a physiotherapy programme to improve gait, balance and functional independence in Huntington's disease
T. Capato, M. Haddad, M.E. Piemonte, E.R. Barbosa (Sao Paulo, Brazil)

200 Antisense oligonucleotides as molecular tools to silence prolonged (CAG)n tracts in Huntington's disease
R. Vlamings, M.M. Evers, W.M.C. van Roon-Mom, S.A.M. Mulders, M.L.F. Janssen, R.C. Verheul, J.C.T. van Deutekom, Y. Temel (Maastricht, Netherlands)

180 Bilateral globus pallidus deep brain stimulation for Huntington's disease: Long term outcome of chorea
V. Gonzalez, L. Cif, B. Biolsi, M. Zanca, E. Sanrey, A.M. Moura, T. Roujeau, S. James, P. Coubes (Montpellier, France)

185 Baseline characteristics of the PREQUEL cohort: An interventional trial in pre-manifest Huntington's disease
A. Killoran, K.M. Biglan, E. Julian-Baros, N. Yoritomo, C.A. Ross (Rochester, NY, USA)

195 Concomitant use of antidepressants and neuroleptics with tetrabenazine during treatment of Huntington's disease
V. Shen, K. Clarence-Smith, C. Hunter, J. Jankovic (Deerfield, IL, USA)

197 Long-term safety and efficacy of tetrabenazine in the treatment of chorea associated with Huntington's disease
V. Shen, K. Clarence-Smith, C. Hunter, J. Jankovic (Deerfield, IL, USA)

181 Cognitive decline in Huntington's disease is associated with CAG repeat length
A. Hellman, B. Durbin-Johnson, X.R. Chen, D. Harvey, C. Decarli, T. Tempkin, V. Wheelock (Philadelphia, PA, USA)

182 Neuropathology of McLeod neuroacanthocytosis syndrome
H.H. Jung, F. Geser, J. Haybäck, B. Bader, A. Danek, P. Fuhr, M. Neumann, R. Reichard, B. Udd, A. Zeman, M. Tolnay (Zürich, Switzerland)

GUIDED POSTER TOUR 12 - Parkinson's disease: Behavorial disorders

Wicklow Hall 2, Level 2
12:00 - 13:30
Wednesday, June 20, 2012
Tour Leaders:
Daniel Weintraub, *Ardmore, PA, USA*
K. Ray Chaudhuri, *London, United Kingdom*

832 The neural correlates of visual misperceptions in Parkinson's disease: Disorder of attentional networks
J.M. Shine, G.M. Halliday, S.J. Bolitho, S.L. Naismith, S.J.G. Lewis (Sydney, Australia)

799 Creative thinking in patients with Parkinson's disease and healthy subjects: The artistic profession makes the difference?
M. Canesi, M.L. Rusconi, E. Reali, F. Moroni, R. Cilia, G. Pezzoli (Milan, Italy)

806 Decision-making, impulsivity and behavioural addictions: Do Parkinson's patients jump to conclusions?
A. Djamshidian, S.S. O'Sullivan, Y. Sanotsky, S. Sharman, Y. Matviyenko, T. Foltynie, R. Michalczuk, I. Aviles-Olmos, K. Doherty, M. Selikhova, H. Bowden-Jones, E. Joyce, A.J. Lees, B.B. Averbeck (London, United Kingdom)

849 Towards the detection of the neural correlates of Parkinson's disease sub-types using MRI
K. Rosenberg Katz, T. Herman, Y. Jacob, G. Nir, J.M. Hausdorff (Tel Aviv, Israel)

817 Rotigotine transdermal patch improved neuropsychiatric features (apathy, anhedonia, anxiety, and depression) and fatigue in patients with Parkinson's disease: Post-hoc analysis of five double-blind placebo-controlled studies
R.A. Hauser, P.A. Nausieda, E. Surmann, K. Moran, P. Barone (Tampa, FL, USA)

865 Morphologic changes of dendritic spines of intratelencephalic-type neurons in the motor cortex of a rat model of levodopa-induced dyskinesia
T. Ueno, H. Nishijima, A. Arai, K. Migita, J. Yamada, M. Baba, S. Ueno, M. Tomiyama (Aomori, Japan)

828 Effects of bilateral subthalamic nucleus deep brain stimulation on impulse control and repetitive behavior disorders in Parkinson's disease: Results from 89 patients
Y.E. Kim, H. Kim, H.J. Kim, J.Y. Lee, J.Y. Yun, J.Y. Kim, S.H. Paek, B.S. Jeon (Seoul, Korea)

868 Suicide ideation and behaviors after deep brain stimulation for Parkinson's disease: Results from a randomized, controlled trial
D. Weintraub, J. Duda, K. Carlson, P. Luo, O. Sagher, F. Weaver (Philadelphia, PA, USA)

841 Minor hallucinations are a frequent and even pre-motor symptom in early untreated Parkinson's disease
J. Pagonabarraga, S. Martinez-Horta, R. Fernández de Bobadilla, C. Villa, R. Ribosa, C. García, B. Pascual-Sedano, A. Gironell, J. Kulisevsky (Barcelona, Spain)

831 Thinning of retina from nasal part associates with visual hallucinatory experience in patients with Parkinson's disease wtih intact cognition
J.Y. Lee, T.W. Kim, H.J. Kim, B.S. Jeon (Seoul, Korea)

GUIDED POSTER TOURS—THURSDAY, JUNE 21

GUIDED POSTER TOUR 13 - Dystonia

Liffey Hall 1, Level 1
12:00 - 13:30
Thursday, June 21, 2012
Tour Leaders:
Cynthia Comella, *Chicago, IL, USA*
Susan Bressman, *New York, NY, USA*

Supported by an unresticted educational grant from Medtronic.

1102 Clinical characteristics of dystonia in patients with Wilson's disease; the frequency of extensor truncal dystonia
A.S. Shalash, T.Y. AbdelGhaffar, S.M. Elsayed (Cairo, Egypt)

1081 Neuropathology of primary cervical dystonia
C.N. Prudente, J. Xiao, C.A. Pardo-Villamizar, M.S. LeDoux, H.A. Jinnah (Atlanta, GA, USA)

1029 Generation of a novel rodent model of DYT1 dystonia
K. Grundmann, T. Ott, N. Gloeckle, M. Walter, M. Bonin, H.P. Nguyen, T.K. Hauser, B. Fehrenbacher, M. Schaller, B. Nuscher, C. Haass, G. Martella, A. Pisani, Z. Yue, O. Riess (Tuebingen, Germany)

1023 A rat knockin model of early onset DYT1 generalized dystonia displays abnormal hindlimb gait
C.T. Frenz, M. Singh, P. Shashidharan (New York, NY, USA)

1090 Tremor dominant cervical dystonia is likely to be familial: Clinical characteristics of a large cohort
I. Rubio Agustí, I. Pareés, M. Kojovic, M.J. Edwards, K.P. Bhatia (London, United Kingdom)

1044 Penetrance of abnormal temporal discrimination thresholds in unaffected first-degree relatives of adult onset primary torsion dystonia patients
O. Kimmich, A. Molloy, D. Bradley, R. Whelan, S. O'Riordan, R.B. Reilly, S. Hutchinson, M. Hutchinson (Dublin, Ireland)

1121 Identification of the genetic cause in the Australian family with spasmodic dysphonia (DYT4)
S. Winkler, A. Ramirez, J. Nahrstaedt, C. Hemmelmann, J. Groen, J. Hagenah, M.A.J. de Koning-Tijssen, A. Ziegler, R.A. Wilcox, C. Klein, K. Lohmann (Lübeck, Germany)

1031 Cerebellar modulation of human associative plasticity
M. Hamada, N. Murase, A. Sadnicka, J.M. Galea, M.J. Edwards, J.C. Rothwell (London, United Kingdom)

1100 Myofibrillar disorganization characterizes myopathy of camptocormia in Parkinson's disease
A. Wrede, N.G. Margraf, H.H. Goebel, G. Deuschl, W.J. Schulz-Schaeffer (Göttingen, Germany)

1036 Immunotherapy-responsive faciobrachial dystonic seizures (FBDS) associated with LGI1-antibodies: A differential diagnosis in movement disorder practice
S.R. Irani, S.A. Schneider, R. Pettingill, S.J.M. Smith, M.R. Johnson, A. Vincent (Oxford, United Kingdom)

GUIDED POSTER TOUR 14 - Parkinsonisms (parkinson plus and secondary)

Liffey Hall 2, Level 1
12:00 - 13:30
Thursday, June 21, 2012
Tour Leaders:
Maria Stamelou, *London, United Kingdom*
Adam Boxer, *San Francisco, CA, USA*

1197 Abnormalities of voice quality in progressive supranuclear palsy (PSP)
S. Skodda, W. Grönheit, U. Schlegel (Bochum, Germany)

1214 Atypical parkinsonian syndromes and fracture risk – Are patients adequately managed?
A.J. Yarnall, G.W. Duncan, T.K. Khoo, D.J. Burn (Newcastle-upon-Tyne, United Kingdom)

1138 Pure parkinsonism in chorea-acanthocytosis: Postmortem evidence for a striato-pallidal process without involvement of the substantia nigra pars compacta
B.S. Connolly, L.N. Hazrati, A.E. Lang (Toronto, ON, Canada)

1166 Hypokinesia without decrement distinguishes progressive supranuclear palsy from Parkinson's disease
H. Ling, L. Massey, A. Lees, P. Brown, B. Day (London, United Kingdom)

1193 Update on ephedrone induced parkinsonism with dystonia: Four year follow up
Y. Sanotsky, M. Selikhova, L. Fedorishin, Y. Matvienko, I. Komnatska, H. Grey, E. Tripoliti, A.J. Lees (London, United Kingdom)

1201 Impaired primary motor cortex LTP/LTD-like plasticity in multiple system atrophy
A. Suppa, L. Marsili, F. Di Stasio, A. Latorre, A. Khandker Parvez, C. Colosimo, G. Fabbrini, A. Berardelli (Rome, Italy)

1165 Clinicopathological study of progressive supranuclear palsy presenting with corticobasal syndrome
H. Ling, R. de Silva, R. Courtney, L. Massey, N. Bajaj, J. Lowe, J. Holton, A. Lees, T. Revesz (London, United Kingdom)

1186 Accuracy of the NINDS-SPSP and the NNIPPS diagnostic criteria for the clinical diagnosis of progressive supranuclear palsy
G. Respondek, S. Roeber, C. Gaig, C. Troakes, J. Van Swieten, W.H. Oertel, G.U. Hoeglinger (Munich, Germany)

1160 Characterization of movement disorder phenomenology in genetically or pathologically proven frontotemporal lobar degeneration: A systematic review of the literature
B.B. Shah, M. Masellis, D. Harmic, D. Fisman, G. Kleiner-Fisman (Toronto, ON, Canada)

1200 Parkinsonism in hereditary diffuse leukoencephalopathy with axonal spheroids due to CSF1R gene mutation
C. Sundal, J. Van Gerpen, A. Nicholson, M. Baker, C. Wider, E. Shuster, J. Aasly, S. Spina, B. Ghetti, S. Roeber, A. Tselis, R. Swerdlow, B. Miller, S. Fujioka, R. Uitti, O. Ross, R. Rademakers, K. Josephs, D. Dickson, Z. Wszolek (Jacksonville, FL, USA)

GUIDED POSTER TOURS—THURSDAY, JUNE 21

GUIDED POSTER TOUR 15 - Tremor

Wicklow Hall 1, Level 2
12:00 - 13:30
Thursday, June 21, 2012
Tour Leaders:
Victor Fung, *Westmead, Australia*
Roger Elble, *Springfield, IL, USA*

1233 Modulation of orthostatic tremor during gait
C. Blahak, M.E. Wolf, H. Bäzner, H.H. Capelle, J.K. Krauss, M.G. Hennerici (Mannheim, Germany)

1243 Essential tremor and tremor associated with dystonia are two distinct clinical entities by tactile and proprioceptive temporal dicrimination tests
A. Fasano, T. Bovi, A. Di Matteo, A. Fiaschi, F. Bove, M. Fiorio, A. Berardelli, M. Tinazzi (Verona, Italy)

1239 Long term history of orthostatic tremor: A review of 50 patients
F. Di Biasio, S.L. Pullman, J.C. Cortés, Q.P. Yu, C. Hess, S. Fahn (Rome, Italy)

1263 Tremor clusters in the VIM associated with essential tremor and Parkinson's disease
D.J. Pedrosa, C. Reck, M. Maarouf, L. Wojtecki, A.M. Pauls, V. Sturm, A. Schnitzler, G.R. Fink, L. Timmermann (Cologne, Germany)

1266 Mild cognitive impairment in essential tremor
M. Petrova, M. Raycheva, Y. Zhelev, O. Grigorova, L. Traykov (Sofia, Bulgaria)

54 Survey of cognitive screening in Parkinson's disease across UK centres
S. Hanumantha Reddy, B. Elliott, D. MacMahon, Delegates at the 16th BGS Parkinson's Academy (London, United Kingdom)

1235 Identifying different pathological tremor characteristics with a smart phone
B. Carignan, J.F. Daneault, C.E. Codere, A.F. Sadikot, C. Duval (Terrebonne, QC, Canada)

1273 Clinical features of parkinsonism with tremor associated with scans without evidence of dopaminergic deficit (SWEDDs)
A. Sacko, V. Moullart, C. Duru, P.E. Merle, O. Godefroy, P. Krystkowiak (Bobigny, France)

1267 Corticomuscular coherence in asymptomatic first degree relatives of patients with essential tremor
J. Raethjen, A. Kostka, M. Muthuraman, M. Nahrwohld, D. Lorenz, G. Deuschl (Kiel, Germany)

1274 Diagnosis of psychogenic tremor using a smartphone
T.A. Saifee, P. Kassavetis, L. Drougkas, G. Roussos, I. Pareés, P. Schwingenschuh, P. Katschnig, K.P. Bhatia, J.C. Rothwell, M.J. Edwards (London, United Kingdom)

GUIDED POSTER TOUR 16 - Surgical therapy of movement disorders other than Parkinson's disease

Wicklow Hall 2, Level 2
12:00 - 13:30
Thursday, June 21, 2012
Tour Leaders:
Paul Krack, *Grenoble, France*
Antonio Strafella, *Toronto, ON, Canada*

Supported by an unresticted educational grant from Medtronic.

959 Factors predicting improvement in essential head tremor following deep brain stimulation
M. Moscovich, T. Morishita, C. Favilla, Z. Peng, K. Foote, M. Okun (Gainesville, FL, USA)

946 Evaluation of the therapeutic profit of nucleus accumbens core on the impulsivity/compulsivity balance in rats
S. Ansquer, A. Belin-Rauscent, E. Dugast, M. Francheteau, J.L. Houeto, D. Belin (Poitiers, France)

958 Cervical dystonia improves with high frequency but not with low frequency pallidal stimulation
E. Moro, B.M. Pascual-Sedano, B. Shah, Y.Y. Poon, M. Fallis, A.M. Lozano, M. Hodaie, P. Hagen, C. Brücke, G.H. Schneider, A. Kühn (Toronto, ON, Canada)

981 Electrophysiology of the anteromedial GPi in Tourette syndrome: A case study
S.E. Zauber, S. Ahn, R.M. Worth, L. Rubchinsky (Indianapolis, IN, USA)

962 Prospective assessment of low- versus high-frequency bilateral subthalamic nucleus (STN) deep brain stimulation (DBS) in patients with primary dystonia
J.L. Ostrem, G.A. Glass, L.C. Markun, C.A. Racine, M.M. Volz, S.L. Heath, P.A. Starr (San Francisco, CA, USA)

949 Treatment of tremor in multiple sclerosis by thalamic deep brain stimulation
F. Hofschulte, S. Paschen, J. Raethjen, H.M. Mehdorn, J. Volkmann, G. Deuschl (Kiel, Germany)

957 Successful GPi-Deep brain stimulation in Tourette syndrome (GTS) – Much more than improvement of tics
J.H. Mehrkens, K. Boetzel, B. Leitner, B. Feddersen, N. Müller, S. Dehning (Munich, Germany)

980 Effect of bilateral pallidal deep brain stimulation in primary dystonia
F. Yokochi, M. Taniguchi, R. Okiyama, S. Kumada (Tokyo, Japan)

969 Long-term follow-up in patients with deep brain stimulation for cervical dystonia
M.W.M. Schüpbach, H. You, I.U. Isaias, T. Loennfors-Weitzel, F. Vingerhoets, J.K. Krauss, J.M. Burgunder, E. Taub, A. Stibal, A. Kaelin-Lang (Bern, Switzerland)

951 A double-blind, randomized, controlled, crossover trial of bilateral deep brain stimulation to the globus pallidus internus in severe Tourette syndrome
Z. Kefalopoulou, L. Zrinzo, M. Beigi, M. Hariz, M. Jahanshahi, P. Limousin, E. Joyce, T. Foltynie (London, United Kingdom)

ABSTRACTS BY TOPIC

Epidemiology

1 The Parkinson's disease in Africa collaboration project in Ghana: The story so far
A. Akpalu, M. Cham, R. Cilia, G. Pezzoli (Accra, Ghana)

2 Association of cumulative some heavy metal exposure with Parkinson's disease
U. Dashdorj, B. Tserensodnom, B. Bold, U. Chimedregzen, F. Komatsu, Y. Kagawa (Ulaanbaatar, Mongolia)

3 Prevalence of neurodegenerative parkinsonism in the isolated population of South-Eastern Moravia, Czech Republic
K. Farníková, P. Kanovsky, L. Mikulicova, P. Jugas, J. Ovecka, M. Kaiserova (Olomouc, Czech Republic)

4 Frequency and pattern of movement disorders in a Nigerian rural tertiary health care institution: A preliminary study
M.B. Fawale (Ile Ife, Nigeria)

5 Pan-American consortium on multiple system atrophy
E. Gatto, C. Cosentino, P. Chana, J.L. Etcheverry, E. Gallin, M. Miranda, Y. Nuñez, V. Parisi, G. Persi, C. Vecchi, A. Sanguinetti, M. Rodriguez-Violante, J. Aparcana, L. Torres, I. Litvan (Buenos Aires, Argentina)

6 The prognosis of psychogenic (functional) motor symptoms: A systematic review
J.M. Gelauff, A.J. Carson, J. Stone (Amsterdam, Netherlands)

7 Plasma urate level associates the odds ration of Parkinson's disease (PD): Out-patient-clinic analysis in the neurology department
H. Iwaki, Y. Tamaki, T. Tsujii, N. Nishikawa, M. Nagai, M. Nomoto (Ehime, Japan)

8 The incidence of Parkinson's disease in North East England
T.K. Khoo, G. Duncan, A.J. Yarnall, D.J. Brooks, R.A. Barker, D.J. Burn (Newcastle upon Tyne, United Kingdom)

9 Epidemiology and age at onset analysis of Parkinson's disease in the eastern region of Cuba (Holguín)
L. Laguna-Salvia, J.A. Valdevila-Figueira, J.M. Laffita-Mesa (Holguin, Cuba)

10 The progression markers in the premotor phase (PMPP) of Parkinson's disease study
I. Liepelt-Scarfone, K. Mueller, C. Bormann, K. Gauss, J. Streffer, D. Berg (Tuebingen, Germany)

11 Prevalence and progression of mild parkinsonian signs in elderly men and women (Bruneck-study cohort): A population-based study
P. Mahlknecht, H. Stockner, S. Kiechl, J. Willeit, A. Gasperi, G. Rungger, W. Poewe, K. Seppi (Innsbruck, Austria)

12 Tracking Parkinson's: The PRoBaND study (Parkinson's repository of biosamples and networked datasets)
N. Malek, N. Bajaj, R. Barker, Y. Ben-Shlomo, D. Burn, T. Foltynie, H. Morris, N. Williams, N. Wood, D. Grosset (Glasgow, United Kingdom)

13 Frequency and clinical characteristics of movement disorders at the neurology clinic of the LAUTECH teaching hospital Osogbo Nigeria
A.F. Mustapha (Osogbo, Nigeria)

14 Risk factors and early non-motor features for Parkinson's disease: A systematic review and meta-analysis
A.J. Noyce, J. Bestwick, L. Silveira-Moriyama, C.H. Hawkes, G. Giovannoni, A.J. Lees, A. Schrag (London, United Kingdom)

15 Peripheral biomarkers of inflammation and Parkinson's disease in women
E.J. O'Reilly, H. Chen, M. Schwarzschild, A. Ascherio (Boston, MA, USA)

16 Spectrum of movement disorders at the premier Lagos Movement Disorders Clinic in Nigeria: First year's experience
N.U. Okubadejo, O.O. Ojo, O.O. Oshinaike, I.A. Bankole, C.B. Aiyejusunle (Lagos, Nigeria)

17 Physical precipitating factors in functional movement disorders
I. Pareés, M. Kojovic, M. Pires, I. Rubio Agustí, T.A. Saifee, A. Sadnicka, P. Kassavetis, K.P. Bhatia, J. Stone, M.J. Edwards (London, United Kingdom)

18 Baseline characteristics for the first Mexican multicentric cohort study: The Parkinson's disease national registry
M. Rodríguez-Violante, C. Zuñiga, M. López, I. Estrada-Bellman, R. Mathieu, C. Ramírez, A. Cervantes-Arriaga (Mexico City, Mexico)

19 Head injury and risk of Parkinson's disease: A systematic review and meta-analysis
A. Samii, M. Etminan, F. Aminzadeh, S. Jafari (Seattle, WA, USA)

20 Trends in initiation of antiparkinsonian drug treatment among patients with Parkinson's disease in the UK between 1997 and 2010: A population-based analysis
R. Schade, M. Sturkenboom (Rotterdam, Netherlands)

21 Incidence and prevalence of primary dystonia in Buenos Aires
C.V. Stefani, J.P. Tartari, A.M. Toral, A.L. Bisonni, D.H. Giunta, D.J. Bauso, E. Cristiano (Buenos Aires, Argentina)

22 Clinical and epidemiological features of hemifacial spasm in Buenos Aires, Argentina
J.P. Tartari, C.V. Stefani, D.H. Giunta, E. Cristiano, D.J. Bauso (Buenos Aires, Aruba)

23 Prevalence of Parkinson's disease in Ukraine
Y.O. Trufanov (Lugansk, Ukraine)

24 Establishing a population-based cohort to investigate Parkinson's disease
S. Tunc, J. Graf, A. Schmidt, V. Tadic, S. Wolff, A. Lorwin, E.J. Vollstedt, J. Hampf, L. Piskol, C. Klein, M. Kasten, J. Hagenah (Lübeck, Germany)

25 Stimulant use associated with risk of Parkinson's disease
S.K. Van Den Eeden, K.S. Albers, C.M. Tanner, A.D. Leimpeter, C.P. Quesenberry, L.M. Nelson (Oakland, CA, USA)

26 Withdrawn by Author

27 Prevalence of restless legs syndrome in Ankara, Turkey
A. Oto, O. Aykac, N. Yilmaz, M.C. Akbostanci (Ankara, Turkey)

28 Prevalence of Parkinson's disease and agricultural employment in Austria
H. Zach, H. Cetin, G. Fülöp, W. Pirker, E. Auff, F. Zimprich (Vienna, Austria)

Parkinson's disease: Cognition

29 Cognitive dysfunction in early Parkinson's disease: Neuropsychological analysis
C. Adams, R. Fulbright, M. Thomas (Bedford, TX, USA)

30 Diurnal sleepiness and executive dysfunctions: A virtual and neuropsychological study in Parkinson's disease and sleep apnea syndrome
G. Albani, L. Priano, P. Cipresso, S. Raspelli, R. Pignatti, P. Ferronato, A. Liuzzi, G. Riva, A. Mauro (Piancavallo, Italy)

31 Graded dual task benefits of cognitive tasks on cycling in Parkinson's disease: Effects of kinesia paradoxa
L.J.P. Altmann, E. Stegemöller, A.A. Hazamy, J.P. Wilson, D. Bowers, C.M. Sapienza, M.S. Okun, C.J. Hass (Gainesville, FL, USA)

ABSTRACTS BY TOPIC

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90 Effect of COMT and DAT1 polymorphisms on the cognitive profile and patterns of neural activity of patients with PD
O. Monchi, A. Noreau, C. Habak, B. Mejia, A. Nagano, A.L. Lafontaine, S. Chouinard, G.A. Rouleau (Montreal, QC, Canada)

91 Attentional set-shifting deficits correlate with severity of freezing of gait in Parkinson's disease
S.T. Moore, J.M. Shine, S.L. Naismith, N.C. Palavra, V. Dilda, T.R. Morris, S.J.G. Lewis (New York, NY, USA)

92 Withdrawn by Author

93 Spatial planning ability in early stage Parkinson's disease patients (ICICLE-PD)
C. Nombela, J.B. Rowe, A. Hampshire, A.M. Owen, D.P. Breen, T.K. Khoo, M. Firbank, A. Yarnall, G. Duncan, J.T. O'Brien, D.J. Burn, D.J. Brooks, R.A. Barker (Cambridge, United Kingdom)

94 Levodopa-induced dyskinesia and neurocognitive function in Parkinson's disease
G.D. Oggioni, J. Devoto, R. Cantello, A.J. Espay (Novara, Italy)

95 Correlation of cognitive impairment evaluated by Montreal Cognitive Assessment with functional brain imaging of Parkinson's disease patients
K. Ohta, T. Osada, T. Tajima, M. Seki, Y. Shinohara (Tokyo, Japan)

96 Assessment of the relationship between total plasma homocysteine and cognitive function in Parkinson's disease
O.O. Ojo, N.U. Okubadejo, O.O. Osinaike, O.O. Oladipo, F.I. Ojini, M.A. Danesi (Idi-araba, Nigeria)

97 Montreal Cognitive Assessment (MoCA) and Mini-Mental State Examination (MMSE) as screening tools for cognitive impairment among patients with idiopathic Parkinson's disease: A descriptive study
L.A. Penaserada, L.K. Ledesma, R.E. Picar, D.E. Cid Czarina, C.E. Carcel (Makati City, Philippines)

98 Mild cognitive impairment and dementia in Parkinson's disease: 5 year follow up
M. Petrovic, E. Stefanova, T. Stojkovic, V. Kostic (Kragujevac, Serbia)

99 Self-awareness of dyskinesias in Parkinson's disease
S. Pietracupa, A. Fasano, M.C. Bloise, A. Latorre, G. Fabbrini, A. Berardelli (Rome, Italy)

100 Vascular risk factors and dementia in Parkinson's disease
B. Lobb, S. O'Connor, A. Peterson, K. Chung, N. Carney, J. Mack, J.F. Quinn (Portland, OR, USA)

101 Long-term verbal memory disorders in Parkinson's disease (PD)
A. Saenz, A. Doe de Maindreville, J. Vaunaize, J.M. Visy, S. Bakchine, N. Ehrle (Reims, France)

102 Screening utility of Montreal Cognitive Assessment (MoCA) for detecting cognitive impairment in patients with Parkinson's disease
M. Seki, M. Kobari, B. Mihara, K. Isozumi, K. Ohta, K. Muramatsu, T. Shirai, K. Takahashi, H. Nozaki, J. Gotoh, K. Yamaguchi, Y. Tomita, H. Sato, D. Yasutomi, Y. Nihei, S. Iwasawa, N. Suzuki (Tokyo, Japan)

103 Prolonged finger tapping test in Parkinson's disease
V. Senanarong, A. Pisanpong, N. Aoonkaeew, S. Udomphanthurak (Bangkok, Thailand)

104 Neural basis of memory impairment in Parkinson's disease: A longitudinal PET study
Y. Shoji, Y. Nishio, A. Takeda, M. Uchiyama, T. Kashinoura, Y. Hosokai, H. Fukuda, E. Mori (Sendai, Japan)

105 Genetic influences on cognitive decline in Parkinson's disease
J.F. Morley, S.X. Xie, H.I. Hurtig, M.B. Stern, A. Colcher, S. Horn, N. Dahodwala, J.E. Duda, D. Weintraub, A.S. Chen-Plotkin, V. Van Deerlin, D. Falcone, A. Siderowf (Philadelphia, PA, USA)

106 Association between olfactory dysfunction and cognition in the PPMI study
A. Siderowf, J.F. Morley, J.E. Duda, D. Weintraub, For the PPMI Investigators (Philadelphia, PA, USA)

107 Utilization of cognitive enhancers in patients with Parkinson's disease. National Parkinson Foundation (NPF) Quality Improvement Initiative
B. Stell, M. Kwansy, O.N. Oguh, T. Simuni, on behalf of the NPF QII Investigators (Chicago, IL, USA)

108 Mobility and falls in people with Parkinson's disease with and without cognitive impairment
E. Stack, C. Fitton, A. Ashburn, H. Roberts, K. Amar (Southampton, United Kingdom)

109 Severe olfactory dysfunction is predictive of dementia associated with Parkinson's disease: A 3-year longitudinal study
T. Baba, A. Kikuchi, K. Hirayama, Y. Nishio, Y. Hosokai, S. Kanno, T. Hasegawa, N. Sugeno, M. Konno, E. Miura, E. Mori, A. Takeda (Sendai, Japan)

110 A novel test for assessing gait under multiple-task conditions: Comparison of the performance among adults, elderly and patients with Parkinson's disease
E. Tardeli, N. Santo, R. Bovi, D. Bertolo, M.E.P. Piemonte (Sao Paulo, Brazil)

111 Association between CSF biomarkers and clinical phenotype of early Parkinson's disease in the Parkinson's Progression Marker Initiative (PPMI)
J.H. Kang, C. Caspell, C. Coffey, P. Taylor, M. Frasier, K. Marek, J.Q. Trojanowski, L.M. Shaw (Philadelphia, PA, USA)

112 Predictors of cognitive impairment in Mongolian patients with Parkinson's disease
B. Tserensodnom, K. Baatar (Ulaanbaatar, Mongolia)

113 Cognitive symptoms in a population-based cohort to study parkinsonism
E.J. Vollstedt, J. Graf, A. Lorwin, J. Hagenah, V. Tadic, N. Brüggemann, A. Schmidt, S. Tunc, J. Hampf, L. Piskol, C. Klein, M. Kasten (Lübeck, Germany)

114 Learning and memory deficits are dependent upon level of global cognitive impairment in Parkinson's disease
G.S. Watson, B.A. Cholerton, S.E. Thomas, C.P. Zabetian, J.F. Quinn, K.A. Chung, T.J. Montine, J.B. Leverenz (Seattle, WA, USA)

115 Computer-game based therapy for balance rehabilitation in individuals with Parkinson's disease
C.P. Whyatt, C.M. Craig (Belfast, United Kingdom)

116 Dual task effects during sentence production in Parkinson's disease
J.P. Wilson, L.J.P. Altmann, A.A. Hazamy, E. Stegemöller, M.S. Okun, C.J. Hass (Gainesville, FL, USA)

117 Increasing the cognitive load of a familiar reach-to-grasp task impairs automatic control in patients with Parkinson's disease
P. Yanovich, R.W. Isenhower, E.B. Torres (Piscataway, NJ, USA)

118 Comparison of the Montreal Cognitive Assessment and Mini-Mental State Examination in detecting cognitive impairment in South-East Asian patients with Parkinson's disease
L.L.L. Yeo, W.I. Koay, Y. Dong, W.Y. Lee, J.A. Catindig, S. Collinson, C. Chen, E.C.H. Lim (Singapore, Singapore)

119 Using ecological event-based acoustic guides to cue gait in Parkinson's disease patients
W.R. Young, M.W.M. Rodger, C.M. Craig (Belfast, United Kingdom)

ABSTRACTS BY TOPIC

120 Prevalence of mild cognitive impairment subtypes in patients with Parkinson's disease– Comparison of two modes of MCI classification
H. Zach, G. Pusswald, D. Moser, A. Gleiß, E. Auff, W. Pirker, J. Lehrner (Vienna, Austria)

121 Cognitive training in patient's with Parkinson's disease
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370 Pisa syndrome induced by dopamine agonists, in two parkinsonian patients
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377 Preladenant in patients with Parkinson's disease and motor fluctuations: Post hoc responder analysis of a phase 2, double-blind, randomized trial
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378 Exploratory analysis of IPX066 on motor fluctuations in advanced Parkinson's disease (PD)
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387 Effect of intravenous amantadine on freezing of gait resistant to dopaminergic therapy: A double-blind, placebo-controlled study
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417 Motor learning based physiotherapy intervention for alleviating freezing of gait in patients with Parkinson's disease
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418 Estimating the risk of first motor complication using a risk calculator based on data from STRIDE-PD
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419 Gait improvement in patients with Parkinson's disease after training in real and virtual environments
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426 The addition of aerobic or resistance training to sensory attention focused exercise: An enhanced treatment for Parkinson's disease?
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430 Dopamine agonists and dyskinesia in advanced Parkinson's disease: A network meta-analysis of rotigotine, pramipexole and ropinirole as adjunct therapy to levodopa
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431 Therapeutic repetitive transcranial magnetic stimulation over the supplementary motor area in Parkinson's disease
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457 Comparison of once-daily versus twice-daily combination of ropinirole prolonged release in Parkinson's disease
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464 Subthalamotomy in patients with Parkinson's disease. Evaluation of motor, cognitive, neuropsychiatric and affective effects for six months
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469 Role of microelectrode recording in STN DBS electrode implantation
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470 Deep brain stimulation and decision making in apathetic patients: A PET study
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475 Analysis of stereotactic accuracy in patients undergoing deep brain stimulation using Nexframe and Leksell frame
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476 Quantitative evaluation of the effects of bilateral subthalamic deep brain stimulation (DBS) on balance in Parkinson's disease (PD)
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484 Saccadic eye movement abnormalities in Parkinson's disease treated by levodopa and deep brain stimulation
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486 Recognition of facial emotions and limbic circuits are not affected by pallidal stimulation in Parkinson's disease: A clinical and PET study
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487 Cost-effectiveness analysis of deep brain stimulation in patients with advanced Parkinson's disease from a UK payer perspective
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488 Expanding the spectrum of the twiddler syndrome: Twiddler by proxy and shoulder raises twiddling
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491 A functional mechanism for deep brain stimulation in Parkinson's disease: The slow axon blockade hypothesis
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492 Improving deep brain stimulation case efficiency by application of Virginia Mason Production System (VMPS)
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495 Effects of dopaminergic and subthalamic stimulation on musical performance parameters: Dissociating timing, intonation, articulation and emotionality
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498 Visuo-motor function in Parkinson's disease is not improved by subthalamic nucleus deep brain neurostimulation
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500 Can a patient with complex mixed dementia be approved for deep brain stimulation (DBS)?
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501 Effects of deep brain stimulation of caudal zona incerta and subthalamic nucleus on pitch level in speech of patients with Parkinson's disease
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502 Interleaving deep brain stimulation (DBS) parameter settings to optimize outcomes
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504 Effect of 60Hz stimulation on gait in STN-DBS patients with Parkinson's disease
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506 Selecting the most optimal trajectories for deep brain stimulation based on microelectrode recording signals
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507 Recommendations for standardized postmortem autopsy procedures in patients treated with deep brain stimulation
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509 Differential STN and GPi deep brain stimulation effects on oculomotor function in patients with Parkinson's disease
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A. Merola, M. Zibetti, N. Arduino, C.A. Artusi, A. Marchisio, Y. Falcone, M. Troiano, S. Angrisano, L. Rizzi, M.G. Rizzone, D. Cocito, L. Lopiano (Torino, Italy)

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559 Somatic mosaicism in SCA2 linked with decreased antioxidant defense. Ataxin-2 polyQ load underlies the antioxidative impairment in SCA2
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J.A. O'Keefe, E.J. Dunn, E.M. Berry-Kravis, B. Ouyang, D.A. Hall (Chicago, IL, USA)

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626 Gait related local field potentials of the pedunculopontine nucleus and the globus pallidus internum in Parkinson's disease
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835 Spatial errors in perceived hand position increase with movement duration in Parkinson's disease and are linked to noise in sensory feedback processing
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856 A survey of the identification and management of depression in people with Parkinson's disease
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859 Falls beyond home among people with Parkinson's disease
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870 A comparative transversal cross-sectional study of cancer prevalence in parkinsonian and non-parkinsonian population in our area
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886 Connecting with Kinect® to improve motor and gait function in Parkinson's disease
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887 Efficiency of motor rehabilitation of Parkinson's disease (PD)
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C. Cooper, R. Stringer (Derby, United Kingdom)

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A. dos Santos, F. Pegollo, J.E. Pompeu, R. Alencar, R. Avanzi (São Paulo, Brazil)

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A.C. Fletcher (Oxford, United Kingdom)

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A. Letanneux, F. Viallet, S. Pinto (Aix-en-Provence, France)

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F.A. Lindop, R.H. Skelly, R. Smith (Derby, United Kingdom)

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C. Brefel-Courbon, F. Durif, P. Krystkowiak, F. Ory-Magne, F. Tison, F. Viallet, L.E. Willemin, I. Bourdeix, K. Rérat (Rueil-Malmaison, France)

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J.P. Reese, J. Klotsche, Y. Winter, W.H. Oertel, H. Irving, J. Rehm, H.U. Wittchen, R. Dodel (Marburg, Germany)

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I. Schlesinger, O. Benyakov, I. Erikh, M. Nassar, E. Sprecher (Haifa, Israel)

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A.L. Törnqvist Jensen, H. Widner, S. Rehncrona, G. Ahlström (Lund, Sweden)

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V. Venkataraman, E.R. Dorsey, K.M. Biglan (Baltimore, MD, USA)

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S. Mavandadi, D. Weintraub, R. Dobkin (Philadelphia, PA, USA)

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B.K. Changizi, R. Alterman, T. Cheung, D. Ngy, C. Cho (New York, NY, USA)

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F. Hofschulte, S. Paschen, J. Raethjen, H.M. Mehdorn, J. Volkmann, G. Deuschl (Kiel, Germany)

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H.T. Lee (Taichung, Taiwan)

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L.C. Markun, P.A. Starr, G.A. Glass, M.M. Volz, J.L. Ostrem (San Francisco, CA, USA)

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J.H. Mehrkens, K. Boetzel, B. Leitner, B. Feddersen, N. Müller, S. Dehning (Munich, Germany)

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N. Nishida, H. Toda, K. Iwasaki, M. Ishikawa (Osaka, Japan)

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S.D. Angelov, J.K. Krauss, K. Schwabe (Hannover, Germany)

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S.R. Taneja, D. Ngy, R.L. Alterman, C. Cho (New York, NY, USA)

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S.E. Zauber, S. Ahn, R.M. Worth, L. Rubchinsky (Indianapolis, IN, USA)

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A. Hassan, F.J. Mateen, E. Coon, J.E. Ahlskog (Rochester, MN, USA)

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D. Haubenberger, P. Bauer, D. Lieba-Samal, A. Zimprich, E. Auff, W. Pirker (Vienna, Austria)

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C.C. Umeh, P. Nichols, L.S. Rosenthal, Z. Mari (Baltimore, MD, USA)

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A. Valadas, P. Pita Lobo, M. Coelho (Lisbon, Portugal)

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M. Ben Djebara, Y. Hizem, I. Belhouane, I. Abdelkefi, I. Kacem, A. Gargouri, E. Leguern, R. Gouider (Tunis, Tunisia)

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F.C.F. Chang, J.E. Ahlskog, K.A. Josephs (Rochester, MN, USA)

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B.M. DiVito, D.D. Duane (Scottsdale, AZ, USA)

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J.L. Durphy, E. Molho (Albany, NY, USA)

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G. Ehm, J.Y. Yun, B.S. Jeon, H.J. Kim (Seoul, Korea)

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A. Erogullari, P. Seibler, D. Braunholz, A. Grünewald, R. Depping, J. Eckhold, M. Albrecht, A. Rakovic, T. Lohnau, G. Gillessen-Kaesbach, C. Klein, K. Lohmann, F.J. Kaiser (Lübeck, Germany)

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G. Ferrazzano, G. Cossu, G. Fabbrini, A. Fasano, D. Martino, F. Morgante, H.A. Jinnah, M. Hallett, A. Berardelli, G. Defazio (Rome, Italy)

1021 Prevalence, predictors, and perceived effectiveness of complementary, alternative and integrative medicine in adult-onset primary dystonia
B.M. Fleming, E.L. Schwab, S.S. Nouer, J.Y. Wan, M.S. LeDoux (Memphis, TN, USA)

1022 Discovering drugs for dystonia. Review of pharmacological targets evaluated in the MPTP-lesioned primate model of levodopa-induced dystonia
S.H. Fox, T.H. Johnston, P. Huot, J.B. Koprich, M. Silverdale, M. Hill, J.M. Brotchie (Toronto, ON, Canada)

1023 A rat knockin model of early onset DYT1 generalized dystonia displays abnormal hindlimb gait
C.T. Frenz, M. Singh, P. Shashidharan (New York, NY, USA)

1024 Procedure oriented sectional anatomy of the foot and ankle region
E. Furr Stimming, J. Harrell, H. Zhang, K. Taber, F. Chio-Tan (Houston, TX, USA)

1025 Cognitive function in primary dystonia patients treated with DBS GPi
A. Gamaleya, A. Bondarenko, A. Tomskiy, S. Buklina, N. Fedorova, V. Shabalov (Moscow, Russia)

1026 DBS GPi for primary dystonia: Behavioral and mood features
A. Gamaleya, A. Tomskiy, A. Bondarenko, S. Buklina, N. Fedorova, V. Shabalov (Moscow, Russia)

1027 Multichannel somatosensory evoked potential (SSEP) recording in writer's cramp during writing and rest
J.M. Gelauff, A.W.G. Buijink, L.J. Bour, M.F. Contarino, J.H.T.M. Koelman, A.F. van Rootselaar (Amsterdam, Netherlands)

1028 Deep brain stimulation of the interal Globus pallidus for dystonic cerebral palsy
Y. Gologorsky, F. Panov, S. Motivala, T. Cheung, R.L. Alterman (New York, NY, USA)

1029 Generation of a novel rodent model of DYT1 dystonia
K. Grundmann, T. Ott, N. Gloeckle, M. Walter, M. Bonin, H.P. Nguyen, T.K. Hauser, B. Fehrenbacher, M. Schaller, B. Nuscher, C. Haass, G. Martella, A. Pisani, Z. Yue, O. Riess (Tuebingen, Germany)

1030 Primary writing tremor with mirroring responsive to botulinum toxin
S.A. Gunzler, D.E. Riley (South Euclid, OH, USA)

1031 Cerebellar modulation of human associative plasticity
M. Hamada, N. Murase, A. Sadnicka, J.M. Galea, M.J. Edwards, J.C. Rothwell (London, United Kingdom)

1032 Prevalence of neutralizing antibodies in a large cohort of long-term treated CD patients
H. Hefter, U. Kahlen, M. Moll (Duesseldorf, Germany)

1033 Dissociation of posture and balance control demonstrated by idiopathic camptocormia
R.J. St George, V.S. Gurfinkel, J.G. Nutt, J. Kraakevik, F.B. Horak (Beaverton, OR, USA)

1034 SGCE mutations in a Taiwanese cohort of early-onset of dystonia
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1035 The modulation effect of premotor suppression on premotor-motor interaction and motor plasticity in patients with dystonia
Y.Z. Huang, C.S. Lu, J.C. Rothwell, C.C. Lo, Y.H. Weng, W.L. Chuang, S.C. Lai, R.S. Chen (Taipei, Taiwan)

1036 Immunotherapy-responsive faciobrachial dystonic seizures (FBDS) associated with LGI1-antibodies: A differential diagnosis in movement disorder practice
S.R. Irani, S.A. Schneider, R. Pettingill, S.J.M. Smith, M.R. Johnson, A. Vincent (Oxford, United Kingdom)

1037 The observation of dystonia in demetia with lewy bodies (DLB)
L.J. Jaffe (San Diego, CA, USA)

1038 A randomized, double-blind, placebo-controlled study comparing the efficacy, safety and tolerability of levodopa-carbidopa (tidomet) versus placebo in patients with X-linked dystonia-parkinsonism (XDP)
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1039 XCiDaBLE: A phase 4, observational, prospective trial evaluating incobotulinumtoxinA for cervical dystonia (CD) or blepharospasm in the United States – Preliminary baseline results on the health impact of CD on patients using the cervical dystonia impact profile
J.J. Jankovic, M. Thomas, A. Vasquez, K. Sethi, A. Verma, E.J. Pappert, H.H. Fernandez (Houston, TX, USA)

1040 The Dystonia Coalition: Three years of progress
A.R. Rosen, J.S. Perlmutter, C. Comella, C. Ludlow, M. Hallett, W. Galpern, J. Ferguson, L. Yan, T. Waliczeck, S. Harbick, H.A. Jinnah (Atlanta, GA, USA)

1041 Using vibration training to increase the strength of surround inhibition in healthy controls and patients with hand dystonia
P. Kassavetis, T.A. Saifee, A. Sadnicka, I. Pareés, M. Kojovic, K.P. Bhatia, J.C. Rothwell, M.J. Edwards (London, United Kingdom)

1042 Motor sequence learning and motor adaptation in primary cervical dystonia
P. Katschnig, P. Schwingenschuh, M. Davare, A. Sadnicka, R. Schmidt, J.C. Rothwell, K.P. Bhatia, M.J. Edwards (Graz, Austria)

1043 Paroxysmal kinesigenic dyskinesia in the idiopathic bilateral striopallidodentate calcinosis
S.J. Kim, E.J. Chung (Busan, Korea)

1044 Penetrance of abnormal temporal discrimination thresholds in unaffected first-degree relatives of adult onset primary torsion dystonia patients
O. Kimmich, A. Molloy, D. Bradley, R. Whelan, S. O'Riordan, R.B. Reilly, S. Hutchinson, M. Hutchinson (Dublin, Ireland)

1045 Notes from a small island: Developing a musicians' dystonia clinic in Dublin
J. Bressan, O. Kimmich, D. Bradley, F. Molloy, M. Hutchinson, S. O'Riordan, N. Tubridy (Dublin 4, Ireland)

1046 Axial dystonia as a phenotype of adult onset primary torsion dystonia
A. Molloy, O. Kimmich, S. O'Riordan, M. Hutchinson (Dublin, Ireland)

1047 Motor cortex plasticity and eye blink conditioning are normal in secondary dystonia
M. Kojovic, I. Pareés, P. Kassavetis, C. Cordivari, F. Palomar, P. Mir, J.C. Rothwell, K.P. Bhatia, M.J. Edwards (London, United Kingdom)

1048 Health-related quality of life in primary and secondary dystonia after pallidal deep brain stimulation
N. Kovács, B. Bone, G. Deli, E. Bosnyák, F. Nagy, J. Janszky, S. Komoly, T. Doczi, Z. Illes, Z. Aschermann, E. Tasnadi, Z. Pfund, I. Balás (Pécs, Hungary)

1049 BDNF val66met polymorphism in idiopathic dystonia patients in Serbia
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1082 Adult onset idiopathic focal lower extremity dystonia: A comparative phenomenological analysis of this novel task specific dystonia
R.A. Ramdhani, C. Cho, S.J. Frucht (New York, NY, USA)

1083 The effects of rehabilitation using brain techniques on musician focal dystonia
M. Ramella, G. Giacobbi, A. Castagna, R.M. Converti (Milano, Italy)

1084 Relationship of handedness to arm dystonia in CBD
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1085 Association of blepharospasm with parkinsonism, and essential tremor
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1086 Pain correlates with patient global assessment of cervical dystonia severity
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1087 New systems for the assessment of visual temporal discrimination thresholds in dystonia
I. Killane, A. Malloy, K. Roberts, O. Kimmish, R. Whelan, S. O'Riordan, M. Hutchinson, R.B. Reilly (Dublin, Ireland)

1088 Efficacy of myectomy of the pretarsal and preseptal components of the orbicularis oculi and frontalis suspension for the treatment of blepharospasm resistant to botulinum toxin
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1089 "Clubcutting" dystonic tremor – A novel occupational task-specific dystonia
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1090 Tremor dominant cervical dystonia is likely to be familial: Clinical characteristics of a large cohort
I. Rubio Agustí, I. Pareés, M. Kojovic, M.J. Edwards, K.P. Bhatia (London, United Kingdom)

1091 Internal globus pallidus stimulation and temporal discrimination thresholds in cervical dystonia – Preliminary data suggests that clinical improvement does not represent improved sensory function
A. Sadnicka, O. Kimmich, C. Pisarek, J. Galea, P. Kassavetis, T.A. Saifee, I. Pareés, T. Lampreira, L. Zrinzo, M. Hariz, J.C. Rothwell, K.P. Bhatia, P. Limousin, T. Foltynie, M. Hutchinson, M.J. Edwards (London, United Kingdom)

1092 Is synaptic plasticity normal in writer's cramp? Anodal cerebellar stimulation shows promising preliminary evidence that it can modulate PAS in dystonia
A. Sadnicka, M. Hamada, M. Kojovic, P. Kassavetis, I. Pareés, T.A. Saifee, K.P. Bhatia, J.C. Rothwell, M.J. Edwards (London, United Kingdom)

1093 Local complications of botulinum neurotoxin application in movement disorders
N. Cinar, S. Sahin, T.O. Onay, K. Batum, S. Karsidag (Istanbul, Turkey)

1094 Manual volumetry of the cerebellum and thalamus in primary cervical dystonia
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1095 Effects of globus pallidus internus (GPi) DBS on quiet stance in primary multisegmental dystonia: Preliminary data
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1096 Inter-hemispheric inhibition of wrist muscles is different in writer's cramp with and without mirror dystonia
V. Sattler, M. Dickler, M. Michaud, M. Simonetta Moreau (Toulouse, France)

1097 Impaired synaptic plasticity and cholinergic dysfunction in the striatum of a novel rat model of DYT1 dystonia
T. Schirinzi, G. Madeo, G. Martella, M. Maltese, O. Riess, K. Grundmann, A. Pisani (Rome, Italy)

1098 Challenges of making music: An environmental case-control study of musician's dystonia
A. Schmidt, H.C. Jabusch, E. Altenmüller, J. Möller, A. Göbel, M. Kasten, C. Klein (Lübeck, Germany)

1099 Botulinum toxin therapy in patients with oral anticoagulation: Hematoma frequency vs. other side effects
C. Schrader, P. Tacik, M. Ebke, D. Dressler (Hannover, Germany)

1100 Myofibrillar disorganization characterizes myopathy of camptocormia in Parkinson's disease
A. Wrede, N.G. Margraf, H.H. Goebel, G. Deuschl, W.J. Schulz-Schaeffer (Göttingen, Germany)

1101 Satisfaction with botulinum toxin treatment: A cross-sectional study of patients with cervical dystonia
K.D. Sethi, R. Rodriguez, B. Olayinka (Greensboro, NC, USA)

1102 Clinical characteristics of dystonia in patients with Wilson's disease; the frequency of extensor truncal dystonia
A.S. Shalash, T.Y. AbdelGhaffar, S.M. Elsayed (Cairo, Egypt)

1103 Association of rs1182 polymorphism in TOR1A with primary dystonia in Chinese population
W. Song, R. Huang, K. Chen, Y.P. Chen, B. Cao, Y. Yang, H. Shang (Chengdu, China)

1104 Association of the Val66Met polymorphism of BDNF with primary dystonia in Chinese population
Y.P. Chen, W. Song, R. Huang, K. Chen, J.P. Li, Y. Yang, H. Shang (Chengdu, China)

1105 IncobotulinumtoxinA (NT 201, XEOMIN®) administered at flexible intervals of 6-20 weeks in subjects with cervical dystonia
C. Singer, E. Pappert, A. Hanschmann, H. Fernandez (Miami, FL, USA)

1106 Cervical dystonia substantially impacts employment status, absenteeism, and presenteeism: Baseline results from Cervical Dystonia Patient Registry for the Observation of OnabotulinumtoxinA Efficacy (CD PROBE)
M. Stacy, L. Bloudek, M. Schwartz, M. Brin, S. Papapetropoulos (Durham, NC, USA)

1107 The prevalence of primary dystonia: A systematic review and meta analysis
T. Steeves, L. Day, N. Jette, T. Pringsheim (Toronto, ON, Canada)

1108 Cervical dystonias – Clinico-radiologic correlations and differentiation of torticaput and torticollis
A. Stenner, G. Reichel, A. Jahn (Zwickau, Germany)

1109 Patient experiences and awareness of the diagnosis and treatment of dystonia
N.P. Stover, E.R. Burns, T.E. Welty (Birmingham, AL, USA)

1110 A new mutant mouse with symptoms of dystonia
K.J. Sweadner, Y.B. Liu, L.J. Ozelius, A. Brashear (Boston, MA, USA)

1111 Dopa-responsive dystonia revisited: Diagnostic delay, residual signs, and non-motor signs
V. Tadic, K. Meike, N. Brüggemann, S. Stiller, J. Hagenah, C. Klein (Lübeck, Germany)

1112 Distribution of mutant torsinA in living cells
I. Toyoshima, E. Abe, S. Kamada (Yurihonjo, Japan)

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1113 ANCHOR-CD (AbobotulinumtoxinA Neurotoxin: Clinical & Health economics Outcomes Registry in Cervical Dystonia): A multicenter, observational study of dysport in cervical dystonia: Baseline data and cycle one outcomes data
R.M. Trosch, C.L. Comella, M.F. Lew, P.A. LeWitt, C. Singer, S. Russell, S. Chang, C.M. Clary, Y. Silay, C.M. Coleman, D. Marchese, J.P. Hubble (Southfield, MI, USA)

1114 ANCHOR-CD (AbobotulinumtoxinA Neurotoxin: Clinical & Health economics Outcomes Registry in Cervical Dystonia): A multicenter, observational study of dysport in cervical dystonia: Patient demographic, history, and health economics data
R.M. Trosch, C.L. Comella, M.F. Lew, P.A. LeWitt, C. Singer, D. Marchese, S. Russell, S. Chang, C.M. Clary, Y. Silay, C.M. Coleman, J.P. Hubble (Southfield, MI, USA)

1115 XCiDaBLE: A phase 4, observational, prospective trial evaluating incobotulinumtoxinA for cervical dystonia (CD) or blepharospasm in the United States – Preliminary baseline results for patients with CD
D. Truong, F. Danisi, K. Sethi, A. Verma, E.J. Pappert, H.H. Fernandez (Fountain Valley, CA, USA)

1116 Withdrawn by Author

1117 An unusual case of late onset myoclonic dystonia: Possible association with past electric injury?
T. Tsironis, G. Xiromerisiou, D. Tsiptsios, M. Krommyda, D. Kiourtidis, C. Zakestidis, E. Katsioulis, I. Tsiptsios (Thessaloniki, Greece)

1118 Cerebellar cTBS repairs eyeblink conditioning in primary cervical dystonia
B.S. Hoffland, P. Kassavetis, M. Bologna, J.T.H. Teo, K.P. Bhatia, J.C. Rothwell, M.J. Edwards, B.P.C. van de Warrenburg (nijmegen, Netherlands)

1119 Dystonia in ***FMR1*** premutation carriers
C.L. Vaughan, B. Ouyang, C.G. Goetz, E.M. Berry-Kravis, R.J. Hagerman, M.A. Leehey, D.A. Hall (Chicago, IL, USA)

1120 Botulinumneurotoxin A might improve dystonia secondary to complex regional pain syndromes (CRPS)
T. Vogt, D. Bunyatian, C. Geber, F. Birklein (Mainz, Germany)

1121 Identification of the genetic cause in the Australian family with spasmodic dysphonia (DYT4)
S. Winkler, A. Ramirez, J. Nahrstaedt, C. Hemmelmann, J. Groen, J. Hagenah, M.A.J. de Koning-Tijssen, A. Ziegler, R.A. Wilcox, C. Klein, K. Lohmann (Lübeck, Germany)

1122 THAP1 mutations and dystonia phenotypes: A metanalysis, genotype phenotype correlations and identification of novel mutations
G. Xiromerisiou, H. Houlden, N. Scarmeas, M. Stamelou, E. Kara, J. Hardy, A. Lees, P.L.V. Korlipara, P. Limousin, R. Paudel, G.M. Hadjigeorgiou, K. Bhatia (Larissa, Greece)

1123 A case of adult onset Sandifer syndrome
S. Yousuf, M.A. Rana, A.Q. Rana (Scarborough, Canada)

1124 Two novel mutations of GTP cyclohydrolase I gene and genotype-phenotype correlation in Chinese dopa-responsive dystonia patients
L. Yu, H. Zhou, F. Hu, Y. Xu (Chengdu, China)

1125 Functional and morphometric changes in the globus pallidus in writer's cramp
K.E. Zeuner, A. Knutzen, J. Götz, O. Granert, S. Wolff, D. Dressler, G. Deuschl, K. Witt (Kiel, Germany)

1126 Fatal paroxysmal non-kinesigenic dystonia
S. Zittel, C. Ganos, C. Gerloff, T. Bäumer, A. Münchau (Hamburg, Germany)

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1127 Influence of Middendorf breathing therapy on lung function, postural stability and well-being in patients with Parkinson's disease and Parkinson's-plus syndromes
C. Abright, G. Nübling, K. Pichler, S. Lorenzl (Munich, Germany)

1128 Diffusion tensor imaging contributes to differentiate Richardson's syndrome from progressive supranuclear palsy-parkinsonism
F. Agosta, M. Pievani, M. Svetel, M. Jecmenica Lukic, M. Copetti, A. Tomic, A. Scarale, G. Longoni, G. Comi, V. Kostic, M. Filippi (Milan, Italy)

1129 Psychogenic parkinsonism in a general neurology clinic
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1130 Prospective 1-year follow-up controlled study of DaTSCAN™ SPECT imaging in patients with clinically uncertain parkinsonian syndromes demonstrates changes in clinical management, diagnosis, and confidence of diagnosis
N. Bajaj, A. Kupsch, F. Weiland, A. Tartaglione, S. Klutmann, M. Buitendyk, P. Sherwin, A. Tate, I.D. Grachev (Derby, United Kingdom)

1131 Multiple system atrophy presenting like corticobasal syndrome at onset
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1132 Clinical features and 123I-FP-CIT SPECT imaging in vascular parkinsonism and Parkinson's disease
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1133 Burden of care among caregivers in Indian patients with Parkinson's disease
K.B. Bhattacharyya, D. Sanyal, P. Bose, A. Misra, S. Das (Kolkata, India)

1134 The impact of non-motor symptoms of Parkinson's disease on the quality of life in Indian patients
K.B. Bhattacharyya, D. Sanyal, P. Bose, A. Mishra, S. Das (Kolkata, India)

1135 Isolated backward gait disturbances as an early sign of progressive supranuclear palsy. Case report
M. Boczarska-Jedynak, D. Stompel, B. Jasinska-Myga, M. Flak, B. Czechowicz, G. Opala (Katowice, Poland)

1136 Voluntary, spontaneous and reflex blinking in multiple system atrophy
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1137 Quantitative gait analysis in parkin disease
A. Castagna, S. Frittoli, F. Del Sorbo, A. Elia, B. Reggiori, A. Albanese (Milan, Italy)

1138 Pure parkinsonism in chorea-acanthocytosis: Postmortem evidence for a striato-pallidal process without involvement of the substantia nigra pars compacta
B.S. Connolly, L.N. Hazrati, A.E. Lang (Toronto, ON, Canada)

1139 PSP-Richardson's syndrome (PSP-RS) phenotypes with severe eyelid retraction, foot dystonia, sialorrhea and cervicalgia due to retrocollis treated with botulinum toxin type A. Report of two cases
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1140 Parkinsonism in a cohort of patients with mitochondrial disorders
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1171 Two cases of young onset Parkinson's disease with unusual genetics
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1172 CSF total-tau and phospho-tau levels are low in pallidopontonigral degeneration (PPND)
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1173 Impulsive suicidality as a presenting feature of progressive supranuclear palsy
S.T. O'Dowd, K.A. Roberts, P. Crowley, T. Lynch (Dublin, Ireland)

1174 Clinical analysis of parkinsonism with slit ventricles in shunted hydrocephalus secondary to aqueduct stenosis
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1175 Vertical saccades in progressive supranuclear palsy (PSP): Small or slow?
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1176 Maintaining glottic opening in multiple system atrophy: Efficacy of serotonergic therapy
T. Ozawa, K. Sekiya, Y. Sekine, T. Shimohata, M. Tomita, H. Nakayama, N. Aizawa, R. Takeuchi, T. Tokutake, S. Katada, M. Nishizawa (Niigata, Japan)

1177 Delayed onset of parkinsonism after industrial toxic gases intoxication
M.Y. Park, D.H. Kim, H.J. Park (Daegu, Korea)

1178 The use of basal ganglia drugs as palliative therapy for secondary parkinsonism in malignant CNS tumor patients: A University of Florida experience
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1179 Exposure of multiple system atrophy (MSA) patients with or without orthostatic hypotension (OH) to potentially hypotensive drugs
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1180 Value of "hot cross bun sign" in multiple system atrophy-C (MSA-C)
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1181 Grip force control in Parkinson's disease and atypical forms of parkinsonism
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1182 A randomized, placebo-controlled clinical trial to assess the effects of rasagiline in patients with multiple system atrophy of the parkinsonian subtype
W. Poewe, P. Barone, N. Gliadi, S. Gilman, P.A. Low, C. Sampaio, K. Seppi, G.K. Wenning, For the Rasagiline-for-MSA Investigators (Innsbruck, Austria)

1183 Donepezil and selegiline to improve balance control in a case of progressive supranuclear palsy
J. McDonald, P. Corbeil, E. Pourcher (Quebec City, QC, Canada)

1184 Evaluation of supranuclear palsy rating scale in patients with progressive supranuclear palsy
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1185 Evaluation of unified multiple system atrophy rating scale (UMSARS) in Indian MSA patients
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1186 Accuracy of the NINDS-SPSP and the NNIPPS diagnostic criteria for the clinical diagnosis of progressive supranuclear palsy
G. Respondek, S. Roeber, C. Gaig, C. Troakes, J. Van Swieten, W.H. Oertel, G.U. Hoeglinger (Munich, Germany)

1187 Eyelid opening apraxia in multiple systems atrophy
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1188 Atypical parkinsonism in Cerebrotendinous Xanthomatosis (CTX): A family with corticobasal syndrome (CBS)
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1189 Validation of the French version of the multiple system atrophy health-related quality of life scale (MSA-QoL)
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1190 Incidence and distribution of atypical parkinsonism in Olmsted County Minnesota, 1991 – 2005
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1191 Progressive supranuclear palsy – Cortico basal degeneration syndrome: A diagnostic challenge
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1192 Gait and balance dysfunction in progressive supranuclear palsy. Why do patients with PSP fall?
B.M. Schoneburg, M. Mancini, F.B. Horak, J.G. Nutt (Portland, OR, USA)

1193 Update on ephedrone induced parkinsonism with dystonia: Four year follow up
Y. Sanotsky, M. Selikhova, L. Fedorishin, Y. Matvienko, I. Komnatska, H. Grey, E. Tripoliti, A.J. Lees (London, United Kingdom)

1194 Malignant vascular parkinsonism
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M.T. Pham, G. Bernard, S. Chouinard (Montréal, QC, Canada)

1320 Prevalence and risk factors for the development of dyskinesia among Filipino patients with Parkinson's disease: A 7 year retrospective study
L.L. Shiong Shu, R.D.G. Jamora (Manila, Philippines)

1321 New abnormal movements and MRI findings associated with metroniadazole (MTZ)-induced encephalopathy (MIE), a case series
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G. Yahalom, N. Kaplan, A. Vituri, O.S. Cohen, R. Inzelberg, E. Kozlova, A.D. Korczyn, S. Rosset, E. Friedman, S. Hassin-Baer (Tel Hashomer, Israel)

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1324 Stereotypy after cerebellar infarction
D. Lee, T.B. Ahn (Seoul, Korea)

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1326 Limbic and motor circuits involved in symmetry behavior in Tourette syndrome
F.E. de Vries, O.A. van den Heuvel, D.C. Cath, H.J. Groenewegen, A.J. van Balkom, R. Boellaard, A.A. Lammertsma, D.J. Veltman (Utrecht, Netherlands)

1327 Painful/-less legs with moving toes: Unilateral or bilateral involvement
M.H. Chang (Taichung, Taiwan)

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D. Hall, V. Kaytser, B. Ouyang, E. Berry-Kravis (Chicago, IL, USA)

1331 Gilles de la Tourette disorder and its relationship with OCD, ADHD and autism: A second order factor analysis
M. Huisman-vanDijk, D. Cath (Utrecht, Netherlands)

1332 Genetic polymorphism of BTBD9 gene in Polish patients with Gilles de la Tourette syndrome
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1335 Diagnostic and prognostic issues in adolescents with psychogenic tics
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1337 Paroxysmal movement disorders in multiple sclerosis – A case series
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1340 Regional cerebral blood flow (rCBF) modified by deep brain stimulation (DBS) in patients with medically-refractory Tourette syndrome (TS)
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R. Borgohain, Y.R. Arepareddy, S.R. Chalamalla, R.M. Kandadai, A. Jabeen, M.A. Kannikannan, P. Ankathi (Hyderabad, India)

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F. Loureiro, A. Dalbem, S. Trentin, I. Gomes (Porto Alegre, Brazil)

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M. Mata, J. Toquero, J.J. Lopez Lozano (Majadahonda, Spain)

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T. Nakamura, T. Hara, Y. Mizutani, H. Watanabe, M. Hirayama, G. Sobue (Nagoya, Japan)

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T. Ong, R. Davies, C. Holden, I. Gunawardena (Nottingham, United Kingdom)

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J.M. Rabey, G. Abruzzese, T. Prokhorov, U. Bonuccelli (Zerifin, Israel)

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S.R. Schreglmann, M. Sommerauer, H. Vogel, G. Eisele, C.R. Baumann (Zurich, Switzerland)

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K.M. Shannon, A. Keshavarzian, H.B. Dodiya, S. Jakate, J.H. Kordower (Chicago, IL, USA)

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T. Stojkovic, S. DeLuka, T. Pekmezovic, M. Svetel, V.S. Kostic (Belgrade, Serbia)

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T. Uchiyama, T. Yamanishi, R. Sakakibara, M. Yoshiyama, Z. Liu, T. Yamamoto, C. Yamaguchi, M. Yamagisawa, Y. Higuchi, K. Hirata, S. Kuwabara (Tochigi, Japan)

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L.E. Almaguer-Mederos, Y. González-Zaldívar, D. Almaguer-Gotay, J.M. Laffita-Mesa, S. Mejías-Brito, D. Cuello-Almarales (Holguín, Cuba)

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S. Appel-Cresswell, C. Vilarino-Guell, I. Yu, B. Shah, D. Weir, C. Thompson, J.A. Stoessl, M.J. Farrer (Vancouver, BC, Canada)

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I. Beaulieu-Boire, S. Chouinard, P. Duquette, G. Bernard (Sherbrooke, QC, Canada)

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S. Biskup, D. Boehm, H.J. Pander, M. Synofzik, L. Schöls, J. Prudlo, T. Gasser (Tuebingen, Germany)

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N. Bregman, A. Mirelman, A. Thaler, E. Ash, K. Yasinovsky, T. Hendler, N. Giladi (Tel Aviv, Israel)

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M. Carecchio, M. Magliozzi, M. Copetti, A. Ferraris, L. Bernardini, M. Bonetti, M.J. Edwards, I. Torrente, F. Pellegrini, C. Comi, K.P. Bhatia, E.M. Valente (Novara, Italy)

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G. Charlesworth, S. Gandhi, J.M. Bras, S.M. Gentleman, R. Guerreiro, J. Hardy, J.L. Holton, A. Lees, U.M. Sheerin, N.W. Wood, N.W. Wood (London, United Kingdom)

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P.Y. Chen, C.S. Lu, S.H. Yan, S.C. Lai, R.S. Chen, T.H. Yeh (Taipei, Taiwan)

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K.M Doherty, L. Silveira-Moriyama, L. Parkkinen, D. Healy, M. Farrell, N.E. Mencacci, Z. Ahmed, F. Brett, J. Hardy, N. Quinn, T.T. Counihan, T. Lynch, T. Revesz, A.J. Lees, J.L. Holton (London, United Kingdom)

1378 Interesting case of Rett sydrome (RTT) in the daughter of a Filipino male with X-linked dystonia parkinsonism (XDP, DYT3)
L.V. Lee, R.D.G. Jamora, P.M.D. Pasco, A.R. Domingo, R. Borres, Y. Nomura, M. Segawa (Manila, Philippines)

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A. Drobnis, S.A. Scala, J.W. Zani, D. Apetauerova (Burlington, MA, USA)

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R. Duran, A. McNeill, J. Bras, A. Schapira, J. Hardy (London, United Kingdom)

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Z. Gan-Or, A. Bar-Shira, D. Dahary, A. Mirelman, M. Kedmi, T. Gurevich, N. Giladi, A. Orr-Urtreger (Tel Aviv, Israel)

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J. Graf, K. Lohmann, A. Ferbert, V. Kostic, E. Moro, A. Münchau, A.A. Kühn, E. Altenmüller, K. Zeuner, J. Hagenah, N. Brüggemann, C. Klein, A. Schmidt (Lübeck, Germany)

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L. Greenbaum, O.S. Cohen, R. Inzelberg, N. Kaplan, G. Yahalom, E. Kozlova, H. Strauss, B. Lerer, S. Hassin-Baer (Ramat Gan, Israel)

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T. Gurevich, L. Merkin, A. Orr-Urtreger, A. Bar Shira, E. Serafimova Atanasova, H. Shabtai, A. Ezra, J. Knaani, A. Hilel, A. Mirelman, N. Giladi (Tel Aviv, Israel)

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S. Heinitz, R. Rosales, L.V. Lee, R.D. Jamora, A.R. Ng, K. Freimann, K. Lohmann, U. Walter, I. Nagel, A. Rolfs, U. Gölnitz, G. Gillessen-Kaesbach, D. Dressler, C. Klein, A. Westenberger (Lübeck, Germany)

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J. Hersheson, A. Pittman, H. Houlden (London, United Kingdom)

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F. Hopfner, E.C. Schulte, F. Knauf, B. Mollenhauer, P. Lichtner, A. Zimprich, B. Bereznai, M.J. Molnar, D. Haubenberger, W. Pirker, T. Brücke, A. Peters, C. Gieger, C. Trenkwalder, J. Winkelmann (Kiel, Germany)

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Z. Jamrozik, M. Berdynski, C. Zekanowski, A. Baranczyk-Kuzma, J. Slawek, M. Kuzma-Kozakiewicz (Warsaw, Poland)

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A. Lugowska, A.E. Wisniewska, J. Slawek, P. Janik, A. Potulska-Chromik, D. Koziorowski, A. Friedman, M. Kuzma-Kozakiewicz, D. Hoffman-Zacharska, Z. Jamrozik (Warsaw, Poland)

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H. Alonso-Navarro, E. García-Martín, C. Martínez, J. Benito-León, O. Lorenzo-Betancor, P. Pastor, T. López-Alburquerque, L. Samaranch, E. Lorenzo, J.A.G. Agúndez, F.J. Jiménez-Jiménez (Arganda del Rey, Spain)

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E. Kara, G. Xiromerisiou, R. Paudel, T. Revesz, J. Holton, A. Lees, N. Wood, M.J. Edwards, P. Korlipara, T. Foltynie, K. Bhatia, J. Hardy, H. Houlden (London, United Kingdom)

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O. Kaut, I. Schmitt, U. Wüllner (Bonn, Germany)

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1399 Analysis of GWAS-linked GAK locus in ethnic Chinese
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1400 The SNCA gene two novel missense mutations in Parkinson's disease
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1401 Two faces of the same coin: Benign familial infantile seizures and paroxysmal kinesigenic dyskinesia caused by ***PRRT2*** mutations
K.R. Kumar, A. Schmidt, K. Redyk, A. Grunewald, M. Leben, A. Munchau, C.M. Sue, J. Hagenah, H. Hartmann, K. Lohmann, H.J. Christen, C. Klein (Luebeck, Germany)

1402 CAG analysis, haplotypes, unstable repeats, recombination, pedigrees, gene dosage, genotype-phenotype relationship and genetics polymorphisms in the SCA2 (ATXN2) locus
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1405 Genetic investigation of Parkinson's disease in South Wales
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1406 Pure parkinsonism caused by ATXN2 mutation in a Chinese family
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K. Markopoulou, M.L. Filipi, D.W. Dickson, Z.K. Wszolek, R. Rademakers, B.A. Chase (Glenview, IL, USA)

1409 Genetic analysis of paroxysmal dystonic choreoathetosis (PDC/PNKD); patient and hamster model study
H. Matsuo, S.E. Sander, M. Hamann, A. Richter, T. Hamada, A. Nakayama, Y. Utsumi, Y. Kawamura, H. Onoue, K. Kaida, Y. Kobayashi, K. Kamakura, N. Shinomiya (Tokorozawa, Japan)

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A. Mirelman, T. Gurevich, A. Weiss, A. Bar-Shira, M. Zelis, S. Bressman, K. Marder, A. Orr-Urtreger, J.M. Hausdorff, N. Giladi, AJ LRRK2 Consortium (Tel Aviv, Israel)

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A. Mirelman, T. Gurevich, A. Thaler, K. Yasinovsky, Y. Doyev, L. Bar Gil, A. Bar Shira, A. Orr-Urtreger, N. Giladi (Tel Aviv, Israel)

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K.Y. Mok, A. Sailer, L. Schottlaender, MSA Study Consortium (London, United Kingdom)

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K.Y. Mok, D. Kasperaviciute, S.A. Schneider, S.M. Pickering-Brown, M. Silverdale, M.J. Edwards, K.P. Bhatia, J. Hardy (London, United Kingdom)

1415 Reduced arm swing in ultrasound-based gait analysis is a subtle motor sign in heterozygous PINK1 mutation carriers
L. Nürnberger, S. Chen, J. Hagenah, S. Baudrexel, J. Roggendorf, R. Hilker, C. Klein (Frankfurt, Germany)

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M. Svetel, I. Novakovic, M. Hartig, V. Dobricic, C. Beaubois, M. Krajinovic, V. Kostic (Belgrade, Serbia)

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S.S. O'Sullivan, P. Cheshire, A. Djamshidian, K. Bertram, D.R. Williams, A.J. Lees, T. Foltynie (Cork, Ireland)

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K.J. Peall, A.J. Waite, M.A. Kurian, M. Smith, H. Pall, T. Nestor, M.D. King, D.J. Blake, M.J. Owen, H.R. Morris (Cardiff, United Kingdom)

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T. Peeraully, P. Kumar, Z. Yi, E.K. Tan (Singapore, Singapore)

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L. Li, X. Chang, X. Mao, J. Zhang, D. Zhao, R. Peng, E.K. Tan (Chengdu, China)

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C. Perandones, J.C. Giugni, D.S. Calvo, G.B. Raina, L. De Jorge Lopez, V. Volpini, M. Radrizzani, I. Fernandez Mata, F.E. Micheli (Ciudad Autonoma de Buenos Aires, Argentina)

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A. Rakovic, K. Shurkewitsch, P. Seibler, D. Krainc, C. Klein (Lübeck, Germany)

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S.A. Rodríguez Quiroga, D. Gonzalez Morón, T. Arakaki, N.S. Garretto, M.A. Kauffman (Buenos Aires, Argentina)

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O.A. Ross, A.I. Soto-Ortolaza, S. Rayaprolu, A. Strongosky, D.W. Dickson, Z.K. Wszolek (Jacksonville, FL, USA)

1425 First genome-wide association study in multiple system atrophy
A. Sailer, on behalf of the MSA GWAS Consortium (London, United Kingdom)

1426 Knowledge of and interest in genetic information among Parkinson's disease patients and caregivers
K. Sakanaka, N.H. Chakiryan, G. Cabrera, M.L. Orbe Reilly, C.H. Waters, K.S. Marder, R.N. Alcalay (New York, NY, USA)

1427 Japanese 2nd GWAS identifies strong association at a novel risk locus and MCCC1 for Parkinson's disease
W. Satake, K. Yamamoto, Y. Ando, A. Takeda, H. Tomiyama, H. Kawakami, K. Hasegawa, F. Obata, M. Watanabe, A. Tamaoka, K. Nakashima, S. Sakoda, M. Yamamoto, N. Hattori, M. Murata, Y. Nakamura, T. Toda (Kobe, Japan)

1428 Exome sequencing in familial multiple system atrophy
L.V. Schottlaender, A. Sailer, A. Tucci, K. Mok, H. Ling, V. Plagnol, N. Quinn, J.L. Holton, T. Revesz, A.J. Lees, O. Kaut, I. Schmitt, N. Wood, U. Wüllner, S. Scholz, A.B. Singleton, J. Hardy, H. Houlden (London, United Kingdom)

1429 Linkage analysis and exome sequencing in autosomal dominant Parkinson's disease
C. Schulte, K. Brockmann, S. Biskup, S. Lesage, D. Berg, A. Brice, T. Gasser (Tuebingen, Germany)

1430 Characterization of ***PINK1*** mutant iPS cell-derived dopaminergic neurons
P. Seibler, D. Krainc, A. Moser, H. Terlau, C. Klein (Lübeck, Germany)

1431 Multi-centered clinico-genetic analysis of VPS35 gene in Parkinson's disease
M. Sharma, J. Ioannidis, J. Aasly, M. Farrer, D.M. Maraganore, T. Gasser, R. Kruger (Tuebingen, Germany)

1432 Large-scale replication and heterogeneity in Parkinson's disease genetic loci
M. Sharma, J.P.A. Ioannidis, J.O. Aasly, M. Farrer, D.M. Maraganore, T. Gasser, R. Kruger (Tuebingen, Germany)

1433 ***PRRT2*** gene mutations in a large family with paroxysmal kinesigenic dyskinesia and co-segregation with migraine with aura
U.M. Sheerin, M. Stamelou, G. Charlesworth, T. Shiner, S. Spacey, E.M. Valente, N.W. Wood, K. Bhatia (London, United Kingdom)

1434 Delta deletion in patients with idiopathic Parkinson's disease
A.N. Taravari, F. Mexhiti (Skopje, Macedonia, The Former Yugoslav Republic of)

1435 Targeted resequencing of the SNCA region in Parkinson's disease
L. Pihlstrøm, E. Dietrichs, M. Toft (Oslo, Norway)

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H. Tomiyama, H. Yoshino, K. Ogaki, L. Li, C. Yamashita, Y. Li, M. Funayama, R. Sasaki, Y. Kokubo, S. Kuzuhara, N. Hattori (Tokyo, Japan)

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A. Tucci, D. Hernandez, R. de Silva, V. Plagnol, J. Hardy, A. Singleton (London, United Kingdom)

1438 Genotype-phenotype correlations in spastic paraplegia type 7
K.L. van Gassen, C.D.C.C. van der Heijden, S. de Bot, E.J. Kamsteeg, L.H. van den Berg, C.C. Verschuuren-Bemelmans, J.H. Veldink, H. Scheffer, B.P.C. van de Warrenburg (Nijmegen, Netherlands)

1439 Evidence of ***EIF4G1*** and EIF4F-complex variations involvement in Parkinson's disease
K. Nuytemans, G. Bademci, S. Zuchner, C. Jauregui, A. Dressen, D.D. Kinnamon, A. Mehta, Y. Pasco, A. Avarim, A. Diaz, L. Wang, F. Nahab, C. Singer, W. Hulme, I. Konidari, Y. Edwards, J. Haines, M. Davis, A. Cummings, G. Beecham, E. Martin, W.K. Scott, J.M. Vance (Miami, FL, USA)

1440 Investigation of essential tremor and Parkinson's disease in families
R. Hanna Al-Shaikh, S. Fujioka, A.J. Strongosky, O. Ross, Z. Wszolek (Jacksonville, FL, USA)

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1441 Glucocerebrosidase L444P mutation confers genetic risk factor for Parkinson's disease in central China
Y. Wang, N. Xiong, C. Chen, J. Huang, T. Wang (Wuhan, China)

1442 MAPT rs242562 and GSK3β rs334558 are associated with Parkinson's disease in a central Chinese cohort
L. Yu, N. Xiong, J. Xiong, J. Huang, T. Wang (Wuhan, China)

1443 Identification of novel THAP1 sequence variants in patients with blepharospam
G. Xiromerisiou, E. Kara, H. Houlden, E. Tsironi, E. Dardiotis, M. Dardioti, G. Hadjigeorgiou (Larissa, Greece)

1444 The first trial of genetic diagnosis of DYT-1 and DYT-5 dystonia in Belarus
O.A. Yacuts, K.A. Mosse, S.A. Likhachev, I.V. Pleshko (Minsk, Belarus)

1445 Identification of ***C9orf72*** hexanucleotide repeat expansion in a Taiwanese cohort with disorders of amyotrophic lateral sclerosis and frontotemporal dementia
T.H. Yeh, B. Traynor, Y.H. Weng, H.C. Kuo, S.C. Lai, C.L. Huang, C.S. Lu (Taipei, Taiwan)

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1446 Running wheel prevents the development of L-DOPA-induced dyskinesias and abnormal striatal DARPP-32 signaling in 6-OHDA-hemiparkinsonian mice
A.S. Aguiar, Jr, A. Latini, R.D.S. Prediger (Florianópolis, Brazil)

1447 Inflammatory responses are attenuated in incidental Lewy body disease
R.S. Akhtar, J.M. Milber, J.V. Noorigian, L.R. White, H. Petrovitch, G.W. Ross, J.E. Duda (Philadelphia, PA, USA)

1448 Expression of synaptophysin and synaptotagmin-XI proteins in normally aging human substantia nigra pars compacta
P.A. Alladi, A. Mahadevan, S.K. Shankar, T.R. Raju (Bangalore, India)

1449 Identification of kinetic biomarkers in Parkinson's disease
M.J. Aminoff, C.W. Chadwick, P.Y.A. Wong, K.H. Husted, S. Liu, V. Liu, L. Kohlstaedt, J. Protasio, T. Riff, D. Boban, M. Killian, L. Epling, E. Sinclair, J. Peterson, R.W. Price, M.K. Hellerstein, P. Fanara (San Francisco, CA, USA)

1450 Statistical properties of the neuronal discharge along a surgical tract in the normal rat under chloral-hydrate anesthesia
D.S. Andres, H. Bocaccio, D. Cerquetti, M. Merello, R. Stoop (Zurich, Switzerland)

1451 Interhemispheric interactions in healthy professional musicians and non-musicians
T. Bäumer, J. Kroeger, M. Wolfram, R. Liebnau, A. Schmidt, C. Klein, A. Münchau (Hamburg, Germany)

1452 Acupuncture-induced dopaminergic neuron protection and motor function improvement mediated by phosphatidylinositol 3-kinase/Akt signaling pathway in the mice with MPTP-induced Parkinson's disease model
H. Bae, S.N. Kim, A.R. Doo, J.Y. Park, H.J. Park (Seoul, Korea)

1453 Assessing neural oscillatory activity in patients with Parkinson's disease
M. Brookes, M. Stephenson, D. Price, L. Martin, P. Gowland, S. Wharton, D. Auer, A. Blazejewska, S. Schwarz, N. Bajaj, P. Morris (Nottingham, United Kingdom)

1454 The Parkinson's disease protein DJ-1 binds metals and protects against metal induced cytotoxicity
B. Björkblom, J. Maple, M. Ökvist, D. Piston, X.M. Xu, C. Brede, J.P. Larsen, S.G. Møller (Stavanger, Norway)

1455 GDNF replacement augments motor impairments and nigrostriatal dopamine deficits in 12 month old mice with a partial deletion of GDNF
H.A. Boger, G.A. Gerhardt, A.C. Granholm, O.M. Littrell (Charleston, SC, USA)

1456 Loss of function of the Parkinson's disease-associated mitochondrial chaperone mortalin in cellular models translates into age-dependent phenotypes in the first in vivo mortalin knockdown model
L.F. Burbulla, D. Woitalla, O. Riess, R. Krüger (Tübingen, Germany)

1457 Increased level of IL-10 in cerebrospinal fluid of patients with Parkinson's disease
L.S. Campos, F. Pradella, F.V. Glehn, R.O.F. Paula, A.L.F. Longhini, G.A. Morais, D.S. Tsukada, L. Piovesana, A. Moraes, C.O.S. Farias, A.S. Farias, A. D'Abreu, L.M.B. Santos (Campinas, Brazil)

1458 Intracellular urate modulates vulnerability of dopaminergic neurons
S. Cipriani, C.A. Desjardins, T.C. Burdett, Y. Xu, K. Xu, M.A. Schwarzschild (Boston, MA, USA)

1459 Withdrawn by Author

1460 "What do these numbers mean?" Decoding assessment results from an interdisciplinary Parkinson's rehab team
J.M. Dean (Longmont, CO, USA)

1461 Neuroprotective effect of bee venom against 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-induced neurotoxicity in neuroblastoma SH-SY5Y cells
A.R. Doo, S.N. Kim, S.T. Kim, J.Y. Park, S.H. Chung, B.Y. Choe, Y. Chae, H. Lee, C.S. Yin, H.J. Park (Seoul, Korea)

1462 MyD88 deficiency results in both cognitive and motor impairments in mice
J. Drouin-Ouellet, M. LeBel, M. Filali, F. Cicchetti (Quebec, QC, Canada)

1463 A potential role for mRNA surveillance in Parkinson's disease?
A. Henderson, D. Chow, H. Yin, T.G. Beach, T. Dunckley (Phoenix, AZ, USA)

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H. Eguchi, M. Ohara-Imaizumi, K. Tsukaguchi, S. Sato, M. Funayama, S. Saiki, T. Hatano, S. Kubo, S. Nagamatsu, N. Hattori (Bunkyo, Japan)

1465 Investigation of the mechanisms of α-synuclein secretion in vivo
E. Emmanouilidou, T. Papasilekas, K. Gerozissis, P.C. Ioannou, K. Vekrellis (Athens, Greece)

1466 Influence of dual task and freezing of gait on obstacle crossing behaviour of patients with Parkinson's disease
F.P. Faria, Q. Almeida, J. Jones (Waterloo, ON, Canada)

1467 Astroglial activation induced by different forms of α-synuclein
L. Fellner, K. Schanda, M. Reindl, W. Poewe, G.K. Wenning, N. Stefanova (Innsbruck, Austria)

1468 Characterization of adult neurogenesis in a transgenic mouse model of multiple system atrophy
P. Fuchs, L. Aigner, W. Poewe, G.K. Wenning, N. Stefanova (Innsbruck, Austria)

1469 ATP13A2 mutations impair mitochondrial function in fibroblasts from patients with Kufor-Rakeb syndrome
A. Grünewald, B. Arns, P. Seibler, A. Rakovic, A. Münchau, A. Ramirez, C.M. Sue, C. Klein (Lübeck, Germany)

1470 Survival but not proliferation of neural precursor cells is reduced in the MPTP model of Parkinson's disease
T. Grimm, J.C.M. Schlachetzki, B. Winner, B. Ferger, J. Winkler (Erlangen, Germany)

ABSTRACTS BY TOPIC

1471 The impact of patient age on patterns of diagnosis and treatment among patients with Parkinson's disease
B. Grubb, M.J. Lage (Kansas City, MO, USA)

1472 The impact of patient sex on patterns of diagnosis and treatment among patients with Parkinson's disease
B. Grubb, M.J. Lage (Kansas City, MO, USA)

1473 The AAA-ATPase VPS4 regulates extracellular secretion and lysosomal targeting of α-synuclein
T. Hasegawa, M. Konno, T. Baba, N. Sugeno, A. Kikuchi, E. Miura, A. Takeda (Sendai, Japan)

1474 DJ-1 associates with synaptic membranes
T. Hatano, Y. Usami, S. Kubo, S. Imai, S. Saiki, S. Sato, Y. Ohba, H. Ariga, J. Shen, N. Hattori (Tokyo, Japan)

1475 Effect of L-dopa treatment on heart sympathetic innervation in parkinsonian monkeys
J.E. Yuste, P. Almela, F. Ros-Bernal, C. Barcia, E. Fernández-Villalba, M. Milanés, V. Bautista-Hernández, M. Laorden, M.T. Herrero (Murcia, Spain)

1476 Mild dopaminergic lesions are accompanied by robust changes in subthalamic nucleus activity
M.L.F. Janssen, D.G.M. Zwartjes, S.K.H. Tan, R. Vlamings, A. Jahanshahi, T. Heida, G. Hoogland, H.W.M. Steinbusch, V. Visser-Vandewalle, Y. Temel (Maastricht, Netherlands)

1477 Behavioral and histological analysis of a partial double lesion model of MSA-P
C. Kaindlstorfer, J. Garcia, C. Winkler, A. Marsch, G.K. Wenning, G. Nikkhah, M. Döbrössy (Innsbruck, Austria)

1478 A rodent model for direct visualization of α-synuclein oligomers in the nigrostriatal system
L.V. Kalia, H. Dimant, S.K. Kalia, L.N. Kibuuka, D. Ebrahimi-Fakhari, N.R. McFarland, P.J. McLean (Toronto, ON, Canada)

1479 Towards a new monkey model of advanced Parkinson's disease
C. Karachi, D. Grabli, B. Hayat, M. Monfort, D. Tandé, E.C. Hirsch, C. François (Paris, France)

1480 Enteric and central nervous system pathology in a novel mouse model: Implications for pathogenesis in pre-motor Parkinson's disease
L.P. Kelly, P.M. Carvey, R.A.E. Bakay, J.H. Kordower (Chicago, IL, USA)

1481 Parkinson's disease mouse model and the acupuncture treatment: How does it improve motor function in an aspect of synaptic dopamine availability
S.N. Kim, A.R. Doo, J.Y. Park, Y. Chae, I. Shim, H. Lee, W. Moon, H. Lee, H.J. Park (Seoul, Korea)

1482 Dynamin GTPase activity decreases alpha-synuclein uptake in neuronal and oligodendroglial cells
M. Konno, T. Hasegawa, T. Baba, E. Miura, N. Sugeno, A. Kikuchi, M. Aoki, A. Takeda (Sendai, Japan)

1483 Rodent and primate models of Parkinson's disease based on viral vector mediated overexpression of alpha synuclein
J.B. Koprich, T.H. Johnston, P. Huot, J.M. Brotchie (Toronto, ON, Canada)

1484 Intact olfaction as hallmark feature of multiple system atrophy: Experimental evidence
F. Krismer, Y. Li, G.K. Wenning, N. Stefanova (Innsbruck, Austria)

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1486 Deep brain stimulation of the entopeduncular nucleus in rats prevents apomorphine-induced deficient sensorimotor gating
D.K. Posch, K. Schwabe, J.K. Krauss, G. Lütjens (Hannover, Germany)

1487 The contribution of the self PolyQ load [somatic mosaicism] in the CNS to the onset, disease duration and progression rate of SCA2 and phenotypic delineation
J.M. Laffita-Mesa, Y. Vázquez Mojena, D.A. Cuello Almarales, L.C. Velázquez-Pérez (Holguin, Cuba)

1488 Epigenetics and ataxin-2 locus
J.M. Laffita-Mesa, P. Bauer, V. Kourí, L. Peña Serrano, J. Roskams, D. Almaguer-Gotay, J. Aguiar Santiago, Y. González-Zaldívar, L.C. Velázquez-Pérez, J. Montes Brown (Holguin, Cuba)

1489 Treatment for patients diagnosed with Parkinson's disease: Differences based upon diagnosing physician
B. Grubb, M.J. Lage (Groton, CT, USA)

1490 High precision isotope measurements show poorer control of copper metabolism in parkinsonism
F. Larner, B. Sampson, M. Rehkamper, D.J. Weiss, J. Dainty, S. O'Riordan, T. Panetta, P.G. Bain (London, United Kingdom)

1491 Human α-synuclein activates transcription factor Nrf2 in microglia. Implications in the inflammatory processes of PD
I. Lastres-Becker, N.G. Innamorato, A. Cuadrado (Madrid, Spain)

1492 Mesenchymal stem cells augment neurogenesis in the subventricular zone and enhance differentiation of neural precursor cells into dopaminergic neurons in the substantia nigra of a parkinsonian model
P.H. Lee, H.J. Park, J.Y. Shin (Seoul, Korea)

1493 Pathological alpha-synuclein oligomers: Induction ***in vitro*** and ***in vivo*** by ferric iron
J. Levin, F. Schmidt, K. Schinke, C. Prix, S. Shi, T. Hoegen, H.A. Kretzschmar, K. Boetzel, F. Kamp, A. Giese (Munich, Germany)

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C.C. Luca, D. Eldick, S. Garamszegi, D. Mash (Miami, FL, USA)

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N. Malek, D. Swallow, K. Grosset, D. Grosset (Glasgow, United Kingdom)

1496 LRRK2 and autophagy: Molecular targets for Parkinson's disease?
C. Manzoni, S. Dihanich, A. Mamais, H. Cai, R. Bandopadhyay, P.A. Lewis (London, United Kingdom)

1497 The protective role of AMPK and Akt signalling in α-synuclein neurotoxicity ***in vitro***
I.D. Markovic, M.Z. Dulovic, M.D. Jovanovic, L.M. Harhaji-Trajkovic, G. Tovilovic, L. Stefanis, M. Xilouri, V.S. Trajkovic, V.S. Kostic (Belgrade, Serbia)

1498 Changes in EEG activity during deep brain stimulation support antidromic activation of cortical neurons in a biophysical model
J. Modolo, A.W. Thomas, A. Legros (London, ON, Canada)

1499 Modelling Parkinson's disease by chronic systemic exposure of α-synuclein overexpressing rats to the pesticide, rotenone
P.J. Mulcahy, A. O'Doherty, T. O'Brien, D. Kirik, E. Dowd (Galway, Ireland)

1500 Development and characterisation of a novel model of Parkinson's disease by sequential intra-nigral administration of AAV-α-synuclein and the pesticide, rotenone, in the rat
P.J. Mulcahy, A. O'Doherty, T. O'Brien, D. Kirik, E. Dowd (Galway, Ireland)

1501 No loss of mitochondria and an increase in recessive Parkinson's proteins are found in sporadic Parkinson's disease
K.E. Murphy, A.A. Cooper, G.M. Halliday (Sydney, Australia)

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1502 Evaluation of Braak staging in at-risk individuals for Parkinson's disease
P. Basu, S.T. Govindappa, D.K. Subbukrishna, U. Muthane, U. Muthane (Bangalore, India)

1503 Limited cleavage by matrix metalloproteinase 9 promotes tau oligomer formation
G. Nübling, J. Levin, B. Bader, L. Israel, H. Kretzschmar, S. Lorenzl, A. Giese (Munich, Germany)

1504 Specific binding of tau oligomers to lipid membranes detected by confocal single particle fluorescence
E. Plesch, G. Nübling, J. Levin, F. Kamp, A. Giese (Munich, Germany)

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G. Nübling, B. Bader, J. Levin, J. Hildebrandt, H. Kretzschmar, A. Giese (Munich, Germany)

1506 Cyclic polymer structure shows high potential for neuronal transfection
B. Newland, E. Dowd, W. Wang, A. Pandit (Galway, Ireland)

1507 Reversibility of heterosynaptic cortical plasticity in human primary motor cortex
Z. Ni, C. Gunraj, P. Kailey, R. Chen (Toronto, ON, Canada)

1508 Defects in PINK1 are part of Alzheimer's disease pathogenesis and associate with alterations in the mitochondrial fission protein Drp1
A.P. Kiely, A.M. Moloney, C. O'Flanagan, M.F. Coakley, C. O'Neill (Cork, Ireland)

1509 Unmyelinated axons are more vulnerable to degeneration than myelinated axons of the cardiac nerve in Parkinson's disease
S. Orimo, T. Uchihara, T. Kanazawa, Y. Itoh, K. Wakabayashi, A. Kakita, H. Takahashi (Tokyo, Japan)

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L.B. OudeNijhuis, W. Nanhoe-Mahabier, J.H.J. Allum, B.R. Bloem (Nijmegen, Netherlands)

1511 Unmasking adenosine 2A receptors (A2A-Rs) in monkey basal ganglia output neurons by using cholera toxin
S. Sierra, A.J. Rico, N. Luquin, V. Gómez, E. Roda, J.L. Lanciego (Pamplona, Spain)

1512 The E3 ligase Nedd4 participates in the internalization process of alpha-synuclein
N. Sugeno, T. Hasegawa, M. Konno, E. Miura, T. Baba, A. Kikuchi, M. Aoki, A. Takeda (Sendai, Japan)

1513 Neuropathology of PGC-1α deficiency recapitulates features of mitochondrial encephalopathies but not of neurodegenerative disorders
L. Szalardy, D. Zadori, I. Plangar, P. Weydt, L. Vecsei, P. Klivenyi, G.G. Kovacs (Szeged, Hungary)

1514 Serum level of inflammatory factors in patients with Parkinson's disease
S. Szlufik, D. Koziorowski, R. Tomasiuk, A. Friedman (Warsaw, Poland)

1515 A case of familial amyloid polyneuropathy with parkinsonism
S.R. Taneja, W. Tse (New York, NY, USA)

1516 Symptoms of peak dose dyskinesia are associated with an increased tendency for lTD expression on the indirect striatal ouput pathway
S.L. Thiele, B.J. Chen, J.M. Brotchie, J.E. Nash (Scarborough, ON, Canada)

1517 Investigation of the role of mitochondrial dysfunction in Parkinson's disease in patients with mutations in the parkin gene
C. van der Merwe, J. Blanckenberg, B. Loos, F. Henning, D. Lombard, C. Kinnear, J. Carr, S. Bardien (Stellenbosch, South Africa)

1518 Oxidative stress in Parkinson's disease compared to other neurodegenerative diseases
R. Duran, B.J. Morales, F.J. Barrero, F.J. Gutierrez, F. Vives (Granada, Spain)

1519 Dopaminergic modulation of corticostriatal transmission in monkeys
Y. Ma, Y. Smith, T. Wichmann (Atlanta, GA, USA)

1520 Targeting the CMA pathway ameliorates alpha-synuclein mediated neurodegeneration
M. Xilouri, O.R. Brekk, P. Themistoklis, K. Vekrellis, L. Stefanis (Athens, Greece)

1521 Implication of autophagy in Parkinson's disease: Rotenone-based models
N. Xiong, M. Jia, J. Xiong, J. Huang, T. Wang (Wuhan, China)

1522 α-synuclein BAC transgenic mice as a model for Parkinson's disease manifested decreased anxiety-like behavior
H. Yamakado, Y. Moriwaki, N. Yamasaki, T. Miyakawa, J. Kurisu, K. Uemura, H. Inoue, M. Takahashi, R. Takahashi (Kyoto, Japan)

1523 Cell cycle regulation promotes survival of dopaminergic neurons in experimental Parkinson's disease
T. Yasuda, K. Yoshikawa, S. Przedborski, Y. Mizuno, H. Mochizuki (Suita, Japan)

1524 Parkin interacting proteins are modifiers of ***drosophila parkin*** and ***Pink1*** mutant phenotype
A. Zanon, I. Pichler, A. Rakovic, C. Schwienbacher, C. Weichenberger, F.S. Domingues, A.A. Hicks, P.P. Pramstaller, C. Klein (Bolzano, Italy)

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1525 p62 staining inclusions in an MSA-P phenotype – A new neurodegenerative entity?
N. Akhtar, R. Shafei, J. Lowe, N. Bajaj (Nottingham, United Kingdom)

1526 Hyposmia in Parkinson's disease
M.V. Alvarez, P. Grogan (San Antonio, TX, USA)

1527 What does tremor lateralization have to do with handedness?
M.V. Alvarez, P. Grogan (San Antonio, TX, USA)

1528 Adapting the Sniffin' Sticks olfactory test to diagnose Parkinson's disease in Estonia
E. Antsov, S. Kilk, L. Silveira-Moriyama, L. Kadastik-Eerme, T. Toomsoo, T. Paju, A. Lees, P. Taba (Tartu, Estonia)

1529 Connectivity patterns derived from resting state fMRI predict bradykinesia and rigidity in Parkinson's disease
S. Appel-Cresswell, N. Baradaran, S.S. Galley, A. Liu, Z.J. Wang, M.J. McKeown (Vancouver, BC, Canada)

1530 Rigidity in Parkinson's disease is associated with a distributed motor subnetwork
N. Baradaran, S.J. Palmer, A. Liu, Z.J. Wang, M.J. McKeown (Vancouver, BC, Canada)

1531 Preclinical detection of Parkinson's disease in subjects with REM behavior disorder using eye tracking
M.S. Baron, G.T. Gitchel, S. Raman, W.A. Wetzel (Richmond, VA, USA)

1532 Clinical correlations of nonmotor symptoms in Parkinson's disease
E.M. Bassetti, C.F. Nogueira, R.R. Sfalsini, M.S.G. Rocha (Sao Paulo, Brazil)

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1533 Progressive cortical degeneration in Parkinson's disease
D. Benninger, J. Dukart, J. von Meyenburg, S. Thees, C. Bassetti, D. Waldvogel, S. Kollias, K. Iseki, B. Draganski (Lausanne, Switzerland)

1534 Measuring functional progression of Parkinson's disease
R.L. Boehm, Q.J. Almeida (Waterloo, ON, Canada)

1535 Motor symptoms in early stage, old-age onset Parkinson's disease: A two years follow-up study
P. Bugalho (Lisboa, Portugal)

1536 Gait dysfunction in Parkinson's disease and normal-pressure hydrocephalus: A comparative study
P. Bugalho, L. Alves, R. Miguel (Lisboa, Portugal)

1537 Recurrent falls in Parkinson's disease: A narrative review
A.K. Schwarzel, N.N. Allen, C.G. Canning (Lidcombe, Australia)

1538 A systematic review of the occurrence of psychotic features in people with Parkinson's disease
R. Caslake, A. Emeka, C. Counsell (Aberdeen, United Kingdom)

1539 Apraxia of eyelid opening in Parkinson's patient with STN-DBS – A novel solution
D.T.M. Chan, C.K.Y. Lau, C.X.L. Zhu, W.S. Poon (Hong Kong, Hong Kong)

1540 Prevalence and characteristics of pain in Korean Parkinson's disease patients
S.M. Choi, G.J. Yoon, H.J. Jung, B.C. Kim, K.H. Choi, T.S. Nam, J.T. Kim, S.H. Lee, M.S. Park, M. K. Kim, K.H. Cho (Gwangju, Korea)

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S.A. Rodriguez Quiroga, C. Christie, V. Díaz Arangunde, M. Mancuso, T. Arakaki, J. Toibaro, N.S. Garretto (Buenos Aires, Argentina)

1542 Fear of falling in Parkinson's disease
E. Cubo, N. Pérez Mariscal, N. Herrera (Burgos, Spain)

1543 Freezing of gait in Parkinson's disease under virtual reality conditions studied with a novel treadmill system: A pilot trial
K. Czarnecki, K. Iseki, C.R. Collins, P.T. Ghosh, H.S. Park, J.W. Yoon, M. Hallett (Bethesda, MD, USA)

1544 Postural stability in Parkinson's disease – The impact of visual control
B. Czechowicz, M. Boczarska-Jedynak, G. Opala (Katowice, Poland)

1545 Acute decompensation of Parkinson's disease
V.K. Datieva (Moscow, Russia)

1546 The overall burden of non motor symptoms in Moldavian Parkinson's disease patients
N. Diaconu, G. Pavlic (Chisinau, Republic of Moldova)

1547 Parkinson's disease viewed as an acquired archaic nervous system dysfunction: Evidence from comparative anatomy and ethology
N.J. Diederich, A. Parent (Luxembourg-City, Luxembourg)

1548 Olfactory dysfunction in pathologically confirmed incidental Lewy body disease and Parkinson's disease
E. Driver-Dunckley, C. Adler, J. Hentz, H. Shill, J. Caviness, M. Sabbagh, V. Evidente, B. Dugger, T. Beach (Scottsdale, AZ, USA)

1549 Glucocerebrosidase mutations influence the natural history of PD in a community-based incident cohort
S. Winder-Rhodes, J.R. Evans, M. Ban, C. Williams-Gray, T. Foltynie, S. Mason, S. Sawcer, R. Barker (Cambridge, United Kingdom)

1550 Risk factors and course of freezing of gait in Parkinson's disease: A 12-year population based study
E.B. Forsaa, J.P. Larsen, T. Wentzel-Larsen, G. Alves (Stavanger, Norway)

1551 Asymmetry of gait in parkinsonian patients and its role in the development of freezing
G. Frazzitta, G. Pezzoli, G. Bertotti, G. Riboldazzi, R. Rovescala, R. Maestri (Montescano, Italy)

1552 Etiology of Parkinson's disease--Quo vadis? Forgotten path of muscle afferents
D. Gobinathan, L. Dosado (Singapore, Singapore)

1553 Dysphagia in de novo drug naive Parkinson's disease in comparison to advanced PD stages: A videofluoroscopical and clinical study
M. Hahne, B. Leineweber, B. Griewing, W. Jost, H. Reichmann (Bad Neustadt, Germany)

1554 Performance of alternating hand tapping and its relation to gait and postural disturbances in Parkinson's disease
T. Herman, H. Bernad, N. Giladi, J.M. Hausdorff, M. Plotnik (Tel Aviv, Israel)

1555 On the influence of dopaminergic striatal innervation on upper limb locomotor synergies
I.U. Isaias, J. Volkmann, A. Marzegan, G. Marotta, P. Cavallari, G. Pezzoli (Milano, Italy)

1556 Characterization of gait freezing in Parkinson's disease using a novel foot-sensor based methodology in laboratory and in patients' homes
F. Rahimi, A. South, D. Bell-Boucher, P. Bapat, Y. Mohammad, L. Zhu, M. Vyas, M. Jog, M. Jog (London, ON, Canada)

1557 Retrocollis develops in the end stage Parkinson's disease
K. Kashihara, T. Imamura, M. Ohno, S. Kawada (Okayama, Japan)

1558 Association between olfactory dysfunction and neuropsychiatric manifestations in Parkinson's disease (PD)
N. Kawashima, K. Hasegawa, E. Horiuchi, T. Yokoyama, A. Kumon, A. Matsunaga, M. Saito (Fujisawa, Japan)

1559 Quantification of speech impairment in Parkinson's disease
T. Khan, J. Westin, P. Funk, M. Dougherty (Borlange, Sweden)

1560 Frozen shoulder and Parkinson's disease
M. Khara, A.Q. Rana, B. Alenazi, M.A. Rana (Toronto, ON, Canada)

1561 Subthreshold noisy galvanic vestibular stimulation normalizes motor responsiveness to visual error feedback in Parkinson's disease
D.J. Kim, A. Ashoori, E. Ty, M. Oishi, M.J. McKeown (Vancouver, BC, Canada)

1562 Homozygous ***parkin*** gene mutant carrier without definite signs of Parkinson's disease
B. Koentjoro, J.S. Park, A.D. Ha, C.M. Sue (Sydney, Australia)

1563 The "floating door sign" in Parkinson's disease (PD)
O.C. Kulkarni, K. Czarnecki, D. Tarsy (Boston, MA, USA)

1564 Is there any relationship between motor fluctuation and the weather in patients with advanced Parkinson's disease?
R. Kurisaki, Y. Yonemochi, T. Sakamoto, K. Uekawa (Uki, Japan)

1565 Patterns of daily ambulatory activity are different in early Parkinson's disease compared with controls
S. Lord, A. Godfrey, B. Galna, D. Burn, L. Rochester (Newcastle upon Tyne, United Kingdom)

1566 Camptocormia (kamptokormia) in patients with Parkinson's disease – An own subtype of Parkinson's disease?
S. Lorenzl, K. Bötzel, B. Schoser, G. Nübling (Munich, Germany)

1567 Non-motor symptoms are less prevalent in young-onset Parkinson's disease
V. Markovic, M. Svetel, T. Pekmezovic, V. Kostic (Belgrade, Serbia)

ABSTRACTS BY TOPIC

NOTES

NOTES

The *Movement* Disorder Society

Certifies that

has attended The *Movement* Disorder Society's 16th International Congress of Parkinson's Disease and Movement Disorders on June 17-21, 2012 in Dublin, Ireland.

Günther Deuschl
President,
The *Movement* Disorder Society,
2011-2013

David John Burn
Chair,
Congress Scientific Program Committee,
2012-2013

Timothy Lynch
Co-Chair,
Congress Scientific Program Committee,
2012

The *Movement* Disorder Society

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17th International Congress of Parkinson's Disease and Movement Disorders

Sydney, Australia
June 16-20, 2013

IMPORTANT DATES

October 1, 2012
Abstract Submission Opens

December 3, 2012
Registration Opens

January 7, 2013
Abstract Submission Closes

April 19, 2013
Early Registration Deadline

May 17, 2013
Final Pre-registration Deadline

June 16 - 20, 2013
17th International Congress of Parkinson's Disease and Movement Disorders

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WORLDWIDE PARTNER

Sometimes the picture is not clear.

A number of conditions can mimic Parkinsonian syndromes, particularly in the early stages. By the time motor symptoms occur in PD, up to **60-80%** of nigrostriatal dopaminergic terminals have been lost, never to be regained.[1]

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PRESENTATION Single dose vials containing 185 MBq or 370 MBq ioflupane (^{123}I) at reference time. **INDICATIONS** Detecting loss of functional dopaminergic neuron terminals in the striatum. **i)** in adult patients with clinically uncertain Parkinsonian Syndromes in order to help differentiate Essential Tremor from Parkinsonian Syndromes related to idiopathic Parkinson's Disease (PD), Multiple System Atrophy (MSA), Progressive Supranuclear Palsy (PSP). DaTSCAN is unable to discriminate between PD, MSA and PSP. **ii)** in adult patients to help differentiate probable dementia with Lewy bodies (DLB) from Alzheimer's disease. DaTSCAN is unable to discriminate between DLB and Parkinson's Disease dementia. **DOSAGE AND METHOD OF ADMINISTRATION** Prior to administration appropriate resuscitation equipment should be available. For use in patients referred by physicians experienced in the management of movement disorders/dementia. Clinical efficiency has been demonstrated across the range of 111-185 MBq; do not use outside this range. Appropriate thyroid blocking treatment must be given prior to injection of DaTSCAN. The safety and efficacy of DaTSCAN in children 0 to 18 years has not been established. No data are available in patients with significant renal or hepatic impairment. DaTSCAN should be used without dilution. Slow intravenous injection (15-20 seconds) via an arm vein is recommended. SPECT imaging should take place 3-6 hours after injection of DaTSCAN. **CONTRAINDICATIONS** Pregnancy and hypersensitivity to the active substance or any of the excipients. **WARNINGS AND PRECAUTIONS** If hypersensitivity reactions occur, the administration of the medicinal product must be discontinued immediately and, if necessary, intravenous treatment initiated. Resuscitative medicinal products and equipment (e.g. endotracheal tube and ventilator) have to be readily available. Radiopharmaceuticals should only be used by qualified personnel with appropriate government authorisation and should be prepared using aseptic and radiological precautions. For each patient, exposure to ionising radiation must be justifiable on the basis of likely benefit. The activity administered must be such that the resulting dose is as low as reasonably achievable bearing in mind the need to obtain the intended diagnostic result. DaTSCAN is not recommended in cases of moderate to severe renal or hepatic impairment. Contains 39.5 g/l (5% volume) ethanol, up to 197mg per dose, harmful for those suffering from alcoholism. To be taken into account in high-risk groups such as patients with liver disease or epilepsy. **INTERACTIONS** Consider current medication. Medicines that bind to the dopamine transporter with high affinity may interfere with diagnosis; these include amfetamine, benzatropine, buproprion, cocaine, mazindol, methylphenidate, phentermine and sertraline. Medicines shown during clinical trials not to interfere with DaTSCAN imaging include amantadine, trihexyphenidyl, budipine, levodopa, metoprolol, primidone, propranolol and selegiline. Dopamine agonists and antagonists acting on the postsynaptic dopamine receptors are not expected to interfere with DaTSCAN imaging and can therefore be continued if desired. In animal studies pergolide does not interfere with DaTSCAN imaging. **PREGNANCY AND LACTATION** Contraindicated in pregnancy. Information should be sought about pregnancy from women of child bearing potential. A woman who has missed her period should be assumed to be pregnant. If uncertain, radiation exposure should be the minimum needed for satisfactory imaging. Consider alternative techniques. If administration to a breast feeding woman is necessary, substitute formula feeding for breast feeding for 3 days. **UNDESIRABLE EFFECTS** No serious adverse effects have been reported. Common side effects include headache. Uncommon side effects include vertigo, increased appetite, formication, dizziness, dysgeusia, nausea and dry mouth. Intense pain on injection has been reported uncommonly following administration into small veins. Hypersensitivity occurs with unknown frequency. Exposure to ionising radiation is linked with cancer induction and a potential for hereditary defects. Because of the low radiation dose incurred these adverse events are expected to occur with a low probability. **DOSIMETRY** Effective dose from 185 MBq is 4.35 mSv. **OVERDOSE** Encourage frequent micturition and defecation. **MARKETING AUTHORISATION HOLDER** *GE Healthcare Limited, Amersham Place, Little Chalfont, Buckinghamshire, HP7 9NA, UK.* **CLASSIFICATION FOR SUPPLY** Subject to medical prescription. **MARKETING AUTHORISATION NUMBERS** EU/1/00/135/001 (2.5ml) and EU/1/00/135/002 (5.0ml). **DATE OF REVISION OF TEXT** 7 June 2011. **UK PRICE** £525/185MBq.

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Reference: 1. Lang AE, Obeso JA. Lancet Neurol 2004;3:309-61.

03-2012 JB4940/OS MDS-12 IOC: GECM1703