The *Movement* Disorder Society

14TH International Congress OF Parkinson's Disease AND Movement Disorders

# Final Program

## Buenos Aires

ARGENTINA June 13-17

2010

## Claiming CME Credit

To claim CME credit for your participation in the MDS 14th 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 15.

**Instructions for claiming credit:**

- After June 15, visit the MDS Web site.
- 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.

**Continuing Medical Education**

The *Movement* Disorder Society is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

**Credit Designation**

The *Movement* Disorder Society designates this educational activity for a maximum of 35 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

If you need a Non-CME Certificate of Attendance, please tear out the Certificate in the back of this Program and write in your name.

The *Movement* Disorder Society has sought accreditation from the European Accreditation Council for Continuing Medical Education (EACCME) to provide CME activity for medical specialists. The EACCME is an institution of the European Union of Medical Specialists (UEMS). For more information, visit the Web site: www.uems.net.

EACCME credits are recognized by the American Medical Association towards the Physician's Recognition Award (PRA). To convert EACCME credit to *AMA PRA category 1 credit*, contact the AMA online at www.ama-assn.org.

## Contents

## Welcome

Dear Colleagues and Friends,

Welcome to Buenos Aires for the 14th 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 Congress Local Organizing Committee for their hard work in arranging the Congress social 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. The 2010 Scientific Program will incorporate Therapeutic Plenary Sessions, Plenary and Parallel Sessions, Teaching Courses, Video Sessions, Skills Workshops, Guided Poster Tours and Blue Ribbon Highlights. This year's program features 66 sessions led by over 170 esteemed faculty from around the world.

While in Buenos Aires, we hope you not only allot time in your schedule to participate in our detailed program, visit the exhibit and poster areas and attend the social events in the evenings, but also get a chance to see the sights and sounds of what makes Buenos Aires such a unique destination.

Thank you for your support of The *Movement* Disorder Society and welcome to our 14th International Congress of Parkinson's Disease and Movement Disorders.

Philip D. Thompson
President,
The *Movement* Disorder Society,
2009-2011

Christopher G. Goetz
Chair,
Congress Scientific Program Committee,
2009-2011

Oscar Gershanik
Co-Chair,
Congress Scientific Program Committee,
2010

## Acknowledgements

The International Congress Oversight Committee of the 14th International Congress of Parkinson's Disease and Movement Disorders wishes to acknowledge and thank the following companies for their support:

### PLATINUM LEVEL

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**These companies are confirmed as of April 15, 2010*

# 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 congresses and symposia on Movement Disorders;
- Collaborating with other international organizations and lay groups;
- Publishing journals, videotapes and other collateral materials committed to high scientific standards and peer review.

To promote research into causes, prevention and treatment of movement disorders by:

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

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

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

# About MDS

## MDS OFFICERS (2009-2011)

**President**
Philip Thompson, Australia

**President-Elect**
Günther Deuschl, Germany

**Secretary**
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**Treasurer**
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**Past-President**
Anthony Lang, Canada

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Alim Benabid, France
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David John Burn, United Kingdom
Ryuji Kaji, Japan
Irene Litvan, USA
Serge Przedborski, USA
Cristina Sampaio, Portugal
A. Jon Stoessl, Canada

## INTERNATIONAL CONGRESS OVERSIGHT COMMITTEE

Chair: Andrew Lees, United Kingdom
Günther Deuschl, Germany
Oscar Gershanik, Argentina
Anthony Lang, Canada
C. Warren Olanow, USA
Philip Thompson, Australia
Ad-Hoc: Christopher Goetz, USA

## CONGRESS SCIENTIFIC PROGRAM COMMITTEE

Chair: Christopher Goetz, USA
Co-Chair: Oscar Gershanik, Argentina
Roger Barker, United Kingdom
Kailash Bhatia, United Kingdom
David John Burn, United Kingdom
Francisco Cardoso, Brazil
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Daniel Tarsy, USA
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# About MDS

## CONGRESS LOCAL ORGANIZING COMMITTEE

Chair: Oscar Gershanik
Tomoko Arakaki
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Silvia García
Nélida Garretto
Emilia Gatto
Rolando Giannaula
Gonzalo Gómez Arévalo
Marcelo Merello
Federico Micheli
Maria Cecilia Peralta
Manuel Rodríguez
Diana Simonetti
Guillermo Zeppa

## PAST-PRESIDENTS

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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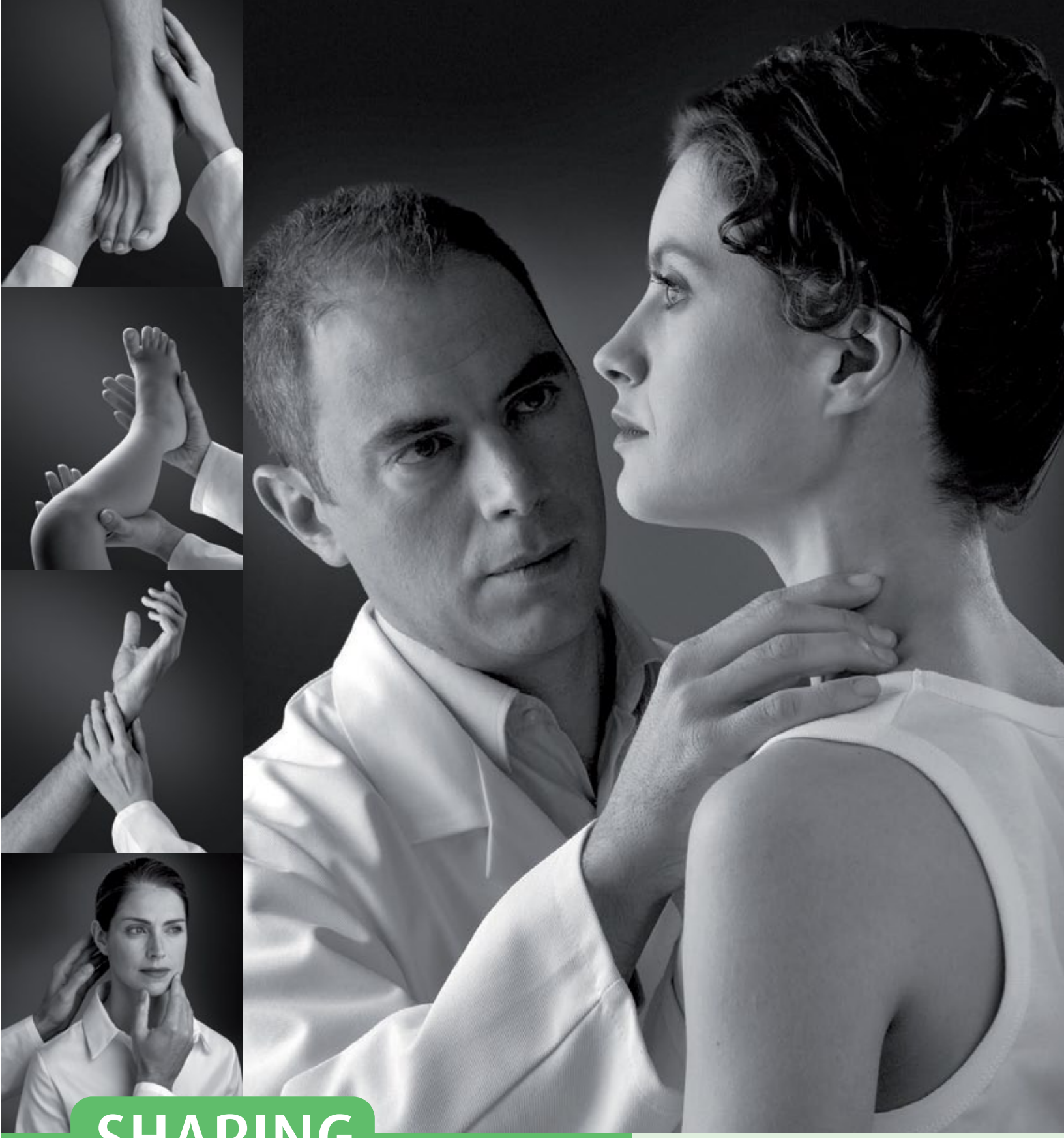

# SHARING
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# MDS Education

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 and continuing professional development in Movement Disorders including live courses, region-specific education, internet education, support and endorsement opportunities and educational materials for sale. For information on all MDS Educational Courses, please visit the MDS Web site.

## LIVE COURSES AND PROGRAMS

**New Therapies for Advanced Parkinson's Disease**
**Fall, 2010**
**Duke University, Durham, NC, USA**
While mainstay Parkinson's disease therapies, such as levodopa or dopamine agonists, provide significant initial benefit to patients, there is increasing need for new therapies for this disorder. This course will combine didactic lecture with workshop, case-based presentations to present a comprehensive overview of new therapies in Parkinson's disease. This course is intended for Movement Disorder specialists, general neurologists, primary care physicians and junior investigators.

**Treatment of Parkinson's disease**
**October 16, 2010**
**São Paulo, Brazil**
This course will address the clinical and surgical treatment of Parkinson's disease. Emphasis will be placed on the management of patients with early stage illness, treatment of non-motor symptoms of PD, and management of levodopa complications. This course is intended for Movement Disorder specialists, general neurologists, primary care physicians and junior investigators.

## VISITING PROFESSOR PROGRAM

This program is intended to provide an excellent educational opportunity in Movement Disorders to regions of the world not adequately served by resources within that region.

## AMBASSADOR PROGRAM

This program is intended to support the participation of regional experts in the field of Movement Disorders at existing conferences around the world.

## MDS SPONSORSHIP AND ENDORSEMENT FOR MEETINGS

For new and novel meetings, a total amount of $70,000 USD is available to support scientific meetings, with an additional $30,000 USD in funding available only for meeting organizers who have Affiliate Member status with the Society. Applications may be submitted online up to six months prior to the meeting date. Applications should include a proposed program, topics, faculty and a tentative budget.

"Endorsed Meetings" are meetings that are sanctioned by MDS and should be open to the general community of neurologists, neuroscientists, and others with an interest in Movement Disorders. MDS will promote Endorsed Meetings in the Society's publications, including the *Movement* Disorders journal, the newsletter *Moving Along* and on the MDS Web site.

## INTERNET EDUCATION MEMBERS ONLY

**www.movementdisorders.org/education**
In alignment with our educational mission, The *Movement* Disorder Society is pleased to provide online activities for MDS Members. These activities are helping to expand the outreach of our educational offerings.

**Now Available: 12th International Congress Teaching Course Webcasts**

Review the Teaching Course Webcasts of the *12th International Congress of Parkinson's Disease and Movement Disorders,* which took place in June 2008 in Chicago, IL, USA.

Webcasts include:

- Dysautonomia in Parkinson's Disease: Spectrum, Evaluation and Treatment
- Neuropsychiatry in Parkinson's Disease: Beyond Dementia
- Tics and Stereotypies
- Vascular and Post-hypoxic Movement Disorders
- PSP and CBD
- Impulse Control Disorders

# MDS Education

## SLIDE SETS

This resource enables learners to become familiar with the differential diagnosis and clinical features that define various common involuntary movements as well as the course of treatment and complications of movement disorders. Slide sets are presented in PowerPoint format.

Slide sets include:

- Ataxia
- Chorea
- The Diagnosis and Management of Dystonia
- Myoclonus: Diagnosis and Treatment
- Parkinsonism
- Restless legs syndrome
- Tics and Tourette Syndrome

## VIDEO LIBRARY

The Video Library consists of video supplements of rare and unusual movement disorders from the *Movement* Disorders journal since 1986. It is searchable by keyword, author, volume and issue, or a combination of these fields.

## CASE OF THE MONTH

Case of the Month (COM) is the MDS interactive online feature that presents unique and challenging movement disorder cases. MDS Members are invited to answer questions after analyzing video and case history and are provided with the expert's analysis. **MDS is currently accepting submissions for Case of the Month. Case of the Month provides an opportunity for members to share interesting cases for educational purposes, in a forum dedicated to Movement Disorder experts.*

## QUICK OPINION PLEASE

This activity is an online forum for discussion featuring one challenging case every month. Members are encouraged to view the case and express their opinions and suggestions. Selected cases are submitted by members and the "challenge" can be diagnostic, therapeutic or both.

## INTERNET EDUCATION AVAILABLE TO THE PUBLIC

**Online Journal CME**

Created from articles in the journal *Movement* Disorders, Online Journal CME requires participants to read selected articles and correctly answer CME questions to earn a maximum of 1.00 *AMA PRA Category 1 Credits* ™ per activity. Activities are completed online and submitted to MDS Education Department for review. Each activity is available to the public at a cost of $25.00 USD per activity. *This is of no cost to MDS Members.*

**Edward I. Rudman Parkinson's Disease Patient and Caregiver Symposium:**
**Non-motor Aspects of Parkinson's Disease Webcast**

This webcast was created from the *Edward I. Rudman Parkinson's Disease Patient and Caregiver Symposium: Non-Motor Aspects of Parkinson's Disease* which took place on October 31, 2009 at The Conference Center at Harvard Medical. Topics covered are important non-motor aspects of Parkinson's disease such as depression, anxiety, sleep disorders, autonomic disturbances and cognitive deficits which often impact the quality of life of patients with Parkinson's disease as much as or even more than motor symptoms.

## AUDIOVISUALS AVAILABLE FOR ONLINE PURCHASE

**14th International Congress – Teaching Course Webcasts**

MDS is pleased to offer the opportunity to order a DVD of all eight Teaching Courses from the 14th International Congress in Buenos Aires, Argentina. Each DVD includes slides, audio and video of all eight teaching courses and the accompanying syllabi. Teaching Course titles include:

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

Order forms are included in the 14th International Congress registration bags, at the MDS Booth and as inserts in the Teaching Course syllabi.

*The webcast recording of the Teaching Course, "Update on dystonia," will be available on the MDS Web site at no cost; supported by an unrestricted educational grant from Ipsen.*


ASSOCIATION OF WFN PARKINSONISM AND RELATED DISORDERS

Congress Organizer

kenes international

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## Asian and Oceanian Section Education

### AOS EDUCATIONAL COURSE SPONSORSHIP PROGRAM

The MDS-AOS recognizes that some regions do not have access to trained Movement Disorder specialists and are restricted by size and/or resources from establishing a training program. This program is designed to address the needs of those regions by supporting a one- to two-day course devoted to Movement Disorders education that may be stand-alone or conjoined with a local meeting. MDS-AOS funds regional and international experts to speak at the course.

### 3RD AOPMC 2011 – TAIPEI, TAIWAN

**http://www.movementdisorders.org/regional_sections/aos/aopmc/aopmc_taipei.php**

The 3rd Asian and Oceanian Parkinson's Disease and Movement Disorders Congress (AOPMC), organized by MDS-AOS and Taiwan Movement Disorder Society, will be held in Taipei, Taiwan from March 25-27, 2011. The target participants of the 3rd AOPMC meeting will include doctors, researchers, and healthcare professionals. Among these participants will be many opinion leaders and key Movement Disorders specialists from this region and other parts of the world.

The congress will include plenary sessions, educational courses, video sessions, workshops and poster displays. It will cover the entire spectrum of Parkinson's disease and Movement Disorders, from basic science to clinical practice.

For more information, please review the AOPMC brochure included in your registration bag, or contact the 3rd AOPMC Secretariat at: aopmc2011taiwan@come2meet.com or Kate Breckenridge at: cbreckenridge@movementdisorders.org.

### EDUCATIONAL EXCHANGE TRAINING PROGRAM SITES

Within the Asian and Oceanian region there are academic centers that specialize in training physicians in the diagnosis and treatment of Movement Disorders. The AOS is collaborating with Members and educational partners to compile a database of training centers, including an overview of each program and relevant contact information.

## European Section Education

### ES FUND FOR UNDER RESOURCED COUNTRIES

MDS Members may apply for funding to host one- to two-day courses on Movement Disorders that can operate independently or alongside local meetings. As part of this program, MDS-ES funds regional and international speakers to be part of the courses. Past courses have been held in Romania and Estonia. **Upcoming courses:** Movement Disorders Teaching Course, Skopje, Macedonia, October 22, 2010; and Movement Disorders and Sleep, Braşov, Romania, November 26-27, 2010.

### EUROPEAN FEDERATION OF NEUROLOGICAL SOCIETIES (EFNS)

The strong collaboration between MDS and EFNS includes programming at the annual EFNS Congresses, EFNS Eastern European Teaching Courses, and the EFNS Academy for Young Neurologists. In April 2010, MDS organized faculty to participate in an EFNS Teaching Course in Odessa, Ukraine and in May 2010 organized faculty for the EFNS Academy for Young Neurologists in Staré Splavy, Czech Republic. **Upcoming education:** 14th EFNS International Congress, Geneva, Switzerland, September 25-28, 2010; Teaching Course, Lviv, Ukraine, June 16-18, 2011; and 15th EFNS International Congress, Budapest, Hungary, September 10-13, 2011.

### DE NOVO PARKINSON'S DISEASE: DIAGNOSIS AND TREATMENT WEBCAST

This webcast was created from the De Novo Parkinson's Disease: Diagnosis and Treatment course, which took place on April 24, 2010 at the Faculty of Medicine at the University of Lisbon in Lisbon, Portugal. Topics covered the natural history of Parkinson's disease, differences between Parkinson's disease, essential tremor and atypical parkinsonism, how and when to determine treatment for early Parkinson's disease, and management of non-motor problems in early-stage Parkinson's disease. This webcast is available on the MDS Web site.

### MDS EUROPEAN SUMMER SCHOOL FOR YOUNG NEUROLOGISTS

The MDS European Summer School for Young Neurologists will be held July 9-11, 2010 in Nijmegen, The Netherlands. This Summer School provides young neurologists (under the age of 40) throughout Europe, North Africa and the Middle East an opportunity for a unique, hands-on Summer School experience. Applications for this Summer School have now closed, but please contact Hope Wallace at: hwallace@movementdisorders.org regarding future Summer and Winter Schools, or any European Section programming.


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what matters most
Medtronic was just named one of the "50 most innovative companies" by MIT Technology Review for our leadership in the development and introduction of Deep Brain Stimulation (DBS) Therapy. More than 75,000 patients worldwide have Medtronic DBS therapy.
Every day we continue to innovate—thinking beyond and collaborating with you to discover new indications and to conquer the most pressing patient needs. In collaboration with you, Medtronic DBS Therapy helps patients achieve daily victories. After all, that's what matters most.
Medtronic is proud to be a gold level sponsor of the 14th International Congress of Parkinson's Disease and Movement Disorders.


Innovating for life.

**Activa® Parkinson's Control Therapy, Tremor Control Therapy, and Dystonia Therapy: Product technical manual must be reviewed prior to use for detailed disclosure.**

**Indications: Parkinson's Control Therapy:** Bilateral stimulation of the internal globus pallidus (GPi) or the subthalamic nucleus (STN) using Medtronic® Activa® Parkinson's Control Therapy is indicated for adjunctive therapy in reducing some of the symptoms of advanced, levodopa-responsive Parkinson's disease that are not adequately controlled with medication.

**Tremor Control Therapy:** Unilateral thalamic stimulation by the Medtronic® Activa® Tremor Control System is indicated for the suppression of tremor in the upper extremity. The system is intended for use in patients who are diagnosed with Essential Tremor or Parkinsonian tremor not adequately controlled by medications and where the tremor constitutes a significant functional disability. The safety or effectiveness of this therapy has not been established for bilateral stimulation.

**Dystonia Therapy:** Unilateral or bilateral stimulation of the internal globus pallidus (GPi) or the subthalamic nucleus (STN) by the Medtronic Activa System is indicated as an aid in the management of chronic, intractable (drug refractory) primary dystonia, including generalized and segmental dystonia, hemidystonia, and cervical dystonia (torticollis), for individuals 7 years of age and older.

**Contraindications:** Contraindications include patients who will be exposed to MRI using a full body radio-frequency (RF) coil or a head transmit coil that extends over the chest area, patients who are unable to properly operate the neurostimulator, or for Parkinson's disease and Essential Tremor, patients for whom test stimulation is unsuccessful. Also, diathermy (e.g., shortwave diathermy, microwave diathermy or therapeutic ultrasound diathermy) is contraindicated because diathermy's energy can be transferred through the implanted system (or any of the separate implanted components), which can cause tissue damage and can result in severe injury or death. Diathermy can damage parts of the neurostimulation system.

**Warnings/ Precautions/Adverse Events:** There is a potential risk of tissue damage using stimulation parameter settings of high amplitudes and wide pulse widths. Extreme care should be used with lead implantation in patients with a heightened risk of intracranial hemorrhage. Do not place the lead-extension connector in the soft tissues of the neck. Placement in this location has been associated with an increased incidence of lead fracture. Theft detectors and security screening devices may cause stimulation to switch ON or OFF, and may cause some patients to experience a momentary increase in perceived stimulation. Although some MRI procedures can be performed safely with an implanted Activa System, clinicians should carefully weigh the decision to use MRI in patients with an implanted Activa System. MRI can cause induced voltages in the neurostimulator and/or lead possibly causing uncomfortable, jolting, or shocking levels of stimulation. MRI image quality may be reduced for patients who require the neurostimulator to control tremor, because the tremor may return when the neurostimulator is turned off.

Severe burns could result if the neurostimulator case is ruptured or pierced. The Activa System may be affected by or adversely affect medical equipment such as cardiac pacemakers or therapies, cardioverter/ defibrillators, external defibrillators, ultrasonic equipment, electrocautery, or radiation therapy. Safety and effectiveness has not been established for patients with neurological disease other than Parkinson's disease or Essential Tremor, previous surgical ablation procedures, dementia, coagulopathies, or moderate to severe depression; or for patients who are pregnant, under 18 years, over 75 years of age (Parkinson's Control Therapy) or over 80 years of age (Tremor Control Therapy). For patients with Dystonia, age of implant is suggested to be that at which brain growth is approximately 90% complete or above. Additionally, the abrupt cessation of stimulation for any reason should be avoided as it may cause a return of disease symptoms. In some cases, symptoms may return with an intensity greater than was experienced prior to system implant ("rebound" effect). Adverse events related to the therapy, device, or procedure can include: stimulation not effective, cognitive disorders, pain, dyskinesia, dystonia, speech disorders including dysarthria, infection, paresthesia, intracranial hemorrhage, electromagnetic interference, cardiovascular events, visual disturbances, sensory disturbances, device migration, paresis/asthenia, abnormal gait, incoordination, headaches, lead repositioning, thinking abnormal, device explant, hemiplegia, lead fracture, seizures, respiratory events, and shocking or jolting stimulation.

**Humanitarian Device (Dystonia Therapy):** Authorized by Federal Law for the use as an aid in the management of chronic, intractable (drug refractory) primary dystonia, including generalized and segmental dystonia, hemidystonia, and cervical dystonia (torticollis), for individuals 7 years of age and older. The effectiveness of this device for this use has not been demonstrated.

## Audio-Visuals

The *Movement* Disorder Society publishes several audio-visuals available for sale from the MDS International Secretariat. 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 three 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 ten 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 Huntington's Disease Rating Scale Video**
*Movement* Disorders, Volume 11, Issues 1-3, Videotape Supplement, The Unified Huntington's Disease Rating Scale: Reliability and Consistency. Mov Disord 1996;11:136-142.

**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.

***NEW* – The *Movement* Disorder Society's Unified Parkinson's Disease Rating Scale (2010) (MDS-UPDRS) Teaching Program** Authored by C. G. Goetz, G. T. Stebbins, T.A. Chamura, S. Fahn, W. Poewe, and C. M. Tanner. 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.

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, go to www.movementdisorders.org/publications/audiovisuals.php.

## Order Now!

MDS is pleased to offer you the opportunity to order a DVD of all eight Teaching Courses of the 14th International Congress. Each DVD includes slides, audio and video and the accompanying syllabi. Teaching Course titles include:

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

- MDS Members: $100.00
- Non-Members: $200.00

DVDs will be shipped to the address you provide on the International Congress registration form. Distribution of DVDs will begin in August, 2010.

To order log on to www.movementdisorders.org/education/ or on your online congress registration.

# Membership Information

## MEMBERSHIP BENEFITS

- A subscription to the print, DVD and online journal, *Movement* Disorders, including supplemental publications, such as Levodopa Treatment and Motor Complications in Parkinson's Disease: Scientific Basis and Therapeutic Approaches;
- 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 print and searchable online directory listing mailing addresses, telephone and fax numbers, and e-mail addresses for members;
- A Members Only Section of the MDS Web site 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.

## MEMBERSHIP CATEGORIES

**Regular Membership - $300 (USD) Annually**
Clinicians, other healthcare professionals, researchers and policy makers in Movement Disorders.

**Junior Membership - $100/$175* (USD) Annually**
Residents, fellows and those training in healthcare or scientific research. Status must be certified in writing by employer and submitted with payment.

**Health Professional - $100/$175* (USD) Annually**
Applies to nurses, nurse practitioners, clinical nurse specialists, occupational therapists, physical/physiotherapists, music therapists, speech therapists, clinical psychologists, dieticians, genetic counselors, social workers and lab technicians.

**Student Membership - $10 (USD) Annually**
Medical students and undergraduate students in medicine and science.(*Residents and Fellows are not eligible)*

**Waived Dues Membership - $10 (USD)**
Annually MDS provides a reduced dues program specifically designed to enable those on a lower income to join the Society.

*Junior and Health Professional Members will receive online journal access, but may select to add the print subscription for an additional fee.

For more information on MDS membership or to apply online, please go to www.movementdisorders.org/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 2010 and full membership status, receiving the print journal, in January 2011. Membership applications will be provided to all Non-Member attendees onsite and must be returned to the MDS booth prior to the conclusion of the International Congress. Applications will not be accepted by the Secretariat after June 17, 2010. **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.*

2010-2011 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 Web site.

For further information, please contact:
The *Movement* Disorder Society
International Secretariat
555 East Wells Street, Suite 1100
Milwaukee, WI 53202 USA
Tel: + 1 414-276-2145
Fax: + 1 414-276-3349
E-mail: info@movementdisorders.org
Web site: www.movementdisorders.org

## MDS AFFILIATE MEMBER SOCIETIES

The *Movement* Disorder Society invites other neurological organizations and groups specializing in Movement Disorders to become Affiliate Members of MDS to encourage research and enhance the education of physicians and the public about Movement Disorders.

As an Affiliate Member of MDS, your organization is entitled to:

- Announce MDS Affiliate Member status on your organization's letterhead and Web site;
- Receive "fast track" consideration of applications for sponsorship, support or endorsement of your organization's scientific meetings; as well as the ability to apply for a portion of $30,000 set aside annually to support scientific meetings of Affiliate Member Societies;
- Receive MDS mailings on future International Congresses and educational programs, as well as the official newsletter of the MDS, *Moving Along*;
- Request complimentary meeting space for your organization during the International Congress.

# Membership Information

## MDS AFFILIATE MEMBER SOCIETIES CONT.

No application fee is required to apply for Affiliate Membership status. To become an MDS Affiliate Member, please submit a formal letter of application and provide the following:

- A recent annual report of the activities of your organization;
- An organizational mailing list including e-mail addresses (please note that 15% of your practicing clinical scientist members and all members of your executive committee must be members of MDS);
- A copy of your organization's Constitution and Bylaws.

All of the above are required for the application to be considered complete; the letter of application and supporting documentation should be sent to:

**MDS International Secretariat**
**555 East Wells Street, Suite 1100**
**Milwaukee, WI 53202-3823 USA**
**Fax: +1 414-276-3349**
**E-mail: pfierst@movementdisorders.org**

## CURRENT AFFILIATE MEMBERS

**All-Russian Society of Neurologists**
Prof. Alla B. Guekht, Vice President
Movement Disorders Division of the All-Russian Society of Neurologists
Russian State Medical Center
Prospect Mira 118A, Apt. 46
Moscow, 129164
Russia
Tel: 7095-2874966
Fax: 7902-1888427
a.shpak@g23.relcom.ru

**Argentine Neurological Society Movement Disorders Group**
Dr. Tomoko Arakaki, Secretary
Urquiza 609
Buenos Aires, 1221
Argentina
Tel: +5411 4931 5355
tomokookinawa@hotmail.com
Web site: www.sna.org.ar

**Austrian Parkinson's Disease Society**
Werner Poewe, MD
President, Austrian Parkinson's Disease Society
University Hospital Innsbruck
Dept. of Neurology
Anichstrasse 35
Innsbruck 6020
Austria
werner.poewe@i-med.ac.at

**Brazilian Movement Disorders Group**
**Brazilian Academy of Neurology**
Academia Brasileira de Neurologia
DC Transtornos do Movimento
Rua Claudio Rossi, 394
Jardim da Gloria
São Paulo, SP, CEP 01547-000
Brazil
Web site: www.abneuro.org
Tel: +55 11 5084-9463
Carlos RM Rieder, MD PhD: carlosrieder@terra.com.br
Banderci Borges, MD PhD: vanderci@provida.org.br
Ylmar Correa Neto, MD PhD: dantascorrea@terra.com.br

**British & Irish Neurologists' Movement Disorders Group (BRING MD)**
Prof. Carl E Clarke - c.e.clarke@bham.ac.uk
Chair, British and Irish Neurologists' Movement Disorders Group
Dr. Graeme JA MacPhee - graeme.macphee@sgh.scot.nhs.uk
Chair, British Geriatrics Society Movement Disorders Section
Linda Caie, MSc - linda.caie@nhs.net
Chair, Parkinson's disease Nurse Specialists Association

**Dutch Movement Disorders Study Group**
Marina DeKoning-Tijssen, MD PhD
University of Amsterdam
Department of Neurology H2-222
P.O. Box 22660
Amsterdam 1100DD
The Netherlands
m.a.tijssen@amc.uva.nl

**Ecuador Movement Disorders Group**
Fernando Alarcon, MD
Chief of Neurology Department, Professor of Neurology
Hospital Eugenio Espejo
Department of Neurology
P.O. Box 17-07-9515
Quito, Ecuador
falarcon@ramt.com

**Flemish Movement Disorder Society**
Wim Vandenberghe, President
Department of Neurology
University Hospitals Leuven
Herestraat 49
3000 Leuven
Belgium
Wim.vandenberghe@uz.kuleuven.ac.be

## Membership Information

**Hong Kong Movement Disorder Society**
Cheung Yuk Fai
Department of Medicine Queen Elizabeth Hospital
Hong Kong Special Adminisrative Region
Hong Kong
cyfzoz@ha.org.hk
Web site: www.hkmds.org.hk

**Italian Association for the Study of Movement Disorders (DISMOV-SIN)**
Mario Zappia, MD
President, DISMOV-SIN
Azienda Ospedaliera Universitaria
Policlinico G. Rodolico
Via Santa Sofia, 78- ed 20
Catania, 95123
Italy
dismov@aristea.com

**Moroccan Neurological Society Movement Disorders Group**
Chafiq Hicham, MD
AMA President
Aswak Essalam, Apt. 23
2e Etage
Marrakesh 40 000
Morocco
chafiqhicham@hotmail.com

**Movement Disorder Society of Australia**
Rick Stell, MD
President, Movement Disorder Society of Australia
Princess Alexandria Hospital
Ipswich Road, Burunda
Brisbane, QLD 4068
Australia
Web site: www.mdsa.org.au

**Movement Disorder Society of Japan**
The Association for Supporting Academic Societies
5-3-13-4F Otsuka, Bunkyo-ku
Tokyo 112-0012
Japan
Mr. Nobuhiko Takeda, Executive Assistant
mdsj@asas.or.jp
Web site: http://mdsj.umin.jp

**Movement Disorder Society of the Philippines (MDSP)**
Dr. Raymond L. Rosales, President
University of Santo Tomas Hospital
Manila
Philippines
rrosales@info.com.ph

**Parkinson Study Group**
Dr. Karl Kieburtz, Chair
University of Rochester
1351 Mt. Hope Ave, Suite 223
Rochester, NY 14620 USA
Web site: www.parkinson-study-group.org

**Sociedad Latinoamericana de Movimientos Anormales (SOLAMA)**
Elena Mary Dieguez, MD
President, SOLAMA
Instituto De Neurologia
Joanico 3311
Montevideo, 11600
Uruguay
elenadieguez2001@yahoo.com

**Swedish Movement Disorder Society (SWEMODIS)**
Per Odin, MD, PhD, Chairman, SWEMODIS
c/o Anki Nyberg
Department of Clinical Neuroscience
University of Gothenburg
Sahlgren University Hospital
SE-41345 Göteborg
Sweden
Web site: www.swemodis.se/english/
Tel: 46-31-3422439
anki.nyberg@neuro.gu.se

**The Danish Movement Disorder Society (DANMODIS)**
Lene Werdelin, MD, PhD
Chairman, DANMODIS
Department of Neurology
Bispebjerg Hospital
Bispebjerg Bakke 23
DK-2400 København NV
Denmark
LW01@bbh.hosp.dk
dsimonetti@fibertel.com.ar
Web site: www.danmodis.dk

# International Congress Information

## DATES
Sunday, June 13 through Thursday, June 17, 2010

## OFFICIAL LANGUAGE
The official language of the International Congress is English.

## VENUE
Sheraton Buenos Aires Hotel and Convention Center
San Martin 1225/1275
Buenos Aires 1104
Argentina

### 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 control access into all International Congress sessions and activities. Individuals will be identified as follows:

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

## SPEAKER READY ROOM
Location: Poncho Room, 2nd Floor

All speakers must check in at the Speaker Ready Room with 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.

**Speaker Ready Room hours are as follows:**
Saturday, June 12: ..... 16:00 – 20:00
Sunday, June 13: ..... 7:00 – 18:00
Monday, June 14: ..... 7:00 – 18:00
Tuesday, June 15: ..... 7:00 – 18:00
Wednesday, June 16: ..... 7:00 – 18:00
Thursday, June 17: ..... 7:00 – 16:00

## INTERNET CAFÉ
Location: San Isidro Room, Lower Level

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

**Internet café hours are as follows:**
Monday, June 14: ..... 9:30 – 17:30
Tuesday, June 15: ..... 9:30 – 17:30
Wednesday, June 16: ..... 9:30 – 17:30
Thursday, June 17: ..... 9:30 – 15:00

## MDS EXHIBIT AND INFORMATION BOOTH
Location: Libertador Foyer, 1st Floor

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 Oceania 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, Oceanian 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 Exhibit and Information Booth:

**MDS Booth hours are as follows:**
Monday, June 14: ..... 8:00 – 19:00
Tuesday, June 15: ..... 8:00 – 19:00
Wednesday, June 16: ..... 8:00 – 19:00
Thursday, June 17: ..... 8:00 – 16:00

## REGISTRATION DESK
Location: Libertador Foyer, 1st Floor

Name badges, scientific session tickets, purchased Welcome Reception Passes, purchased Gala Event tickets and International Congress bags can be collected at the International Congress registration desk.

**Registration desk hours are as follows:**
Saturday, June 12 ..... 16:00 – 20:00
Sunday, June 13 ..... 7:00 – 19:00
Monday, June 14..... 7:00 – 19:00
Tuesday, June 15 ..... 7:00 – 19:00
Wednesday, June 16 ..... 7:00 – 19:00
Thursday, June 17..... 7:00 – 16:00

**Please note that these hours are subject to change.

# International Congress Information

## PRESS ROOM

Location: Rio de la Plata Room, 2nd Floor

Members of the working media receive waived registration fees for the 14th 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.

**Press Room will be open during the following hours:**

Sunday, June 13: ..... 9:00 – 17:00
Monday, June 14: ..... 9:00 – 17:00
Tuesday, June 15: ..... 9:00 – 17:00
Wednesday, June 16: ..... 9:00 – 17:00
Thursday, June 17: ..... 9:00 – 16:00

## NO CAMERAS

Cameras are not permitted in any 14th International Congress educational sessions or in the poster areas.

## ABSTRACT VOLUME

All abstracts accepted for poster presentation have been published in an abstract supplement to the MDS Journal, *Movement* Disorders.

## ABSTRACTS-ON-CD-ROM

All abstracts published in the supplement to the MDS Journal are available by Abstracts-On-CD-ROM sponsored by MDS and supported by an unrestricted educational grant from Medtronic. To obtain a copy, please visit the Medtronic Booth 15.

## CONTINUING MEDICAL EDUCATION

Please refer to page 30 for Continuing Medical Education information.

## 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.

When completed, evaluations may be returned to your meeting room attendants, the Speaker Ready Room (Poncho Room, 2nd Floor) or to the MDS registration desk, Libertador Foyer, 1st Floor.

## SCIENTIFIC SESSIONS

The 2010 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:

- Neuroimaging in Movement Disorders;
- 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 availability of these tickets.

## SPANISH TRANSLATION

New this year to the 14th International Congress Scientific Program: All Plenary Sessions and Teaching Courses will be translated in Spanish.

Traducción al español: Todos los Cursos y Sesiones Plenarias serán traducidas al español.

Si desea utilizar este sistema, por favor diríjase a la mesa de receptores ubicada próxima a la puerta de entrada de cada una de las salas de sesiones donde haya interpretación simultánea al español. Le será solicitado dejar un documento con fotografía al momento de retirar el receptor. Este documento le será devuelto una vez que el receptor sea entregado.

# International Congress Information

## ABSTRACT POSTER SESSIONS

Delegate feedback from past International Congresses has indicated great interest in Poster Sessions. Poster Sessions are featured each day based upon the following schedule:

**Poster Session 1**
Abstracts: 1-278
Monday, June 14
Poster Viewing: 9:00 - 18:00
Authors Present: 14:00 - 15:30
Location: San Telmo Room, Lobby Level

**Poster Session 2**
Abstracts: 279-565
Tuesday, June 15
Poster Viewing: 9:00 - 18:00
Authors Present: 13:30 - 15:00
Location: San Telmo Room, Lobby Level

**Poster Session 3**
Abstracts: 566-849
Wednesday, June 16
Poster Viewing: 9:00 - 18:00
Authors Present: 13:30 - 15:00
Location: San Telmo Room, Lobby Level

**Poster Session 4**
Abstracts: 850-1067
Thursday, June 17
Poster Viewing: 9:00 - 16:00
Authors Present: 13:30 - 15:00
Location: San Telmo Room, Lobby Level

## GUIDED POSTER TOURS

Attendees may sign up for the Guided Poster Tours beginning on Monday, June 14 from 8:00 to 19:00 at the MDS Booth located in the Libertador Foyer, 1st Floor.

The Guided Poster Tours will be led by members of the MDS faculty and the authors will be present to discuss the abstracts. There will be 16 Guided Poster Tours and each tour will feature abstracts on a specific topic.

There will be four tours per day from Monday, June 14 through Thursday, June 17 which will run simultaneously. Tours will meet each day in their assigned room on the 24th Floor.

**Monday, June 14**
14:00 – 15:30 Atalaya Room, 24th Floor
Guided Poster Tour 1 – Neuroimaging
Guided Poster Tour 2 – Parkinson's disease: Neuropharmacology

14:00 –15:30 Aguila Room, 24th Floor
Guided Poster Tour 3 – Parkinson's disease: Behavioral disorders
Guided Poster Tour 4 – Tics/Stereotypies

For a complete listing of abstracts in each tour, please see pages 71-72.

**Tuesday, June 15**
13:30 -15:00 Atalaya Room, 24th Floor
Guided Poster Tour 5 – Basic Science
Guided Poster Tour 6 – Huntington's disease

13:30 -15:00 Aguila Room, 24th Floor
Guided Poster Tour 7 - Restless Legs Syndrome
Guided Poster Tour 8 - Neuropharmacology

For a complete listing of abstracts in each tour, please see pages 73-74.

## International Congress Information

**Wednesday, June 16**
13:30 -15:00 Atalaya Room, 24th Floor
Guided Poster Tour 9 – Dystonia
Guided Poster Tour 10 – Genetics

13:30 -15:00 Aguila Room, 24th Floor
Guided Poster Tour 11 - Gene Therapies and Cell-based Therapies
Guided Poster Tour 12 - Lewy Body Dementia and other dementias in movement disorders

For a complete listing of abstracts in each tour, please see pages 75-76.

**Thursday, June 17**
13:30 -15:00 Atalaya Room, 24th Floor
Guided Poster Tour 13 – Parkinson's disease: Clinical trials
Guided Poster Tour 14 – Parkinson's disease: Sleep Disorders

13:30 -15:00 Aguila Room, 24th Floor
Guided Poster Tour 15 - Surgical Therapy: Parkinson's disease
Guided Poster Tour 16 - Surgical Therapy: Other Movement Disorders

For a complete listing of abstracts in each tour, please see pages 77-79

### SATELLITE SYMPOSIA

**Argentine Neurological Society**
Monday, June 14
Catalinas Room 12:30 – 13:30

**Latin American Huntington's Disease Network**
Tuesday, June 15
Catalinas Room 12:30 – 14:30

**Movement Disorder Nurses Networking Reception**
Wednesday, June 16
Golden Horn Room 19:00 – 20:30

The *Movement* Disorder Society

**www.movementdisorders.org** Connecting members with the latest research, education and developments in Movement Disorders globally

**Special Features**

**Membership** – Manage your account easily and quickly online

**Case of the Month** – Share your challenging cases with colleagues

**Editor's Choice** – Read and listen to a podcast review of a featured Journal article

**Rating Scales** – Browse MDS-owned rating scales & MDS Task Force Recommended Scales

**Video Library** – View the complete collection of videos published with the *Movement* Disorders Journal

**Quick Opinion Please** – Join the discussion about unique cases in our forum

**Education Portal** – Learn about CME and professional development opportunities in Movement Disorders

**Health Professionals** – Find valuable information and resources related to counseling, nursing, rehabilitation and genetics

**More Highlights**

- *Movement* Disorders Journal
- *Moving Along* newsletter
- EBM reviews and position papers
- Links to resources and organizations
- Online and Mobile Membership Directories
- Annual Congress information
- Movement Disorders Books For Sale
- Facebook®

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# International Congress Information

## SOCIAL EVENTS

### SUNDAY, JUNE 13, 2010

**Opening Ceremony and Welcome Reception**
Opening Ceremony:
19:00 – 19:30
Libertador Room, 1st Floor

Welcome Reception:
19:30 – 21:00
1st Floor Foyer

All International Congress attendees are warmly invited to meet friends and colleagues during the traditional International Congress Opening Ceremony at The Sheraton Buenos Aires Hotel and Convention Center. A Welcome Reception will directly follow the Opening Ceremony. These events are open to all registered delegates. Guests are able to purchase a Welcome Reception Pass that will allow them admission to the Opening Ceremony and Welcome Reception. Please check at the registration desk for availability.

### TUESDAY, JUNE 15, 2010

**Gala Event**
19:30 – 23:30
Opera Pampa

All participants of the 14th International Congress are invited to attend the Gala Event at the Opera Pampa. The show, which takes place in an outdoor heated amphitheatre, is a masterpiece about Argentina, its traditions, songs, dance and gaucho culture. Afterwards, guests will feast on the world-famous Argentine beef grilled in a typical gaucho barbecue pit. Transportation will be provided and suggested attire is smart casual. The cost for one Gala Event ticket is $125 USD and can be purchased along with the International Congress registration. Please check at the registration desk for availability.

### WEDNESDAY, JUNE 16, 2010

**Video Olympics**
Reception with hors d'oeuvers and drinks:
19:00 – 20:00
Libertador Foyer, 1st Floor

Video Olympics:
20:00 – 23:00
Libertador Room, 1st Floor

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.

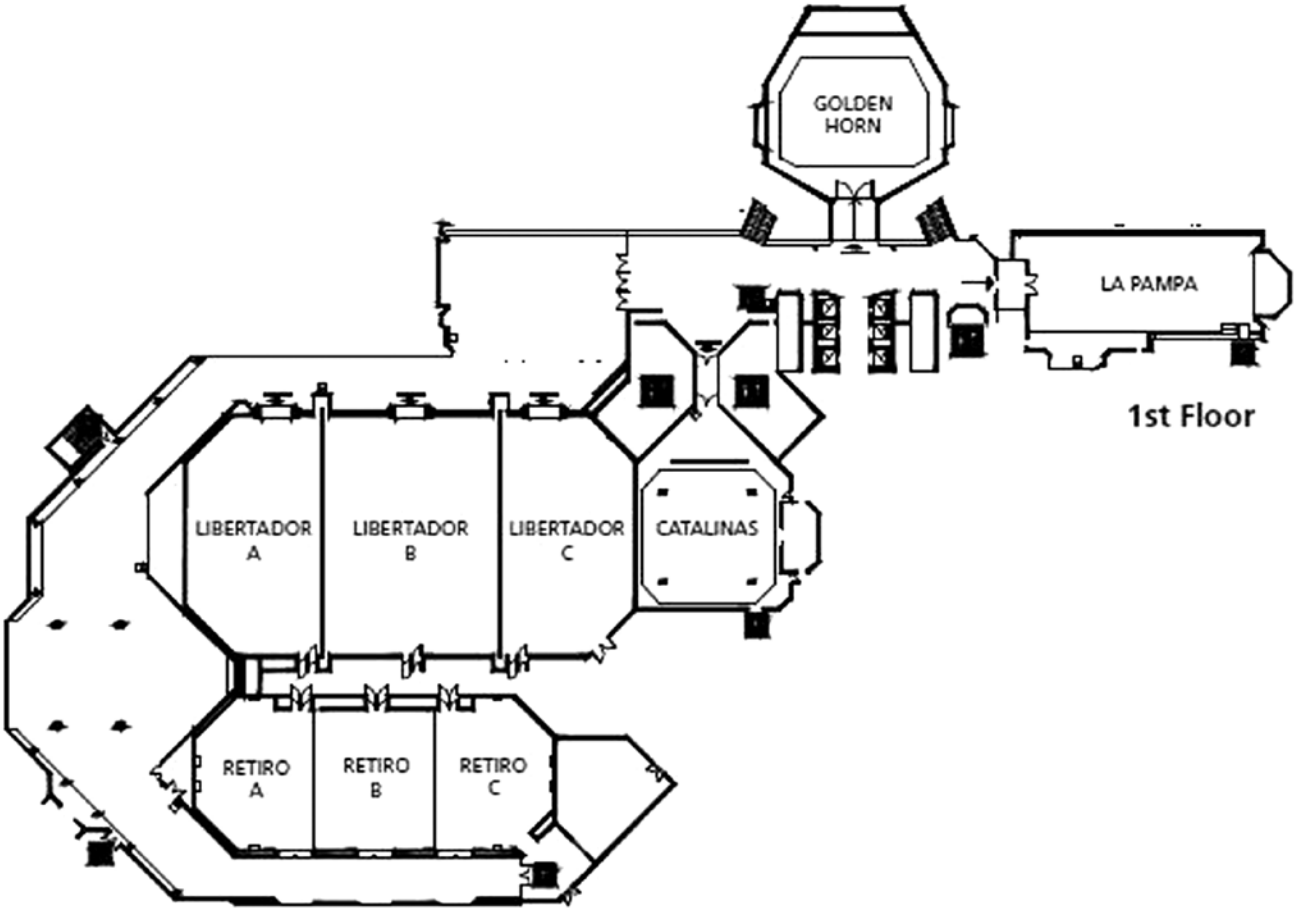
This social event is open to all registered delegates.

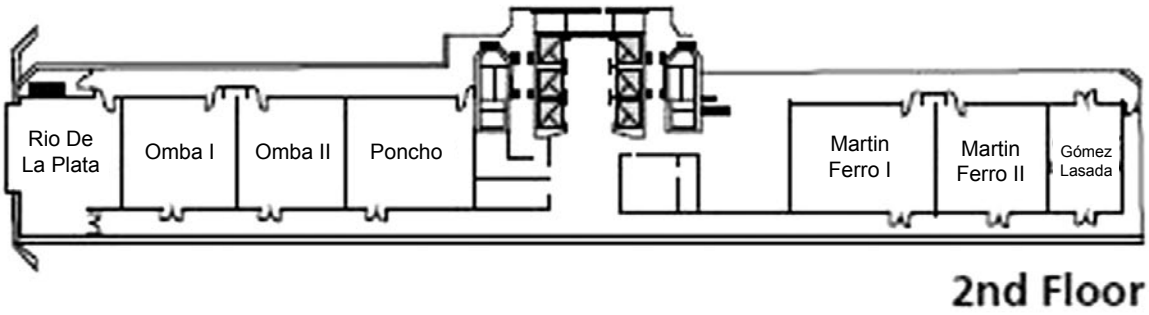
**The two teams of Experts are:**
**Team 1:**
Victor Fung, *Sydney, Australia*
Federico Micheli, *Buenos Aires, Argentina*
Wolfgang Oertel, *Marburg, Germany*
C. Warren Olanow, *New York, NY, USA*

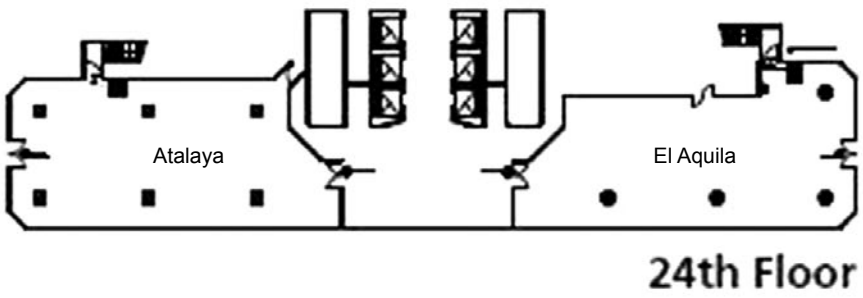
**Team 2:**
David John Burn, *Newcastle upon Tyne, United Kingdom*
Francisco Cardoso, *Belo Horizonte, Brazil*
Boem Jeon, *Seoul, Korea*
Stephen Reich, *Baltimore, MD, USA*

Following the International Congress, the cases presented could be developed further for publication in the Journal or presentation on the Society's Web site.

## International Congress Information



# Awards Information

The following awards will be presented during the Opening Ceremony on Sunday, June 13 at 19:00 in the Libertador Room, 1st Floor.

## HONORARY MEMBERSHIP AWARDS

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

### Recipients:

**Ann Graybiel, PhD**
*Cambridge, MA, USA*

**Andrew Lees, MD, FRCP**
*London, United Kingdom*

## PRESIDENT'S DISTINGUISHED SERVICE AWARD

The President's Distinguished Service Award is given in recognition of long and distinguished service to The *Movement* Disorder Society. The recipient may only receive this award once in their lifetime.

## STANLEY FAHN AWARD LECTURE

**This award will be presented on Wednesday, June 16 as part of 4103: Plenary Session IX: Presidential Lectureships**
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.

## 2010 Stanley Fahn Lecturer: Gerald Stern, MD

**The fox, the hedgehog, the MDS and the world's best known neurologist?**

**Gerald Stern, MD**

Gerald Stern, MD is emeritus consultant neurologist, University College Hospitals London, United Kingdom. He trained in London, Columbia University, USA, University of Durham, United Kingdom and La Salpētrière, University of Paris, France as recipient of CIBA Anglo-French Bursary. He is an Honorary Member of The *Movement* Disorder Society, Past President of the Association of British Neurologists, Past Senior Vice President and Honorary Librarian of the Royal Society of Medicine, Corresponding Member of the American Neurological Association, Ehrenmitglied Österreichische Parkinson Gesellschaft, recipient of the Franz Burda Prize for research into Parkinson's disease, Royal Society of Medicine Foundation Inc. Visiting Professor to the United States of America and American College of Neuropsycho pharmacology, Thomas Greenaway Lecturer and Visiting Professor, Royal Australian College of Physicians, Alice Wilson Visiting Professor University of Kansas and visiting professor at other universities in the USA, Europe and South East Asia. Surgeon Lieutenant Royal Naval Volunteer Reserve, Past President Extrapyramidal Research Committee of the WFN, Past President Parkinson's Disease Society of the United Kingdom. His clinical and research interests have been mainly in the field of Movement Disorders, the neurodegenerations and general neurology. He has published over 350 peer-reviewed articles and several books. He has a longstanding interest in James Parkinson – both were born, brought up and educated in the same part of London and both studied at the London Hospital – but not at the same time.

# Awards Information

## C. DAVID MARSDEN AWARD LECTURE

**This award will be presented on Wednesday, June 16 as part of 4103: Plenary Session IX: Presidential Lectureships**
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.

### 2010 C. David Marsden Lecturer: Yves Agid, MD, PhD

**Yves Agid, MD, PhD**

**The role of basal ganglia and subconsciousness**

Yves Agid spent most of his medical career at the Pitié-Salpêtrière University Hospital in Paris, France where he specialized in Neurology and Psychiatry. He then became Professor of Experimental Medicine and Cell Biology (1979) and Chairman of the Federation of Neurology (1993). He obtained his PhD at College de France (1976), and became the director of a laboratory of Inserm ("Mechanisms and Consequences of Neuronal Death") in 1986.

Chairman of the Institute of Neurosciences from 1998 until 2005, he is a founding member of a new Institute of Neurosciences (Institut du Cerveau et de la Moelle épinière, 600 researchers, 22.000 sqm) which will open in Autumn 2010 in the heart of the Pitié-Salpêtrière University Hospital (2005).

Member of several international societies, he was the Counsellor for Neurosciences at Inserm (1996-1998), Chairman of the Institute of Neurology at Salpêtrière (2000-2002), President of the French Society of Neurology (2002-2003). He is the most cited French neuroscientist in the last 20 years, the second most cited author among all French scientists, the first in the world in the field of Parkinson's disease. He is a member of the French Academy of Sciences.

Among Yves Agid's awards : Académie des Sciences (1984), Alice Wilson Award (1993), Academy of Medicine ( 1994), Académie des Sciences (1995), Grand Prix Inserm de la Recherche Médicale (2001), American Academy of Neurology (Movement Disorders, 2003), Career Award of The *Movement* Disorder Society (2004), Award of the City of Paris (2009).

## JUNIOR AWARDS

Two Junior Awards recipients have been selected based on their significant contribution to clinical and basic science research in the field of Movement Disorders. One award will be presented for excellence in clinical research and another for excellence in basic research.

**This award will be presented on Wednesday, June 16 as part of 4103: Plenary Session IX: Presidential Lectureships**
8:30 – 9:00
**Chairs:** Anthony Lang, Philip D. Thompson, Günther Deuschl

**Clinical Research**
**Roberto Cilia, MD**
*Toronto, ON, Canada*
*Milan, Italy*

**Imaging gambling severity in patients with Parkinson's disease: evidence of fronto-striatal disconnection**

*Roberto Cilia, MD, Sang Soo Cho, PhD, Thilo van Eimeren, MD PhD, Giorgio Marotta, MD, Chiara Siri, PsyD, Ji Hyun Ko, PhD, Giovanna Pellecchia, PhD, Gianni Pezzoli, MD, Angelo Antonini, MD and Antonio P. Strafella, MD, PhD, FRCPC (Toronto, ON, Canada)*

**Objective:** The aim of the present study was to identify the brain regions associated with the severity of pathological gambling in medicated PD patients. In addition, we used two different connectivity techniques to identify critical neural interactions that differentiated PD gamblers from matched controls.

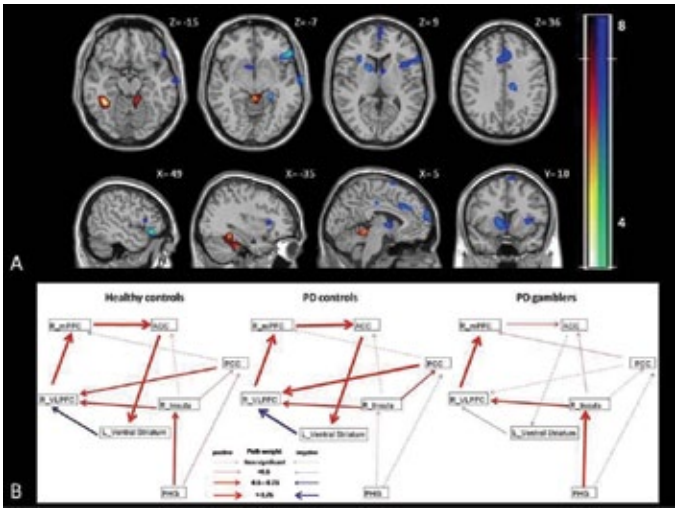
**Background:** Pathological gambling may occur in PD patients as a complication of dopaminergic therapy. Previous imaging studies suggested abnormal dopamine transmission within the mesolimbic reward system.

**Methods:** 30 PD patients (15 with active PG and 15 matched controls, on medication) and 15 healthy subjects underwent brain perfusion SPECT at rest. The severity of gambling was assessed using the South Oaks Gambling Scale. In PD gamblers, we used covariance analysis in SPM5 to identify the brain regions whose perfusion correlated with gambling

## Awards Information

severity. These regions were then used as seed-volumes-of-interest to identify interconnected regions using voxel-wise covariate analysis in SPM5 (functional connectivity). Finally, we created a path model by means of effective connectivity analysis within the Structural Equation Modeling framework using AMOS 7.0 (effective connectivity).

**Results:** Increasing gambling severity in PD gamblers negatively correlated with the right ventrolateral prefrontal cortex, anterior and posterior cingulate cortices, medial prefrontal cortex, insula, parahippocampal gyrus, and left striatum; positive correlations were found in the fusiform gyrus and cerebellum (figure A). The main finding of connectivity analyses was the disconnection between striatum and ACC in PD gamblers, an interaction that was very robust in both control groups (figure B).




**Conclusions:** Increasing gambling severity was associated with progressive dysfunction in brain areas involved in risk estimation and the inhibition of inappropriate behaviors. Connectivity analyses identified a disconnection between ACC and striatum: this may underlie the progressive inability of PD gamblers to process negative outcomes and disengage from risk-taking and reward-seeking behaviors.

**Basic Science**

**Raphael Hourez, MD, PhD**
*Brussels, Belgium*
*Boston, MA, USA*

**Aminopyridines correct presymptomatic neuronal dysfunction and improve late behavioral and cellular phenotype in a mouse model of spinocerebellar ataxia type 1 (SCA1)**

*Raphael Hourez, MD, PhD, Laurent Servais, MD, PhD, David Gall, PhD, Massimo Pandolfo, MD, PhD and Serge N Schiffmann, MD, PhD (Brussels, Belgium)*

**Objective:** After characterizing an early dysfunction of Purkinje cells in a mouse model of SCA1, we tested whether potassium channels blockers of the aminopyridines family could improve neuronal dysfunction, motor behaviour and neurodegeneration in SCA1.

**Background:** SCA1 is a fatal incurable progressive cerebellar ataxia accompanied with loss of Purkinje cells and caused by an expanded polyglutamine tract in the protein ataxin-1. Mouse models of SCA1 display impaired motor performance ahead of loss or atrophy of Purkinje cells, suggesting that neuronal dysfunction may be important in the phenotype of SCA1.

**Methods:** Neuronal dysfunction was studied by electrophysiology combined with gene and protein expression studies. Aminopyridines (4-aminopyridine and 3.4diaminopyridine) were administered by subcutaneous injection, either acutely (single injection) or chronically (implantation of osmotic Alzet pumps). Motor behaviour was assessed by accelerated rotarod, thin rod and grip strength tests. Cell atrophy was assessed by classical immunostainings or 3D reconstruction after intracellular dialysis with biocytin.

**Results:** We observed an early dysfunction of Purkinje cells characterized by a reduction in Purkinje cell firing rate (both in vivo and in slices) associated with a reduction in the efficiency of the main glutamatergic synapse onto Purkinje cells and with increased A-type potassium current. In acutely treated young SCA1 mice, aminopyridines normalize the firing rate of Purkinje cells and the motor behaviour of the animals. In chronically treated old SCA1 mice, 3.4-diaminopyridine improves the firing rate of Purkinje cells, the motor behaviour of the animals and partially protected against cell atrophy (as shown by measurement of molecular layer thickness, Purkinje cell volume and dendritic spines density) while no effect was observed on cell death. Chronic treatment with 3.4-diaminipyridine was associated with increased cerebellar levels of BDNF, the protection against atrophy of Purkinje cells could thus be provided by an increase in the production of growth factors secondary to the re-increase in electrical activity.

**Conclusions:** Our data suggest that aminopyridines might be proposed as a symptomatic and/or neuroprotective treatment in SCA1.

## Awards Information

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The 2010 Travel Grants Award Program was partially supported by an unrestricted educational grant from Merz Pharmaceuticals, LLC.

# 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.

## CONTINUING MEDICAL EDUCATION

The *Movement* Disorder Society is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

## ACCREDITATION STATEMENT:

The *Movement* Disorder Society designates this educational activity for a maximum of 35.0 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

## TARGET AUDIENCE

The target audience of the 14th 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 Buenos Aires.

## CME INFORMATION

**Claiming CME Credit**

Physicians may claim their CME Certificates from their home or office upon the completion of the MDS 14th International Congress. Visit the MDS Web site after June 15th and use your file number located on your name badge to log in and claim your credits. You will be able to print or save a PDF of your credit award from your own computer.

## Program-at-a-Glance

| Time | Sunday, June 13 | Monday, June 14<br>Theme Day | Tuesday, June 15 | Wednesday, June 16 | Thursday, June 17 |
|---|---|---|---|---|---|
| 7:00 | Committee Meetings<br>7:00 - 8:00 | Committee Meetings<br>7:00 - 8:00 | Committee Meetings<br>7:00 - 8:00 | Committee Meetings<br>7:00 - 8:00 | Committee Meetings<br>7:00 - 8:00 |
| 7:30 | | | | | |
| 8:00 | Therapeutic Plenary Session I<br>8:00 - 10:00 | Plenary Session V<br>8:00 - 10:00 | Plenary Session VII<br>8:00 - 10:00 | Plenary Session IX<br>(Presidential Lectures)<br>8:00 - 10:00 | Plenary Session XI<br>8:00 - 9:30 |
| 8:30 | | | | | |
| 9:00 | | | | | |
| 9:30 | | | | | Break<br>9:30 - 10:00 |
| 10:00 | Break<br>10:00 - 10:30 | Break<br>10:00 - 10:30 | Break<br>10:00 - 10:30 | Break<br>10:00 - 10:30 | Plenary Session XII<br>(Controversies)<br>10:00 - 11:00 |
| 10:30 | Therapeutic Plenary Session II<br>10:30 - 12:30 | Plenary Session VI<br>10:30 - 12:30 | Plenary Session VIII<br>10:30 - 12:00 | Plenary Session X<br>10:30 - 12:00 | |
| 11:00 | | | | | Plenary Session XIII<br>(Blue Ribbon Highlights)<br>11:00 - 12:00 |
| 11:30 | | | | | |
| 12:00 | | | Break<br>12:00 - 12:30 | Break<br>12:00 - 12:30 | Break<br>12:00 - 12:30 |
| 12:30 | Break<br>12:30 - 14:00 | Break<br>12:30 - 13:00 | Corporate Therapeutic Symposia<br>12:30 - 13:30 / AOS General Assembly<br>12:30 - 13:30 | Corporate Therapeutic Symposia<br>12:30 - 13:30 | Corporate Therapeutic Symposia<br>12:30 - 13:30 |
| 13:00 | | Corporate Therapeutic Symposia<br>13:00 - 14:00 / PAS General Assembly<br>13:30 - 14:30 | | | |
| 13:30 | | | Break<br>Guided Poster Tours/ Posters<br>13:30 - 15:00 / MDS Business Meeting<br>13:30 - 14:30 | Break<br>Guided Poster Tours/ Posters<br>13:30 - 15:00 | Break<br>Guided Poster Tours/ Posters<br>13:30 - 15:00 |
| 14:00 | Therapeutic Plenary Session III<br>14:00 - 16:00 | Break<br>Guided Poster Tours/ Posters<br>14:00 - 15:30 | | | |
| 14:30 | | | | | |
| 15:00 | | | Parallel Sessions<br>15:00 - 17:00 | Parallel Sessions<br>15:00 - 17:00 | Parallel Sessions<br>15:00 - 17:00 |
| 15:30 | | Parallel Sessions<br>15:30 - 17:30 | | | |
| 16:00 | Break<br>16:00 - 16:30 | | | | |
| 16:30 | Therapeutic Plenary Session IV<br>16:30 - 18:30 | | | | |
| 17:00 | | | Break<br>17:00 - 17:30 | Break<br>17:00 - 17:30 | END |
| 17:30 | | Break<br>17:30 - 18:00 | Skills Workshops/ Video Sessions<br>17:30 - 19:00 | Skills Workshops/ Video Sessions<br>17:30 - 19:00 | |
| 18:00 | | Skills Workshops/ Video Sessions<br>18:00 - 19:30 | | | |
| 18:30 | Break<br>18:30 - 19:00 | | | | |
| 19:00 | Opening Ceremony and Welcome Reception<br>19:00 - 21:00 | | Break<br>19:00 - 19:30 | Video Olympics Reception<br>19:00 - 20:00 | |
| 19:30 | | | Gala Event<br>19:30 - 23:30 | | |
| 20:00 | | | | | |
| 20:30 | | | | Video Olympics<br>20:00 - 23:00 | |
| 21:00 | | | | | |
| 21:30 | | | | | |
| 22:00 | | | | | |
| 22:30 | | | | | |
| 23:00 | | | | | |
| 23:30 | | | | | |

# MDS 14th 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 Sessions:

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

## Guided Poster Tours:

Guided Poster Tours will give small groups of delegates an opportunity to hear discussion on a select group of abstracts in several sub-categories.

## Parallel Sessions:

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

## Plenary Sessions:

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

## Poster Sessions:

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

TICKET = Ticket required for entry.
Please check the Registration Desk for ticket availability.
There is no extra charge for session tickets.

## 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: Neuroimaging in Movement Disorders**

At each annual International Congress, the Congress Scientific Program Committee selects a theme that is highlighted on one day of the Plenary Sessions and carried forward with Parallel Sessions and Video/ Skills Workshops throughout the meeting. This year, the selected theme is Neuroimaging in Movement Disorders. International experts working in the interface between Neuroimaging and Movement Disorders 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 .

# Scientific Program | Sunday, June 13, 2010

## 1105 Therapeutic Plenary Session I:

**From starting line to finish: The management of Parkinson's disease**
8:00 – 10:00
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

Chairs: Werner Poewe
*Innsbruck, Austria*
Oscar Gershanik
*Buenos Aires, Argentina*

**8:00** **When the gun goes off: How to start**
Anthony Schapira
*London, United Kingdom*

**8:40** **Hitting the wall: How to manage motor complications medically**
Anthony Lang
*Toronto, ON, Canada*

**9:20** **All in the mind: Cognitive and neuropsychiatric problems**
Marcelo Merello
*Buenos Aires, Argentina*

At the conclusion of this session, participants should be better able to:
1. Recognize the issues and options available in the early treatment of Parkinson's disease
2. Develop a strategy to implement a range of treatments available for the management of motor complications in advanced Parkinson's disease
3. Describe the management of cognitive and neuropsychiatric problems associated with Parkinson's disease

## 1106 Therapeutic Plenary Session II:

**DBS: What's new?**
10:30 – 12:30
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

Chairs: Erwin Montgomery
*Birmingham, AL, USA*
Marcelo Merello
*Buenos Aires, Argentina*

**10:30** **How does DBS work?**
Erwin Montgomery
*Birmingham, AL, USA*

## 1106 Therapeutic Plenary Session II:—*continued*

**11:10** **Treating movement disorders**
Michael Okun
*Gainesville, FL, USA*

**11:50** **Treating neuropsychiatric disorders**
Ziad Nahas
*Charleston, SC, USA*

At the conclusion of this session, participants should be better able to:
1. Describe the mechanisms of DBS as applied to movement disorders and neuropsychiatry including new data based on optical deconstruction techniques
2. Recognize new developments in DBS surgery for movement disorders
3. Describe current achievements in and future options of DBS surgery for neuropsychiatric disorders

*Supported by an unrestricted educational grant from St. Jude Medical.*

## 1107 Therapeutic Plenary Session III:

**Management of nocturnal and sleep-related problems in movement disorders**
14:00 – 16:00
Location: Libertador Room, 1st Floor *
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

Chairs: Alejandro Iranzo
*Barcelona, Spain*
Mirta Averbuch
*Buenos Aires, Argentina*

**14:00** **Periodic or rhythmic movements during rest, drowsiness and sleep**
Alejandro Iranzo
*Barcelona, Spain*

**14:40** **Clinical spectrum and predictive value of REM behavior disorders and parasomnias**
Isabelle Arnulf
*Paris, France*

**15:20** **Daytime sleepiness in parkinsonism**
William Ondo
*Houston, TX, USA*

At the conclusion of this session, participants should be better able to:
1. Identify rhythmic or periodic movement disorders before or during sleep including hypnic jerks, restless legs syndrome, periodic movements of sleep, head banging, body rocking and stereotypies

# Scientific Program | Sunday, June 13 and Monday, June 14, 2010

## 1107 Therapeutic Plenary Session III:—*continued*

2. Outline appropriate workup for assessing complex movement disorders during sleep including REM sleep behavior disorders, parasomnias, sleep wandering movement disorders during sleep and frontal lobe related nocturnal epilepsy
3. Develop a strategy to address sleep apnea in parkinsonism and the causes of daytime sleepiness

## 1108 Therapeutic Plenary Session IV:

**Hot topics in experimental therapeutics in Parkinson's disease**
16:30 – 18:30
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

Chairs: Susan Fox
*Toronto, ON, Canada*
Luiz Augusto Franco de Andrade
*São Paulo, Brazil*

**16:30** **Gene therapy for treating Parkinson's disease**
Deniz Kirik
*Lund, Sweden*

**17:10** **Cellular replacement therapy and stem cell therapy in Parkinson's disease**
Roger Barker
*Cambridge, United Kingdom*

**17:50** **Novel neuropharmacological approaches for Parkinson's disease**
Jonathan Brotchie
*Toronto, ON, Canada*

At the conclusion of this session, participants should be better able to:
1. Review potential mechanisms of modifying Parkinson's disease involving gene therapy
2. Discuss the issues related to stem cells in Parkinson's disease
3. Review novel pharmacological approaches to treating Parkinson's disease

**Opening Ceremony**
19:00 -19:30
Libertador Room, 1st Floor

**Welcome Reception**
19:30 - 21:00
1st Floor Foyer

# MONDAY, JUNE 14, 2010

## 2103 Plenary Session V:

**Neuroimaging: Exploring the anatomy of movement disorders**
8:00 – 10:00
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

Chairs: David Brooks
*London, United Kingdom*
Cristina Besada
*Buenos Aires, Argentina*

**8:00** **New advances in anatomical neuroimaging: Implications for movement disorders and potential biomarkers**
Stephane Lehericy
*Paris, France*

**8:40** **Neuroimaging strategies for diagnosing movement disorders**
David Brooks
*London, United Kingdom*

**9:20** **Neuroimaging strategies for measuring progression of disease in Parkinson's disease: From pre-symptomatic and pre-motor signs to advanced disease**
Klaus Seppi
*Innsbruck, Austria*

At the conclusion of this session, participants should be better able to:
1. Develop a strategy to visualize the anatomy of the basal ganglia and sub-cortical regions
2. State your methodology for applying neuroimaging techniques to the delineation trait and state biomarkers of movement disorders
3. Discriminate the advantages of different techniques for tracking progression of movement disorders longitudinally

## 2104 Plenary Session VI:

**Functional neuroimaging in Movement Disorders**
10:30 – 12:30
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

# Scientific Program | Monday, June 14, 2010

## 2104 Plenary Session VI: —*continued*

Chairs: David Eidelberg
*Manhasset, NY, USA*
Adrian Owen
*Cambridge, United Kingdom*

**10:30** **New approaches and strategies for studying basal ganglia and subcortical networks as they relate to movement disorders**
Gereon Fink
*Jülich, Germany*

**11:10** **Using functional neuroimaging for studying motor aspects of movement disorders**
A. Jon Stoessl
*Vancouver, BC, Canada*

**11:50** **Functional neuroimaging and non-motor aspects of movement disorders**
Adrian Owen
*Cambridge, United Kingdom*

At the conclusion of this session, participants should be better able to:
1. Recognize the functional neuroimaging advances that permit visualization of brain regions involved in both motor and non-motor behaviors
2. Describe the techniques most pertinent to studying motor function in movement disorders
3. Evaluate the relative attributes of different techniques that can be applied to the study of non-motor aspects of movement disorders, including cognitive decline

## Corporate Therapeutic Symposia

13:00 -14:00
Please see pages 60-61 for more information.

## PAS General Assembly

13:30 -14:30
Location: Golden Horn Room, 1st Floor
All delegates from Pan America are encouraged to attend.

## Poster Session

**Poster Session 1**
Abstracts: 1-278
Monday, June 14
Poster Viewing: 9:00 - 18:00
Authors Present: 14:00 - 15:30
Location: San Telmo Room, Lobby Level

## Guided Poster Tours

14:00 - 15:30
Location: All Guided Poster Tours will meet in the assigned poster room on the 24th Floor. A ticket is required for participation in each tour.

Atalaya Room:
Guided Poster Tour 1 – Neuroimaging
Guided Poster Tour 2 – Parkinson's disease: Neuropharmacology

Aguila Room:
Guided Poster Tour 3 – Parkinson's disease: Behavioral disorders
Guided Poster Tour 4 – Tics/Stereotypies

For a complete listing of abstracts in each tour, please see pages 71-72.

## 2206 Parallel Session: TICKET

**Animal models in Movement Disorders**
15:30 – 17:30
Location: Retiro Room A/B, 1st Floor
Chairs: Serge Przedborski
*New York, NY, USA*
David Rubinsztein
*Cambridge, United Kingdom*

**15:30** **Overview of animal models for Movement Disorders**
Ted Dawson
*Baltimore, MD, USA*

**16:10** **Advantages and limitations of animal models of Parkinson's disease for neuroprotection**
Serge Przedborski
*New York, NY, USA*

**16:50** **Animal models of Parkinson's disease to study the side effects of dopa therapy and the role of non-dopaminergic systems**
M. Angela Cenci
*Lund, Sweden*

At the conclusion of this session, participants should be better able to:
1. Identify the animal models in movement disorders
2. Assess the limits and advantages of the animal models in terms of neuroprotection
3. Evaluate the limits and advantages of the animal models in terms of side effects of dopa therapy and non-dopaminergic systems

## Scientific Program | Monday, June 14, 2010

### 2207 Parallel Session: TICKET

**Parkinson's disease: A systemic disorder**
15:30 – 17:30
Location: Libertador Room B, 1st Floor

Chairs: Eldad Melamed
*Petah Tikva, Israel*
Jose Bueri
*Buenos Aires, Argentina*

**15:30 Cardiovascular involvement in Parkinson's disease**
Satoshi Orimo
*Tokyo, Japan*

**16:10 Gastrointestinal involvement in Parkinson's disease**
Ronald Pfeiffer
*Memphis, TN, USA*

**16:50 Dermatological involvement in Parkinson's disease**
Eldad Melamed
*Petah Tikva, Israel*

At the conclusion of this session, participants should be better able to:
1. Assess your approach for addressing the pathology and clinical presentation of Parkinson's disease that are not CNS-related
2. Develop strategies to address the cardiovascular, gastrointestinal and dermatological manifestations of Parkinson's disease
3. Explain your treatment plan for or referral plan for the cardiovascular, gastrointestinal and dermatological features of Parkinson's disease

### 2208 Parallel Session: TICKET

**PSP and CBD: From the bench to the clinic**
15:30 – 17:30
Location: Retiro Room C, 1st Floor

Chairs: Giovanni Abbruzzese
*Genova, Italy*
Dennis Dickson
*Jacksonville, FL, USA*

**15:30 Lessons learned from genetics: GWAS studies in PSP and CBD and FDTP mutations**
Gerard Schellenberg
*Philadelphia, PA, USA*

**16:10 Lessons learned from animal models**
Jada Lewis
*Jacksonville, FL, USA*

**16:50 Lessons learned from clinicopathological phenotype correlation studies in PSP and CBD**
Dennis Dickson
*Jacksonville, FL, USA*

### 2208 Parallel Session: TICKET —*continued*

At the conclusion of this session, participants should be better able to:
1. Identify the clinical and pathological findings of archetypal cases of PSP and CBD as well as the overlapping signs
2. Discuss the advantages and limitations of animal model research in studying PSP and CBD
3. Interpret the appropriate applications for the genetic influences on PSP, CBD and FDTP mutations

### 2209 Parallel Session: TICKET

**Ataxias**
15:30 – 17:30
Location: La Pampa Room, 1st Floor

Chairs: Alexandra Durr
*Paris, France*
Helio Teive
*Curitiba, Brazil*

**15:30 What's new in dominant ataxias?**
Helio Teive
*Curitiba, Brazil*

**16:10 Friedriech's ataxia: Are pathogenic insights leading to therapies?**
Massimo Pandolfo
*Brussels, Belgium*

**16:50 The diagnostic approach to hereditary ataxia in 2010**
Alexandra Durr
*Paris, France*

**At the conclusion of this session, participants should be better able to:**
1. Outline appropriate diagnostic acumen for ataxias
2. State your methodology for implementing emerging therapies for Friedreich's ataxia
3. Describe genetic causes of ataxia

### 2210 Parallel Session: TICKET

**Update on Gilles de la Tourette syndrome and tic disorders**
15:30 – 17:30
Location: Catalinas Room, 1st Floor

Chairs: Michael Orth
*Hamburg, Germany*
Maria Beatriz Moyano
*Buenos Aires, Argentina*

# Scientific Program | Monday, June 14, 2010

## 2210 Parallel Session: TICKET —continued

**15:30** **The pathobiological mechanisms of Tourette or tic disorders**
Davide Martino
*Bari, Italy*

**16:10** **The clinical spectrum of Tourette syndrome and other tic disorders**
Michael Orth
*Hamburg, Germany*

**16:50** **Management of tic disorders including deep brain stimulation**
Alexander Münchau
*Hamburg, Germany*

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

1. Discuss the pathophysiological mechanisms of Tourette syndrome including recent advances in genetics, imaging and electrophysiological and immune mechanisms
2. Discuss the clinical spectrum of tic disorders and Tourette syndrome including the motor and behavioral features
3. Discuss the state of the art of management for tic disorders including medical and surgical management

## 2211 Parallel Session: TICKET

**Brain metal accumulation disorders and neuroimaging: Metals as causation and consequence of neurological disease**
15:30 – 17:30
Location: Golden Horn Room, 1st Floor

Chairs: Marco T. Nuñez
*Santiago, Chile*
Susan Hayflick
*Portland, OR, USA*

**15:30** **NBIA1-PANK2 and NBIA2-PLA2G6 genetic disorders**
Susan Hayflick
*Portland, OR, USA*

**16:10** **Neuroferritnopathy**
Neeraj Kumar
*Rochester, MN, USA*

**16:50** **Manganese toxicity**
Bob Chin-Song Lu
*Taipei, Taiwan*

## 2211 Parallel Session: TICKET —continued

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

1. Describe the distinctive clinical and genetic features of NBIA-1-PANK2 and NBIA2-PLA2G6 mutation disorders
2. Explain the diagnostic criteria for neuroferritonopathies that induce movement disorders
3. Identify the clinical and biochemical hallmarks of manganese toxicity

## 2308 Teaching Course: TICKET

**Neuroimaging techniques and applications**
15:30 – 17:30
Location: Libertador Room A, 1st Floor
*Interpretación simultánea al Español disponible en esta sesión.*

Chairs: Kenneth Marek
*New Haven, CT, USA*
Philippe Rémy
*Creteil, France*

**15:30** **Neuroimaging in the differential diagnosis of parkinsonism and tremor disorders**
Philippe Rémy
*Creteil, France*

**16:10** **Neuroimaging in the study of cognitive aspects of parkinsonism and dementia**
Angelo Antonini
*Milan, Italy*

**16:50** **New MRI techniques for the evaluation of parkinsonism**
David Vaillancourt
*Chicago, IL, USA*

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

1. Describe various modalities of structural and functional neuroimaging applied in the differential diagnosis of parkinsonism and tremor
2. Identify the disorders which cause abnormality in the presynaptic dopaminergic neurons and those disorders which affect both pre and post synaptic dopaminergic neurons
3. State your methodology for the application of functional neuroimaging in the differential diagnosis of patients with dementia and parkinsonism/tremor

# Scientific Program | Monday, June 14, 2010

## 2309 Teaching Course: TICKET

**Update on dystonia**
15:30 – 17:30
Location: Libertador Room C, 1st Floor
*Interpretación simultánea al Español disponible en esta sesión.*

Chairs: Kailash Bhatia
*London, United Kingdom*
Silvia Garcia
*Buenos Aires, Argentina*

**15:30** **Primary dystonia**
Rachel Saunders-Pullman
*New York, NY, USA*

**16:10** **Secondary and heredodegenerative dystonias**
Kailash Bhatia
*London, United Kingdom*

**16:50** **Paroxysmal dystonia**
Kapil Sethi
*Augusta, GA, USA*

At the conclusion of this session, participants should be better able to:
1. Describe the phenotypes of primary and secondary dystonia
2. Identify the major indications for genetic testing in dystonia
3. Develop a strategy to manage and treat dystonic syndromes

*Supported by an unrestricted educational grant from Ipsen.*

## 2403 Skills Workshop: TICKET

**Reaching the target in DBS**
18:00 – 19:30
Location: Libertador Room A, 1st Floor
*This interactive video session will cover determination and stereotactic imaging and single unit recording.*

Hiroki Toda
*Osaka, Japan*
Andres Ceballos-Baumann
*Munich, Germany*

At the conclusion of this session, participants should be better able to:
1. Describe imaging algorithms to determine the preliminary target in DBS surgery
2. Recognize specific neuronal firing patterns in refining the target in DBS surgery
3. Discuss indications for multiple-target strategies

## 2404 Skills Workshop: TICKET

**The MDS-UPDRS: How to apply the new UPDRS in practice and research settings**
18:00 – 19:30
Location: Libertador Room B, 1st Floor
*This interactive skills workshop will focus on the description of the scale and comparison to the original UPDRS. Case examples and self assessment exercises will be utilized.*

Pablo Martinez-Martin
*Madrid, Spain*
Christopher G. Goetz
*Chicago, IL, USA*

At the conclusion of this session, participants should be better able to:
1. Explain the components and application of the new MDS-UPDRS, the reference measure for Parkinson's disease from now on
2. Describe the relationship and comparison between the old scale and the new UPDRS and the recommendations on how to interpret the results obtained through the application in clinical practice and research
3. Apply the MDS-UPDRS in real life, how to navigate through the options of scoring, and how to assign the definitive score after seeing demonstrative examples and self-assessment exercises

## 2405 Skills Workshop: TICKET

**Paraneoplastic movement disorders**
18:00 – 19:30
Location: Libertador Room C, 1st Floor
*This interactive session will discuss the clinical spectrum of paraneoplastic movement disorders and their laboratory and imaging evaluation.*

**Paraneoplastic Expert**
Josep Dalmau
*Philadelphia, PA, USA*
**Clinician**
Thomas Kimber
*Adelaide, Australia*

At the conclusion of this session, participants should be better able to:
1. Recognize the wide variety of movement disorders associated with cancer
2. Differentiate these movement disorders from similar clinical syndromes
3. Order appropriate antibody testing and other screening investigations for cancer in patients with the characteristic syndromes

## Scientific Program | Monday, June 14, 2010

### 2506 Video Session: TICKET

**Animal models: Do the scientists and clinicians concur?**

18:00 – 19:30

Location: Retiro Room C, 1st Floor

*This interactive session will focus on animal models for clinical disorders with interactions between clinicians and scientists.*

Mark LeDoux
*Memphis, TN, USA*
Susan Fox
*Toronto, ON, Canada*

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

1. Describe the advantages and disadvantages of the rodent models of movement disorders
2. Describe the advantages and disadvantages of the non-human primate models of movement disorders
3. Compare movement disorders in human and animal models

### 2507 Video Session: TICKET

**Assessing shaky movements**

18:00 – 19:30

Location: La Pampa Room, 1st Floor

*This interactive video session will show examples of various movement disorders where the interface of tremor, myoclonus, and other jerky movements are discussed and evaluated.*

Victor Fung
*Sydney, Australia*
Timothy Lynch
*Dublin, Ireland*

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

1. Outline appropriate examination techniques used for jerky and shaky movements
2. Define tremor and myoclonus
3. Recognize psychogenic movements, cortical tremor and tics

### 2508 Video Session: TICKET

**Eye movement abnormalities in movement disorders**

18:00 – 19:30

Location: Catalinas Room, 1st Floor

*This interactive video session will show examples of eye movement abnormalities in movement disorders.*

Janet Rucker
*New York, NY, USA*
Tim J. Anderson
*Christchurch, New Zealand*

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

1. Describe how to carry out accurate bedside examinations of eye movements including saccades, pursuit, vergence, vestibular and alignment
2. Describe the characteristic clinical eye movement abnormalities in patients with the common movement disorders
3. Outline how to recognize nystagmus and other oscillatory disorders and know recent pharmacotherapeutic advances

### 2509 Video Session: TICKET

**The voice of movement disorders**

18:00 – 19:30

Location: Golden Horn Room, 1st Floor

*This interactive video session will present examples of dysphonia, stuttering, dysarthria, and other voice disorders.*

Lorraine Ramig
*Boulder, CO, USA*
Leo Verhagen
*Chicago, IL, USA*

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

1. Classify dysphonia
2. Discuss the differential diagnosis of dysphonia and stuttering
3. Discuss speech disorders in Parkinson's disease

## 2510 Video Session: TICKET

**Movement Disorders in sleep**
18:00 – 19:30
Location: Retiro Room A/B, 1st Floor
*This interactive video session will show examples of nocturnal behaviors relevant to movement disorders.*

Birgit Hogl
*Innsbruck, Austria*
Claudia Trenkwalder
*Kassel, Germany*

At the conclusion of this session, participants should be better able to:
1. Describe the anatomic basis, clinical features and treatment of the parasomnias occurring during NREM sleep
2. Discuss the anatomic basis and clinical features of REM sleep behavior disorder and the evidence that relates RBD to synucleinopathy
3. Discuss the genetic basis for restless legs syndrome and current theories of pathogenesis

# TUESDAY, JUNE 15, 2010

## 3103 Plenary Session VII:

**Molecular mechanism of Huntington's disease**
8:00 – 10:00
Location: Libertador Room, 1st Floor *
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

Chairs: Frederic Saudou
*Orsay, France*
Roberto Weiser
*Caracas, Venezuela*

**8:00 How does mutant Huntington's disease kill cells in the CNS?**
Frederic Saudou
*Orsay, France*

**8:40 What causes the regional pathology of Huntington's disease?**
Paul Muchowski
*San Francisco, CA, USA*

**9:20 What are the new disease modifying therapies for Huntington's disease and why?**
Ralf Reilmann
*Muenster, Germany*

## 3103 Plenary Session VII:—*continued*

At the conclusion of this session, participants should be better able to:
1. Describe how mutant Huntington's disease affects cells adversely
2. Discuss what relevant advances in mutant Huntington's disease has to novel therapeutics
3. Identify ways that this work relates to other triplet repeat disorders of the CNS

## 3104 Plenary Session VIII:

**Clinical Trials in Movement Disorders: Today and the future**
10:30 – 12:00
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

Chairs: Karl Kieburtz
*Rochester, NY, USA*
Gonzalo Gomez Arevalo
*Buenos Aires, Argentina*

**10:30 The major clinical trials and important outcomes in Movement Disorders in 2009-2010**
Karl Kieburtz
*Rochester, NY, USA*

**11:15 New clinical trials and programs in development: Look for results in 2011**
Wolfgang Oertel
*Marburg, Germany*

At the conclusion of this session, participants should be better able to:
1. Evaluate clinical trial results that impact Movement Disorders in 2009-2010
2. Describe the strengths and limitations of clinical trials data that have been published in 2009-2010
3. Discuss the studies now in progress and the gamut of disorders and indications that are currently being evaluated for the treatment of Parkinson's disease and related disorders

## Corporate Therapeutic Symposia

12:30 -13:30
Please see pages 60-61 for more information.

# Scientific Program | Tuesday, June 15, 2010

## Poster Session

**Poster Session 2**

Abstracts: 279-565
Tuesday, June 15
Poster Viewing: 9:00 - 18:00
Authors Present: 13:30 - 15:00
Location: San Telmo Room, Lobby Level

## Guided Poster Tours

13:30 -15:00
Location: All Guided Poster Tours will meet in the assigned poster room on the 24th Floor. A ticket is required for participation in each tour.

Atalaya Room:
Guided Poster Tour 5 – Basic Science
Guided Poster Tour 6 – Huntington's disease

Aguila Room:
Guided Poster Tour 7 - Restless Legs Syndrome
Guided Poster Tour 8 - Neuropharmacology

For a complete listing of abstracts in each tour, please see pages 73-74.

## AOS General Assembly

12:30 – 13:30
Location: Golden Horn Room, 1st Floor
All delegates from Asia and Oceania are encouraged to attend.

## MDS Business Meeting

13:30 – 14:30
Location: La Pampa Room, 1st Floor
Open to all delegates.

## 3207 Parallel Session: TICKET

**Wilson's disease: Diagnostic and therapeutic challenges**
15:00 – 17:00
Location: Retiro Room C, 1st Floor

Chairs: Egberto Ries Barbosa
*São Paulo, Brazil*
Louis C.S. Tan
*Singapore*

**15:00 Genetics and pathophysiology of Wilson's disease**
Hartmut Schmidt
*Hamburg, Germany*

**15:40 Clinical presentation and diagnostic work-up in Wilson's disease**
Egberto Ries Barbosa
*São Paulo, Brazil*

## 3207 Parallel Session: TICKET —*continued*

**16:20 Therapeutic challenges in Wilson's disease**
Mohit Bhatt
*Mumbai, India*

At the conclusion of this session, participants should be better able to:
1. Describe identified causative gene mutations in Wilson's disease and the role of genotyping in this disease
2. Outline the appropriate diagnostic work-up including the clinical presentations of the disease
3. Discuss available treatment modalities including their shortcomings and complications

## 3208 Parallel Session: TICKET

**New directions in neuroprotection for Parkinson's disease**
15:00 – 17:00
Location: Libertador Room B, 1st Floor

Chairs: Etienne Hirsch
*Paris, France*
Pedro Cuevas
*Santiago, Chile*

**15:00 What we learned from pre-clinical models for neuroprotection**
Etienne Hirsch
*Paris, France*

**15:40 Neuroprotection versus symptom relief - possible to differentiate?**
Ira Shoulson
*Rochester, NY, USA*

**16:20 From neuroprotection to neuroprevention: Can we define at risk populations for Parkinson's disease?**
Werner Poewe
*Innsbruck, Austria*

At the conclusion of this session, participants should be better able to:
1. Describe pre-clinical data that indicated possible neuroprotective effects and have justified previous clinical trials of neuroprotectants for Parkinson's disease, and to what extent such data succeeded or failed to predict trial outcomes
2. Describe how symptomatic effects of putative neuroprotectants complicate interpretation of early clinical trials
3. Recognize the advantages and limitations of drugs with single action versus drugs with multiple sites of action (dirty drugs) or combinations of agents in Parkinson's disease

## Scientific Program | Tuesday, June 15, 2010

### 3209 Parallel Session: TICKET

**Can we define pre-motor Parkinson's disease: Strategies to identify an at risk cohort**
15:00 – 17:00
Location: Retiro Room A/B, 1st Floor

Chairs: Matthew Stern
*Philadelphia, PA, USA*

Eduardo Tolosa
*Barcelona, Spain*

**15:00** **Clinical profile of pre-motor Parkinson's disease**
G. Webster Ross
*Honolulu, HI, USA*

**15:40** **Imaging profile of pre-motor Parkinson's disease**
Klaus Leenders
*Groningen, Netherlands*

**16:20** **Challenges to evaluating an at risk population**
Connie Marras
*Toronto, ON, Canada*

At the conclusion of this session, participants should be better able to:
1. Discuss a schema for defining pre-motor Parkinson's disease
2. Review the clinical and imaging profiles of pre-motor Parkinson's disease
3. Review assessments that are currently used in pre-motor studies

### 3210 Parallel Session: TICKET

**Non-invasive brain stimulation in movement disorders**
15:00 – 17:00
Location: Catalinas Room, 1st Floor

Chairs: Joachim Krauss
*Hannover, Germany*
John C. Rothwell
*London, United Kingdom*

**15:00** **Physiological mechanisms and safety guidelines of rTMS and tDCS**
John C. Rothwell
*London, United Kingdom*

**15:40** **rTMS for movement disorders**
Alfredo Berardelli
*Rome, Italy*

**16:20** **tDCS in movement disorders: Concept and results**
Walter Paulus
*Göttingen, Germany*

### 3210 Parallel Session: TICKET *—continued*

At the conclusion of this session, participants should be better able to:
1. Recognize the patterns of cortical excitability alterations in movement disorders and the physiological targets of intervention
2. Explain protocols and therapeutic results for transcranial magnetic or direct current stimulation in particular movement disorders
3. Define the benefits, possible adverse effects and safety guidelines of the non-invasive brain stimulation

### 3211 Parallel Session: TICKET

**Balance and gait in movement disorders: From laboratory to clinic**
15:00 – 17:00
Location: La Pampa Room, 1st Floor

Chairs: Nir Giladi
*Tel Aviv, Israel*
Stewart Factor
*Atlanta, GA, USA*

**15:00** **Pathophysiologic basis of gait and balance impairment**
Brian Day
*London, United Kingdom*

**15:40** **The relationship of gait and balance disturbances to cognitive deficit**
Evzen Ruzicka
*Prague, Czech Republic*

**16:20** **Current and future management of gait and balance impairment**
Nir Giladi
*Tel Aviv, Israel*

At the conclusion of this session, participants should be better able to:
1. Explain the pathophysiologic basis of gait and balance disorders
2. Discuss the relationship between gait disturbance and cognitive impairment
3. Identify new technological innovations in management of gait and balance impairment

# Scientific Program | Tuesday, June 15, 2010

## 3212 Parallel Session: TICKET

**Neuroimaging in guiding DBS decisions, pre-operative and post-operative lesions**
15:00 – 17:00
Location: Golden Horn Room, 1st Floor

Chairs: Peter Bain
*London, United Kingdom*
Antonio P. Strafella
*Toronto, ON, Canada*

**15:00** **Neuroimaging in guiding DBS decisions, pre-operative and post-operative lesions: Parkinson's disease**
Antonio P. Strafella
*Toronto, ON, Canada*

**15:40** **Tremor**
Jan Herzog
*Kiel, Germany*

**16:20** **Dystonia**
David Eidelberg
*Manhasset, NY, USA*

At the conclusion of this session, participants should be better able to:
1. Evaluate the neuroimaging tools and strategies that are maximally useful for identifying the GPi and STN
2. Discuss the neuroimaging techniques to visualize nuclei and pathways important to tremor surgery
3. Identify the important neuroimaging landmarks that maximize targeting of lead placement in dystonia surgery

## 3309 Teaching Course: TICKET

**Differential diagnosis of parkinsonism**
15:00 – 17:00
Location: Libertador Room A, 1st Floor
*Interpretación simultánea al Español disponible en esta sesión.*

Chairs: Stephen Reich
*Baltimore, MD, USA*
Henrique Ferraz
*São Paulo, Brazil*

**15:00** **Diagnosis of Parkinson's disease: Clinical features, motor and non-motor**
Stephen Reich
*Baltimore, MD, USA*

**15:40** **Atypical parkinsonism: Differential diagnosis and work-up**
Irene Litvan
*Louisville, KY, USA*

## 3309 Teaching Course: TICKET —*continued*

**16:20** **Other causes of parkinsonism**
Regina Katzenschlager
*Vienna, Austria*

At the conclusion of this session, participants should be better able to:
1. Describe the differential diagnosis of parkinsonism
2. Recognize pitfalls in the diagnosis of Parkinson's disease
3. Distinguish Parkinson's disease from secondary causes of parkinsonism and parkinsonian syndromes

## 3310 Teaching Course: TICKET

**Genetics of movement disorders**
15:00 – 17:00
Location: Libertador Room C, 1st Floor
*Interpretación simultánea al Español disponible en esta sesión.*

Chairs: John Hardy
*London, United Kingdom*
Christine Klein
*Lübeck, Germany*

**15:00** **Basic concepts of genetics in movement disorders**
Thomas Gasser
*Tübingen, Germany*

**15:40** **Tools and techniques**
Alexis Brice
*Paris, France*

**16:20** **Neurogenetics in clinical practice**
Enza Maria Valente
*Rome, Italy*

At the conclusion of this session, participants should be better able to:
1. Discuss basic concepts of genetics in movement disorders
2. Describe modern molecular tools and techniques to identify genes, mutations, and functional consequences
3. Indicate perspectives and limitations of genetic testing for movement disorders in clinical practice

## Scientific Program | Tuesday, June 15, 2010

### 3404 Skills Workshop: TICKET

**Rehabilitation therapies in movement disorders**
17:30 – 19:00
Location: Libertador Room A, 1st Floor
*This interactive session will address the role of rehabilitation in Parkinson's disease and dystonia with a focus on multidisciplinary strategies.*

Lynn Rochester
*Newcastle upon Tyne, United Kingdom*
Nancy Byl
*San Francisco, CA, USA*

At the conclusion of this session, participants should be better able to:
1. Identify the evidence for Parkinson's disease rehabilitation from the latest clinical trials
2. Discuss how the evidence from research studies may be applied to rehabilitation therapies
3. Define the role of rehabilitation in the management of dystonia

### 3405 Skills Workshop: TICKET

**Practical issues in assessing genetics in movement disorders**
17:30 – 19:00
Location: Libertador Room C, 1st Floor
*This interactive workshop will focus on the interpretation of complex pedigrees in movement disorders. This workshop will be heavily illustrated with examples of pedigrees, and will address how to recognize forms of dystonia and parkinsonism.*

Oksana Suchowersky
*Calgary, AB, Canada*
Christine Klein
*Lübeck, Germany*

At the conclusion of this session, participants should be better able to:
1. Explain how to construct and interpret pedigrees suggesting various modes of inheritance
2. Describe the phenomenology of genetic forms of dystonia and parkinsonism
3. Discuss issues of genetic testing and counseling for movement disorders and interpret a diagnostic testing report

### 3406 Skills Workshop: TICKET

**Infusion therapies in Parkinson's disease**
17:30 – 19:00
Location: Retiro Room C, 1st Floor
*This interactive workshop will focus on the use of infusion techniques in complex advanced Parkinson's disease patients.*

Erik Wolters
*Amsterdam, Netherlands*
Per Odin
*Bremerhaven, Germany*

At the conclusion of this session, participants should be better able to:
1. Recognize patients suitable for infusion therapies
2. Describe the main symptomatic effects of changing from peroral therapy to pump therapy in advanced Parkinson's disease patients
3. Describe the possible side effects and technical challenges with pump treatments in Parkinson's disease

*Supported by an unrestricted educational grant from Ipsen.*

### 3506 Video Session: TICKET

**Advances in non-Huntington's disease chorea**
17:30 – 19:00
Location: Golden Horn Room, 1st Floor
*This interactive video session will address non-HD chorea including neuroacanhocytosis HD-like syndrome, autoimmune, vascular and other causes of acquired chorea.*

Ruth Walker
*Bronx, NY, USA*
Francisco Cardoso
*Belo Horizonte, Brazil*

At the conclusion of this session, participants should be better able to:
1. Develop a strategy to recognize and diagnose chorea in a variety of etiologies
2. Describe the recent advances in the pathophysiology of chorea at the cellular level
3. Identify recent developments in the treatment of chorea

# Scientific Program | Tuesday, June 15, 2010

## 3507 Video Session: TICKET

**Movement disorders of the face**
17:30 – 19:00
Location: La Pampa Room, 1st Floor
*This interactive video session will focus on the phenomenology and treatment of facial dyskinesias.*

Carlo Colosimo
*Rome, Italy*
Marie Marion
*London, United Kingdom*

At the conclusion of this session, participants should be better able to:
1. Classify facial dyskinesias
2. Discuss the differential diagnosis of facial dyskinesias
3. Explain the treatment options for facial dyskinesias

## 3508 Video Session: TICKET

**Gait disorders**
17:30 – 19:00
Location: Libertador Room B, 1st Floor
*This interactive video session will focus on two particular elements of gait disorders: Postural instability in the elderly and primary progressive freezing gait.*

Ruth Djaldetti
*Petah Tikva, Israel*
Stewart Factor
*Atlanta, GA, USA*

At the conclusion of this session, participants should be better able to:
1. Describe the characteristic and unique clinical features of certain gait disorders
2. Explain your approach to clinically evaluating certain gait and balance disorders
3. Discuss the management and prognosis of certain gait disorders

## 3509 Video Session: TICKET

**Unusual movement disorders: A potpourri**
17:30 – 19:00
Location: Catalinas Room, 1st Floor
*This interactive video session will show rare movement disorders and unusual presentations of common disorders with an emphasis on differential diagnosis.*

Aikaterini Kompoliti
*Chicago, IL, USA*
Stanley Fahn
*New York, NY, USA*

## 3509 Video Session: TICKET —*continued*

At the conclusion of this session, participants should be better able to:
1. Recognize phenocopies of common movement disorders in patients with a variety of underlying conditions
2. Identify disorders that can resemble classical movement disorder syndromes
3. Utilize differential diagnostic tests to distinguish between classical movement disorder syndromes and their look-alikes

## 3601 Special Session:

**Issues in Movement Disorders in Latin America**
17:30 – 19:00
Location: Retiro Room A/B, 1st Floor

Chairs: Carlos Cosentino
*Lima, Peru*
Elena Dieguez
*Montevideo, Uruguay*

**17:30** **Huntington's disease: The Lake Maracaibo experience**
Roberto Weiser
*Caracas, Venezuela*

**18:00** **Functional Neurosurgery: Lesions versus DBS**
Lazaro Alvarez
*Havana, Cuba*

**18:30** **Infectious diseases and movement disorders**
Carlos Cosentino
*Lima, Peru*

At the conclusion of this session, participants should be better able to:
1. Discuss the contributions of Venezuelan pedigrees to the understanding of Huntington's disease
2. Assess the relative advantages and disadvantages of ablative lesions versus DBS in Parkinson's disease
3. List common infectious and parasitic organisms causing movement disorders

**Gala Event**
19:30 - 23:30
A ticket must be purchased for this event. Please check at the registration desk for availability. Please see page 23 for more information.

# Scientific Program | Wednesday, June 16, 2010

## WEDNESDAY, JUNE 16, 2010

### 4103 Plenary Session IX:

**Presidential Lectureships**
8:00 – 10:00
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

Chairs: Anthony Lang
*Toronto, ON, Canada*
Philip Thompson
*Adelaide, Australia*
Günther Deuschl
*Kiel, Germany*

**8:00** **Stanley Fahn Lecture: The fox, the hedgehog, the MDS and the world's best known neurologist?**
Gerald Stern
*London, United Kingdom*

**8:30** **Junior Award Lecture: Clinical Science**
Roberto Cilia
*Toronto, ON, Canada; Milan, Italy*

**8:45** **Junior Award Lecture: Basic Science**
Raphael Hourez
*Brussels, Belgium; Boston, MA, USA*

**9:30** **C. David Marsden Lecture: The role of basal ganglia and subconsciousness**
Yves Agid
*Paris, France*

At the conclusion of this session, participants should be better able to:
1. Understand the contributions of major movement disorder specialists whose scientific approaches focused on centrifugal and diverse concepts or a single, central organizing principle
2. Define sub-consciousness as a distinct neuroscientific concept different from consciousness, pre-consciousness, and unconsciousness
3. Understand the contributions of the basal ganglia to sub-conscious functions involving motor, emotional and cognitive integration

### 4104 Plenary Session X:

**Autophagy: The next frontier of neurodegenerative disorders**
10:30 – 12:00
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

### 4104 Plenary Session X: —*continued*

Chairs: Dennis Dickson
*Jacksonville, FL, USA*
Ana Maria Cuervo
*Bronx, NY, USA*

**10:30** **Autophagy in quality control of pathogenic proteins in neurons**
Ana Maria Cuervo
*Bronx, NY, USA*

**11:15** **Modulation of autophagy: A possible therapeutic approach for Parkinson's disease and related conditions**
David Rubinsztein
*Cambridge, United Kingdom*

At the conclusion of this session, participants should be better able to:
1. Identify mechanisms of protein repair and degradation
2. Describe alterations to autophagy in neurodegenerative disorders
3. Discuss possible therapeutic strategies targeting autophagy for the treatment of neurodegeneration

### Corporate Therapeutic Symposia

12:30 - 13:30
Please see pages 60-61 for more information.

### Poster Session

**Poster Session 3**
Abstracts: 566-849
Wednesday, June 16
Poster Viewing: 9:00 - 18:00
Authors Present: 13:30 - 15:00
Location: San Telmo Room, Lobby Level

### Guided Poster Tours

13:30-15:00
Location: All Guided Poster Tours will meet in the assigned poster room on the 24th Floor. A ticket is required for participation in each tour.

Atalaya Room:
Guided Poster Tour 9 – Dystonia
Guided Poster Tour 10 – Genetics

Aguila Room:
Guided Poster Tour 11 - Gene Therapies and Cell-based Therapies
Guided Poster Tour 12 - Lewy Body Dementia and other dementias in movement disorders

For a complete listing of abstracts in each tour, please see pages 75-76.

## Scientific Program | Wednesday, June 16, 2010

### 4208 Parallel Session: TICKET

**Cognitive and psychiatric issues around functional neurosurgery in Parkinson's disease**
15:00 – 17:00
Location: Libertador Room B, 1st Floor

Chairs: Albert Leentjens
*Maastricht, Netherlands*
Pablo Martinez-Martin
*Madrid, Spain*

**15:00** **Cognitive dysfunction**
David John Burn
*Newcastle upon Tyne, United Kingdom*

**15:40** **Apathy and depression**
Albert Leentjens
*Maastricht, Netherlands*

**16:20** **Quality of life and social adjustment after Parkinson's disease surgery: Short and long term**
Michael Schupbach
*Paris, France*

At the conclusion of this session, participants should be better able to:
1. Identify the need for careful patient selection for neurosurgical procedures
2. List the preoperative cognitive and behavioral domains associated with surgery outcome
3. Recognize the impact of functional neurosurgery on social adjustment in patients with Parkinson's disease and the need of a multidisciplinary psychosocial preparation and follow-up to help patients cope with the sudden changes in their lives following successful neurosurgery

### 4209 Parallel Session: TICKET

**Frontotemporal dementia: From genotype to phenotype**
15:00 – 17:00
Location: Retiro Room A/B, 1st Floor

Chairs: Ian Mackenzie
*Vancouver, BC, Canada*
Ted Dawson
*Baltimore, MD, USA*

**15:00** **The molecular genetics of FTD**
Rosa Rademakers
*Jacksonville, FL, USA*

**15:40** **Neuropathology of FTD**
Ian Mackenzie
*Vancouver, BC, Canada*

### 4209 Parallel Session: TICKET —*continued*

**16:20** **From molecular pathology to clinical features and treatment approaches**
Facundo Manes
*Buenos Aires, Argentina*

At the conclusion of this session, participants should be better able to:
1. Describe the heterogeneous molecular neuropathology that underlies FTD including gene abnormalities that cause FTD and movement disorders
2. Recognize newly discovered molecular mechanisms
3. Explain the variable clinical phenotypes of FTD including overlap with pyramidal and extrapyramidal movement disorders

### 4210 Parallel Session: TICKET

**The clocks that time us: Circadian rhythmicity in movement disorders**
15:00 – 17:00
Location: Retiro Room C, 1st Floor

Chairs: Diego Golombek
*Buenos Aires, Argentina*
Klaus Leenders
*Groningen, Netherlands*

**15:00** **Cellular and molecular basis to circadian rhythms**
Diego Golombek
*Buenos Aires, Argentina*

**15:40** **Circadian rhythmicity: Implications for Parkinson's disease**
Aleksandar Videnovic
*Chicago, IL, USA*

**16:20** **Circadian timing and cognition in Huntington's disease**
A. Jennifer Morton
*Cambridge, United Kingdom*

At the conclusion of this session, participants should be better able to:
1. Explain the anatomy and physiology of circadian rhythms in humans and the homeostatic and circadian mechanisms involved in the control of rest-activity rhythm and sleep-wake cycle
2. Discuss the role of circadian rhythms in Parkinson's disease
3. Identify the relationship between disturbances in circadian rhythms and cognition and motor control in Huntington's disease

## Scientific Program | Wednesday, June 16, 2010

### 4211 Parallel Session: TICKET

**New genetic discoveries in Movement Disorders**
15:00 – 17:00
Location: La Pampa Room, 1st Floor

Chairs: Thomas Gasser
*Tübingen, Germany*
Matthew Farrer
*Jacksonville, FL, USA*

**15:00** **Contributions of genome-wide screening to the genetics of Parkinson's disease**
John Hardy
*London, United Kingdom*

**15:40** **New discoveries in autosomal dominant parkinsonism**
Matthew Farrer
*Jacksonville, FL, USA*

**16:20** **Autosomal-recessive complicated dystonia parkinsonism syndromes (PLA2G6, etc.)**
Susanne Schneider
*Lübeck, Germany*

At the conclusion of this session, participants should be better able to:
1. Describe the principles of genome-wide screening studies in PD and their major findings relevant to sporadic PD
2. Recognize the major forms of dominantly inherited parkinsonism, their specific features and genetic causes
3. Describe genetic causes of rare recessive dystonia-parkinsonism syndromes

### 4212 Parallel Session: TICKET

**Non-motor aspects of Parkinson's disease**
15:00 – 17:00
Location: Catalinas Room, 1st Floor

Chairs: K. Ray Chaudhuri
*London, United Kingdom*
Eldad Melamed
*Petah Tikva, Israel*

**15:00** **Pre-clinical models of non-motor aspects of Parkinson's disease**
Marie-Francoise Chesselet
*Los Angeles, CA, USA*

**15:40** **Detection and monitoring of non-motor aspects of Parkinson's disease**
K. Ray Chaudhuri
*London, United Kingdom*

### 4212 Parallel Session: TICKET *—continued*

**16:20** **Contribution of non-motor symptoms in subtyping parkinsonism**
Bob Van Hilten
*Leiden, Netherlands*

At the conclusion of this session, participants should be better able to:
1. Describe the possibilities to use animal models for understanding the mechanisms behind non-motor Parkinson's disease symptoms
2. Describe the present possibilities to detect and monitor non-motor Parkinson's disease symptoms using scales and questionnaires
3. Describe the most prevalent non-motor features of the more common forms of parkinsonism

### 4213 Parallel Session: TICKET

**Mechanism of cell death in neurodegeneration**
15:00 – 17:00
Location: Golden Horn Room, 1st Floor

Chairs: Fernando Pitossi
*Buenos Aires, Argentina*
James Surmeier
*Chicago, IL, USA*

**15:00** **Why some neurons are more prone to degenerate than others**
James Surmeier
*Chicago, IL, USA*

**15:40** **Axonal destruction in neurodegeneration: Is it the end or the beginning?**
Michael Coleman
*Cambridge, United Kingdom*

**16:20** **Mitochondra and neuronal death**
Miguel Vila
*Barcelona, Spain*

At the conclusion of this session, participants should be better able to:
1. Discuss new concepts of neurodegeneration
2. Explain the importance of axons and non-neuronal cells to neuronal fitness
3. Identify new therapeutic targets

# Scientific Program | Wednesday, June 16, 2010

## 4307 Teaching Course: TICKET

**Music and movement disorders**
15:00 – 17:00
Location: Libertador Room A, 1st Floor
*Interpretación simultánea al Español disponible en esta sesión.*

Chairs: Steven Frucht
*New York, NY, USA*
Jennifer Goldman
*Chicago, IL, USA*

**15:00** **The neurology of musical talent: What can we learn about motor control from historical and present day examples of extraordinary musical talents?**
Steven Frucht
*New York, NY, USA*

**15:40** **Musical ticquers and the power of music**
Francisco Cardoso
*Belo Horizonte, Brazil*

**16:20** **Motor control gone awry: What can focal dystonia in musicians teach us about motor control and the limits of motor performance in man?**
Mark Hallett
*Bethesda, MD, USA*

At the conclusion of this session, participants should be better able to:
1. Explain the controversies regarding the nature of musical talent, genius, and the role of the basal ganglia in skill acquisition and retention
2. Discuss the history of musicians with basal ganglia disorders and how their struggles enrich our understanding of basal ganglia disorders
3. Recognize the various forms of focal task-specific dystonias affecting musicians and how such examples help to understand other focal and task-specific dystonias

## 4308 Teaching Course: TICKET

**Pediatric movement disorders**
15:00 – 17:00
Location: Libertador Room C, 1st Floor
*Interpretación simultánea al Español disponible en esta sesión.*

Chairs: Nardo Nardocci
*Milan, Italy*
Tomoko Arakaki
*Buenos Aires, Argentina*

## 4308 Teaching Course: TICKET —*continued*

**15:00** **Distinguishing normal, abnormal, and psychogenic movements in children**
Emilio Fernandez-Alvarez
*Barcelona, Spain*

**15:40** **Parkinsonism in children**
Nardo Nardocci
*Milan, Italy*

**16:20** **Movement disorders and inborn errors of metabolism**
Terence Sanger
*Los Angeles, CA, USA*

At the conclusion of this session, participants should be better able to:
1. Recognize the most common movement disorders in children
2. Develop an approach for the diagnosis and management of parkinsonism in children
3. Describe the spectrum of movement disorders caused by inborn errors of metabolism

## 4403 Skills Workshop: TICKET

**Practical management of DBS side effects**
17:30 – 19:00
Location: Libertador Room A, 1st Floor
*This interactive workshop will focus on the recognition and management of stimulation related side effects as well as hardware related complications.*

Joachim Krauss
*Hannover, Germany*
Elena Moro
*Toronto, ON, Canada*

At the conclusion of this session, participants should be better able to:
1. Identify the possible complications and side effects of DBS
2. Explain the physiopathological basis of the stimulation related side effects
3. Describe the algorithms for the recognition and management of the DBS-related side effects and complications

# Scientific Program | Wednesday, June 16, 2010

## 4404 Skills Workshop: TICKET

**What do you need to know about rating scales?**
17:30 – 19:00
Location: Retiro Room C, 1st Floor
*This interactive workshop will address the theory and practice of rating scale application in movement disorders with a special emphasis on developing and utilizing scales that assess responsivity or change with therapy.*

Cristina Sampaio
*Lisbon, Portugal*
Johan Marinus
*Leiden, Netherlands*

At the conclusion of this session, participants should be better able to:
1. Develop a strategy for the selection of a measure from the perspective of classical test theory
2. Explain your approach for addressing how clinical research and practice will produce outcomes which need correct interpretation
3. Discuss the application of measures to clinical research and practice, highlighting the aspects potentially linked to progress in knowledge

## 4405 Skills Workshop: TICKET

**Using neuroimaging in clinical practice: Decisions impacting patient management**
17:30 – 19:00
Location: Libertador Room B, 1st Floor
*This interactive workshop will address: What and when to order specific tests? Case histories and management interpreting data.*

Cristina Besada
*Buenos Aires, Argentina*
David Williams
*Melbourne, Australia*
At the conclusion of this session, participants should be better able to:
1. Develop a strategy for when to order specific tests and which tests to order in clinical practice to aid in the diagnosis of movement disorders
2. Describe the typical neuroimaging patterns that are typical of movement disorders that will be encountered regularly in clinical practice
3. Discriminate the advantages of different techniques for tracking progression of movement disorders longitudinally

## 4506 Video Session: TICKET

**Musician dystonia**
17:30 – 19:00
Location: Libertador Room C, 1st Floor
*This interactive video session will show examples of musician dystonia with a focus on etiology and treatment.*

Emilia Gatto
*Buenos Aires, Argentina*
Alexander Schmidt
*Lübeck, Germany*
Jennifer Goldman
*Chicago, IL, USA*

At the conclusion of this session, participants should be better able to:
1. Describe the phenomenology of different forms of musician's dystonia
2. Discuss the etiology of musician's dystonia
3. Recognize the potential overlap of musician's dystonia with other disorders

## 4507 Video Session: TICKET

**Atypical parkinsonian disorders**
17:30 – 19:00
Location: Retiro Room A/B, 1st Floor
*This interactive video session will emphasize atypical parkinsonian disorders, their presentation, evolution and treatment.*

Niall Quinn
*London, United Kingdom*
Alberto Espay
*Cincinnati, OH, USA*

At the conclusion of this session, participants should be better able to:
1. Describe the clinical differences between Parkinson's disease and atypical parkinsonism disorders
2. Identify the hallmarks of several atypical parkinsonism syndromes: Progressive supranuclear palsy, multiple system atrophy, Fragile X permutation syndrome, corticobasal degeneration
3. Describe the response patterns of atypical parkinsonism disorders to dopaminergic therapies as well as the experience with surgical interventions for these disorders

# Scientific Program | Wednesday, June 16 and Thursday, June 17, 2010

**Leadership Session: How to get involved in The *Movement* Disorder Society (MDS)**

17:30 – 19:00
Location: La Pampa Room, 1st Floor

This session will focus on opportunities available within the MDS organization that can be assessed by MDS Members who want to be a part of the leadership. Anyone who is interested in learning more about The *Movement* Disorder Society is encouraged to attend. Faculty will include current members of the MDS Leadership as well as MDS committee chairs.

At the conclusion of this session, the attendees will achieve the following objectives:

1. To outline the organizational structure of the MDS, including its committees and subcommittees.
2. To identify the opportunities within the MDS that lead to further leadership within MDS.
3. To describe the attributes that lead to MDS involvement.

*Supported by an unrestricted educational grant from Ipsen.*

**Video Olympics Reception with hors d'oeuvres and drinks**

19:00 - 20:00
Location: Libertador Foyer, 1st Floor

**Video Olympics**

20:00 - 23:00
Location: Libertador Room, 1st Floor

**Masters of Ceremony:**

Anthony Lang
Kapil Sethi

**The two teams of Experts:**

| Team 1: | Team 2: |
|---|---|
| Victor Fung | David John Burn |
| Federico Micheli | Francisco Cardoso |
| Wolfgang Oertel | Boem Jeon |
| C. Warren Olanow | Stephen Reich |

## THURSDAY, JUNE 17, 2010

### 5101 Plenary Session XI:

**Looking ahead: Novel biomarkers in Parkinson's disease**

8:00 – 9:30
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

Chairs: Roger Barker
*Cambridge, United Kingdom*
Brit Mollenhauer
*Kassel, Germany*

**8:00** **Overview with focus on proteomics**
Jing Zhang
*Seattle, WA, USA*

**8:30** **Blood biomarkers**
Clemens Scherzer
*Cambridge, MA, USA*

**9:00** **CSF biomarkers**
Brit Mollenhauer
*Kassel, Germany*

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

1. Discuss the value of biomarkers in diagnosis, differential diagnosis and monitoring of disease progression
2. Explain how biomarkers can be used to identify pre-clinical Parkinson's disease
3. Recognize the differences between biomarkers that are based upon unbiased methods (e.g., proteomics) and plausible candidate markers (e.g., dopamine or α-synuclein)

### 5102 Controversies:

**Controversies in Movement Disorders**

10:00 – 11:00
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

Chairs: Niall Quinn
*London, United Kingdom*
Stanley Fahn
*New York, NY, USA*

# Scientific Program | Thursday, June 17, 2010

## 5102 Controversies: —*continued*

**10:00** **Dopamine transporter imaging is useful in the diagnosis of Parkinson's disease**
**(YES)**
Kenneth Marek
*New Haven, CT, USA*

**10:15** **(NO)**
Eduardo Tolosa
*Barcelona, Spain*

**10:30** **Alzheimer's disease pathology is an important contributor to the dementia of Parkinson's disease**
**(YES)**
Jody Corey-Bloom
*La Jolla, CA, USA*

**10:45** **(NO)**
Dag Aarsland
*Stavanger, Norway*

At the conclusion of this session, participants should be better able to:
1. Discuss the uses and limitations of dopamine transporter imaging in the diagnosis of Parkinson's disease
2. Discuss the potential pathological causes of dementia in Parkinson's disease

## 5103 Blue Ribbon Highlights:

11:00 – 12:00
Location: Libertador Room, 1st Floor*
*Interpretación simultánea al Español disponible en esta sesión.*

**Retiro Room will be used as an overflow room. Spanish translation will only be available in the Libertador Room.*

*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.*

Chair: Christopher Goetz
*Chicago, IL, USA*

**11:00** Günther Deuschl
*Kiel, Germany*

**11:30** Dennis W. Dickson
*Jacksonville, FL, USA*

At the conclusion of this session, participants should be better able to:
1. Describe major clinical discoveries that have been reported at the MDS 2010 Congress
2. Define major basic science discoveries that impact Movement Disorder neurology as reported at the MDS 2010 Congress
3. Identify clinical and scientific questions that remain unresolved because of insufficient or conflicting data reported at the MDS 2010 Congress

## Corporate Therapeutic Symposia

12:30 - 13:15
Please see pages 60-61 for more information.

## Poster Session

**Poster Session 4**
Abstracts: 850-1067
Thursday, June 17
Poster Viewing: 9:00 - 16:00
Authors Present: 13:30 - 15:00
Location: San Telmo Room, Lobby Level

## Guided Poster Tours

13:30 – 15:00
Location: All Guided Poster Tours will meet in the assigned poster room on the 24th Floor. A ticket is required for participation in each tour.

Atalaya Room:
Guided Poster Tour 13 – Parkinson's disease: Clinical trials
Guided Poster Tour 14 – Parkinson's disease: Sleep Disorders

Aguila Room:
Guided Poster Tour 15 - Surgical Therapy: Parkinson's disease
Guided Poster Tour 16 - Surgical Therapy: Other Movement Disorders

For a complete listing of abstracts in each tour, please see pages 77-79.

## 5205 Parallel Session: TICKET

**Focal dystonias**
15:00 – 17:00
Location: Retiro Room C, 1st Floor

Chairs: Mark Hallett
*Bethesda, MD, USA*
Nelida Garretto
*Buenos Aires, Argentina*

**15:00** **Epidemiology and risk factors of focal dystonia**
Alexis Elbaz
*Paris, France*

**15:40** **Pathophysiology of focal dystonia**
Hyder A. Jinnah
*Atlanta, GA, USA*

**16:20** **Focal dystonias: What are the therapeutic strategies?**
Ryuji Kaji
*Tokushima City, Japan*

## Scientific Program | Thursday, June 17, 2010

### 5205 Parallel Session: TICKET —*continued*

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

1. Discuss the epidemiology and risk factors of focal dystonia
2. Discuss the genetics, animal models and neuroimaging in focal dystonia
3. Evaluate therapeutic strategies for focal dystonias

*Supported by an unrestricted educational grant from Ipsen.*

### 5206 Parallel Session: TICKET

**Postural abnormalities, camptocormia and other deformities: Causes and treatments**
15:00 – 17:00
Location: La Pampa Room, 1st Floor

Chairs: Bastiaan Bloem
*Nijmegen, Netherlands*
Cecilia Peralta
*Buenos Aires, Argentina*

**15:00** **Clinical work-up: Recognition and differential diagnosis**
Oscar Gershanik
*Buenos Aires, Argentina*

**15:40** **The pathophysiology of postural changes in parkinsonism and implication for clinical practice**
Jean-Philippe Azulay
*Marseille, France*

**16:20** **Clinical management**
Bastiaan Bloem
*Nijmegen, Netherlands*

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

1. Recognize the clinical presentation of postural disturbances in Parkinson's disease including their diversity and complexity
2. Describe the pathophysiology of postural disturbances in Parkinson's disease
3. Indicate the treatment strategies available for the management of postural disturbances in Parkinson's disease

### 5207 Parallel Session: TICKET

**Pain and sensory disturbances in movement disorders**
15:00 – 17:00
Location: Catalinas Room, 1st Floor

Chairs: Lydia Vela
*Madrid, Spain*
Cynthia Comella
*Chicago, IL, USA*

**15:00** **Basal ganglia, sensory functions and pain**
Yoshikazu Ugawa
*Fukushima, Japan*

**15:40** **Pain and sensory function in dystonia**
Cynthia Comella
*Chicago, IL, USA*

**16:20** **Evaluation and management of pain in parkinsonism**
Lydia Vela
*Madrid, Spain*

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

1. Discuss the role of basal ganglia in processing sensory information and pain
2. Describe the relationship between pain and the various forms of dystonia
3. Define the different types of pain in patients with Parkinson's disease in the various stages of the disease

### 5208 Parallel Session: TICKET

**Nurses within the Movement Disorders team**
15:00 – 17:00
Location: Golden Horn Room, 1st Floor

Chairs: Julie Carter
*Portland, OR, USA*
Susan Heath
*San Francisco, CA, USA*

**15:00** **International overview of nursing roles in Movement Disorders teams**
Carole Joint
*Oxford, United Kingdom*

**15:40** **Nursing opportunities in dealing with end of life issues**
Susan Heath
*San Francisco, CA, USA*

**16:20** **Nursing opportunities in dealing with caregiver strain**
Julie Carter
*Portland, OR, USA*

## Scientific Program | Thursday, June 17, 2010

### 5208 Parallel Session: TICKET —*continued*

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

1. Discuss the contribution made by nurses within Movement Disorder teams internationally and their influence on the patient and caregiver experience
2. Discuss the role of the Movement Disorder nurse in helping families navigate the conflicting needs of providing care while at the same time needing care
3. Discuss the contribution of the Movement Disorder nurse in the palliative care needs of patient and family as they transition from late stage disease to end of life

### 5209 Parallel Session: TICKET

**Dyskinesias in Parkinson's disease: New insights**
15:00 – 17:00
Location: Libertador Room B, 1st Floor

Chairs: Giovanni Fabbrini
*Rome, Italy*
William Fernandez
*Bogotá, Colombia*

**15:00** **Dyskinesias as a model to understand basal ganglia**
Jose Obeso
*Pamplona, Spain*

**15:40** **Clinical update on levodopa induced dyskinesias in Parkinson's disease**
Giovanni Fabbrini
*Rome, Italy*

**16:20** **Treatment of dyskinesias in Parkinson's disease: Past achievements and new perspectives**
Federico Micheli
*Buenos Aires, Argentina*

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

1. Discuss how the study of dyskinesias can improve our understanding of the neuroanatomical, neurophysiological and neuropharmacological mechanisms of basal ganglia
2. Recognize the different types and risk factors of dyskinesias in Parkinson's disease
3. Discuss available and future therapeutic options for the treatment of dyskinesias

### 5210 Parallel Session: TICKET

**Clinical Trials: Methodological issues**
15:00 – 17:00
Location: Retiro Room A/B, 1st Floor

Chairs: Andrew Siderowf
*Philadelphia, PA, USA*
Cristina Sampaio
*Lisbon, Portugal*

**15:00** **Issues in clinical trial design in Parkinson's disease**
Bernard Ravina
*Rochester, NY, USA*

**15:40** **Outcome measures and rating scales in Parkinson's disease trials: Motor and Non-motor**
Andrew Siderowf
*Philadelphia, PA, USA*

**16:20** **The use of surrogate imaging and other biomarkers in clinical trials**
Joel Perlmutter
*St. Louis, MO, USA*

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

1. Discuss the clinical trial design in early and advanced Parkinson's disease
2. Discuss the role of surrogate imaging and other biomarker in clinical trials for Parkinson's disease
3. Describe the outcome measures and rating scales utilized in Parkinson's disease trials

### 5307 Teaching Course: TICKET

**Neuropharmacology of Parkinson's disease**
15:00 – 17:00
Location: Libertador Room A, 1st Floor
*Interpretación simultánea al Español disponible en esta sesión.*

Chairs: Janis Miyasaki
*Toronto, ON, Canada*
Fernando Alarcon
*Quito, Ecuador*

**15:00** **Basic pharmacology on the action of dopaminergic drugs (L-DOPA, DAs, MAO-B-inhibitors)**
John G. Nutt
*Portland, OR, USA*

**15:40** **The start of treatment in the early phase - what is evidence-based?**
Janis Miyasaki
*Toronto, ON, Canada*

## Scientific Program | Thursday, June 17, 2010

### 5307 Teaching Course: TICKET —*continued*

**16:20** **Basic strategies for therapy in the advanced stage: What is evidence-based?**
Joaquim Ferreira
*Lisbon, Portugal*

At the conclusion of this session, participants should be better able to:
1. Describe the therapeutic mechanisms of the dopaminergic drugs in parkinsonism
2. Discuss the options for treatment of Parkinson's disease patients in the early and late stages
3. Describe the main non-dopaminergic targets for treatment of Parkinson's disease

### 5308 Teaching Course: TICKET

**Update on tremor**
15:00 – 17:00
Location: Libertador Room C, 1st Floor
*Interpretación simultánea al Español disponible en esta sesión.*

### 5308 Teaching Course: TICKET —*continued*

Chairs: Donald Grosset
*Glasgow, Scotland*
Victor Fung
*Sydney, Australia*

**15:00** **Diagnosis and classification of tremor**
Donald Grosset
*Glasgow, Scotland*

**15:40** **Scoring tremor severity – tools and rating scales**
Roger Elble
*Springfield, IL, USA*

**16:20** **Management of tremor**
Peter George Bain
*London, United Kingdom*

At the conclusion of this session, participants should be better able to:
1. Describe clinical features of tremor in dystonia, essential tremor and Parkinson's disease
2. Describe diagnostic error rates identified in recent papers relating to tremor misdiagnosed as Parkinson's disease and vice versa
3. Describe approaches for the management of tremor


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# Corporate Therapeutic Symposia

## Boehringer Ingelheim GmbH

**Monday, June 14**
13:00 – 14:00
Location: Libertador Room, 1st Floor
**Advances in Parkinson's disease treatment: Improving our patients' quality of life**
Chair: Francisco Cardoso
*Belo Horizonte, Brazil*
**Introduction**
Francisco Cardoso
*Belo Horizonte, Brazil*
**Depressive symptoms in PD—A new treatment approach?**
H. Reichmann
*Dresden, Germany*
**Clinical advantages of Once-Daily Pramipexole**
Peter Jenner
*London, United Kingdom*
**Treatment compliance in Parkinson's disease and quality of life: What is the link?**
Pablo Martínez-Martin
*Madrid, Spain*
**Discussion & close**

## Merck Serono S.A.

**Monday, June 14**
13:00 – 14:00
Location: Retiro Room, 1st Floor
**Dopaminergic and non-dopaminergic systems: The tango of Parkinson's disease**
Chairs: Oscar Gershanik
*Buenos Aires, Argentina*
Anthony Schapira
*London, United Kingdom*
**Welcome and introduction**
Oscar Gershanik
*Buenos Aires, Argentina*
**Can Dyskinesias be treated via the non-dopaminergic system?**
Robert Hauser
*Tampa, FL, USA*
**What is the interplay between dopaminergic and non-dopaminergic systems in cognition?**
Paolo Barone
*Napoli, Italy*
**Future therapies targeting the non-dopaminergic system**
Anthony Schapira
*London, United Kingdom*
**Questions**

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

**Tuesday, June 15**
12:30 – 13:30
Location: Libertador Room, 1st Floor
**Advances in Parkinson's disease: Early treatment and earlier diagnosis**
Chair: C. Warren Olanow
*New York, NY, USA*
**Introduction**
C. Warren Olanow
*New York, NY, USA*
**The ADAGIO trial: Translating results into clinical significance**
Olivier Rascol
*Toulouse, France*
**Timing of treatment initiation in Parkinson's disease**
Anthony Schapira
*London, United Kingdom*
**The diagnosis and treatment of pre-motor Parkinson's disease**
Matthew Stern
*Philadelphia, PA, USA*
**Question and Answer with panel**

## Solvay Pharmaceuticals GmbH

*Solvay Pharmaceuticals is now Abbott*
**Tuesday, June 15**
12:30 – 13:30
Location: Retiro Room, 1st Floor
**State of the field in Levodopa delivery: Assessing preclinical and clinical evidence**
Chair: Eduardo Tolosa
*Barcelona, Spain*
**Welcome and opening remarks**
Eduardo Tolosa
*Barcelona, Spain*
**Levodopa uptake: Implications from emerging pre-clinical data**
Jonathan Brotchie
*Toronto, ON, Canada*
**LCIG Levodopa delivery: Lessons from clinical trials**
Werner Poewe
*Innsbruck, Austria*
**Question and answer**

# Corporate Therapeutic Symposia

## GlaxoSmithKline

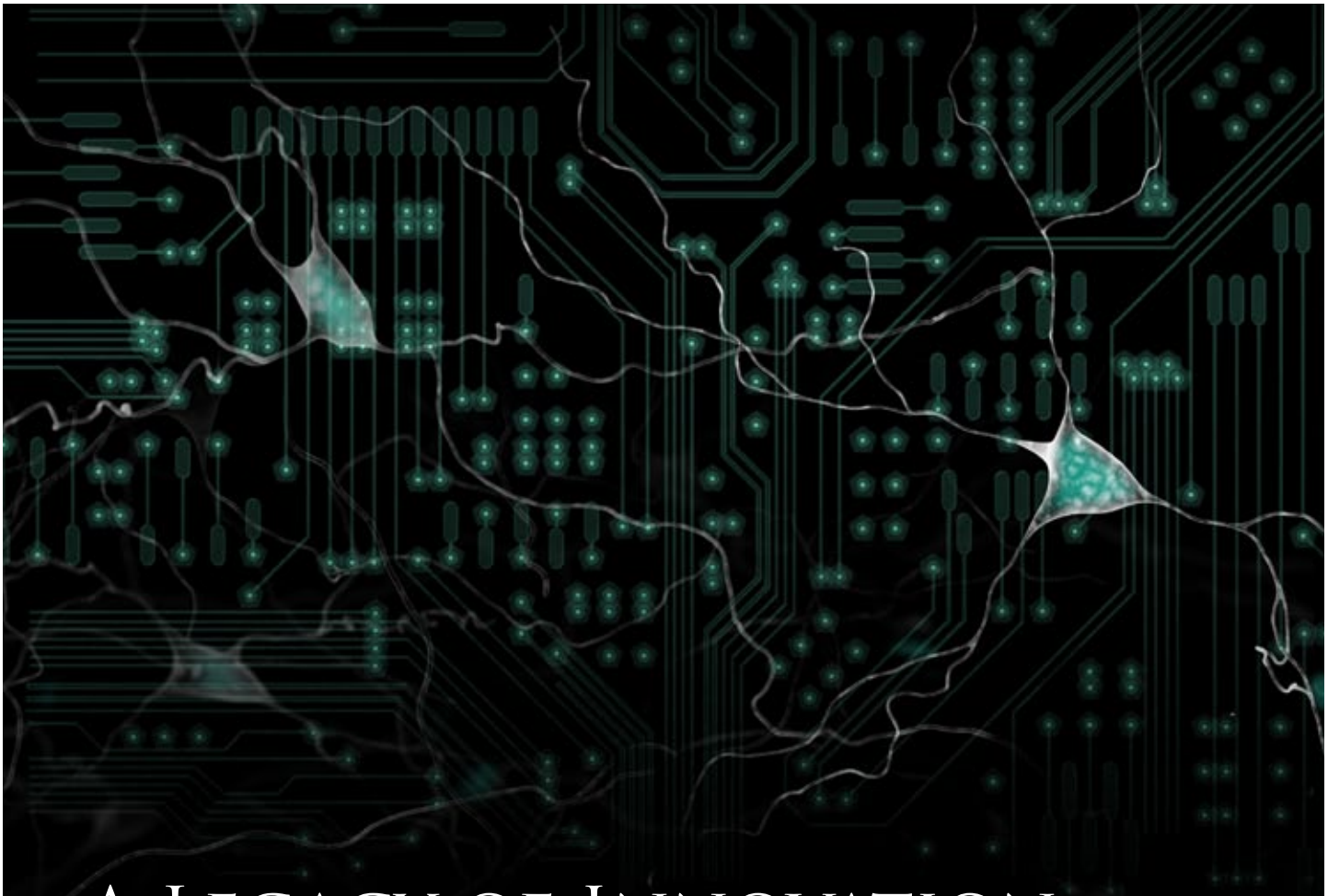
**Wednesday, June 16**
12:30 – 13:30
Location: Libertador Room, 1st Floor
**Continuous drug delivery in Parkinson's disease: Current evidence**
Chair: Jose Obeso
*Pamplona, Spain*
**Introduction and evidence from pre-clinical research**
Jose Obeso
*Pamplona, Spain*
**Improving day and night-time symptoms**
Heinz Reichmann
*Dresden, Germany*
**Addressing long term patient outcomes**
Ray Watts
*Birmingham, AL, USA*

## UCB Pharma SA

**Wednesday, June 16**
12:30 – 13:30
Location: Retiro Room, 1st Floor
**Broadening perspectives in Parkinson's disease**
Chair: K. Ray Chaudhuri
*London, United Kingdom*
**Neurobiology of dopamine: PD and beyond**
Mehdi Tafti
*Lausanne, Switzerland*
**The neglected side of PD: Non-motor Symptoms**
Olivier Rascol
*Toulouse, France*
**Current PD treatment & beyond**
K. Ray Chaudhuri
*London, United Kingdom*

## Chelsea Therapeutics, Inc.

**Thursday, June 17**
12:30 – 13:15
Location: Libertador Room, 1st Floor
**Norepinephrine (NE) deficiency in Parkinson's disease (PD): Scientific insights and therapeutic opportunities**
Chairs: Horacio Kaufmann
*New York, NY, USA*
Joseph Jankovic
*Houston, TX, USA*
**NE depletion in the pathophysiology of motor and non-motor dysfunction in PD**
Peter LeWitt
*Southfield, MI, USA*
**Northera™ (droxidopa): An orally available Norepinephrine replacement therapy for the treatment of Neurogenic Orthostatic Hypotension (Ph II & III results)**
Phillip Low
*Rochester, MN, USA*
**Safety of Northera treatment across multiple studies & indications (Ph II & III studies to date, and Japanese Post marketing surveillance data)**
Christopher Mathias
*London, United Kingdom*
**Question and answer**



# A Legacy of Innovation
## Applied to Deep Brain Stimulation

St. Jude Medical Neuromodulation Division is a pioneer in developing neurostimulation technologies. With innovations such as constant current stimulation delivery and the smallest, longest-lasting neurostimulator, we have been leading the neuromodulation industry for over thirty years. We are now applying our proven platforms to provide new options for managing the symptoms of Parkinson's disease. To learn more about how we are driving innovation in DBS, visit the St. Jude Medical booth.

**Experience Control. MDS booth 1.**

ST. JUDE MEDICAL™
MORE CONTROL. LESS RISK.

Not available in all markets. Product has EU approval and TGA (Australia) approval.

Indications: St. Jude Medical Neuromodulation Division deep brain stimulation (DBS) systems are indicated for use in unilateral or bilateral stimulation of the thalamus, internal globus pallidus (GPi), or subthalamic nucleus (STN) in patients with levodopa-responsive Parkinson's disease.

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# Exhibitor Information

## EXHIBIT HALL

Location: San Isidro Room, Lower 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 14 ..... 9:30 – 17:30
Tuesday, June15 ..... 9:30 – 17:30
Wednesday, June 16 ..... 9:30 – 17:30
Thursday, June 17..... 9:30 – 15:00

## EXHIBITOR REGISTRATION

Location: Libertador Foyer, 1st Floor

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

**Exhibit Registration Desk Hours are as follows:**

Saturday, June 12 ..... 16:00 – 20:00
Sunday, June 13 ..... 7:00 – 19:00
Monday, June 14..... 7:00 – 19:00
Tuesday, June 15 ..... 7:00 – 19:00
Wednesday, June 16 ..... 7:00 – 19:00
Thursday, June 17..... 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 only.

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### ALLERGAN, INC
2525 Dupont Drive
Irvine, CA 92616
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Fax: +1 714-246-4500
Web site: www.allergan.com

**Booth #: 16**

Allergan is a global company with more than 8,000 employees and a presence in more than 100 countries. BOTOX® (onabotulintoxins) I one of the world's most versatile medicines, to improve the quality of life in patients who suffer a variety of serious or debilitating disorders.

### ASOCIACIÓN CIVIL ENFERMEDAD DE PARKINSON ARGENTINA (ACEPAR)
Corrientes 1785 Piso 3° B
Ciudad Autonoma de Buenos Aires 1007
Argentina
Telephone: +54 11 4393 9422
Fax: +54 11 4326 0390
Web site: www.parkinsonargentina.org.ar

**Table #: G**

ACEPAR was created in 2002. Our work has been focused in disseminating information, counseling, stimulation and protection to people with Parkinson's, their family and caregivers in order to encourage them to support the disease. We also give physical and psychological rehabilitation and promote investigation. All of our activities are carried out by volunteers.

### ASOCIACIÓN LEWY BODY ARGENTINA (ALBA)
Viamonte 2909 9 B
Capital Federal
Buenos Aires 1213ACD
Argentina
Telephone: +54 911 6135 2455
Fax: +54 911 4959 0322
Web site: www.lewyargentina.org

**Table #: C**

ALBA is a civil association, non-profit, dedicated to the research, diagnosis and treatment of Lewy Body Disease. Our goals are directed towards the development of scientific research on this entity, the advice to health professionals, patients, their families and caregivers, as well as the dissemination of knowledge of it among the medical community and the general population.

### BOEHRINGER INGELHEIM GMBH
Binger Strasse 173
Ingelheim am Rhein 55216
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Telephone: +49 6132 770
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Web site: www.boehringer-ingelheim.com

**Booth #: 09**

The Boehringer Ingelheim group is one of the world's 20 leading pharmaceutical companies. Headquartered in Ingelheim, Germany, it operates globally with 138 affiliates in 47 countries and 41,300 employees. Since it was founded in 1885, the family-owned company has been committed to researching, developing, manufacturing and marketing novel products of high therapeutic value for human and veterinary medicine.
In 2008, Boehringer Ingelheim posted net sales of 11.6 billion euro while spending one fifth of net sales in its largest business segment Prescription Medicines on research and development. For more information please visit www.boehringer-ingelheim.com

### BRITANNIA PHARMACEUTICALS LTD
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**Booth #: 04**

Active for nearly 30 years with UK movement disorder specialists and patient interest groups, BPL focuses on improving treatment of patients with complex PD. APO-go presentations are available in many countries through the efforts of Distribution or Licensing Partners.
Additionally, BPL has developed non-opiate based therapeutics to assist in opiate detoxification and withdrawal. Other developments include advances in the areas of nasal drug delivery, in wound healing and in respiratory disorders.

# Exhibitor Directory

## CLUB ARGENTINA DE LARINGECTOMIZADOS CORDOBA (CALCOR)

Street Montevideo Nº 765
Department 6º "B"
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Argentina
Telephone: +54 351 425 5329

**Table #: F**

Club Argentina de Laringectomizados Cordoba (CALCOR) was founded to disseminate information to and educate the public regarding products, technology and treatment. More recently, it has expanded this service to include people with neurological disorders including Parkinson's disease, CVA and movement disorders.

## EUROPEAN PARKINSON'S DISEASE ASSOCIATION (EPDA)

4 Golding Road
Sevenoaks, Kent TN13 3NJ
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Fax: +44 1732 457 683
Web site: www.epda.eu.com

**Table #: A**

EPDA is a non-political, non-religious and non-profit making organization with a membership of 43 European Organizations and 7 Associate Members concerned with the health and welfare of people with Parkinson's and their families. EDPDA Partners extensively with European patient and neurological organizations, European Commission, WHO, World Federation of Neurology and treatment industry.

## FHC, INC.

1201 Main Street
Bowdoin, ME 04287
USA
Telephone: +1 207-666-8190
Fax: +1 207-666-8292
Web site: www.fh-co.com

**Booth #: 10**

microTargeting™ products advance cranial targeting worldwide: our **STar™ Drive System** precisely positions **D.ZAP microelectrodes** to provide exceptional, consistent recording signals. The patient-customized, frameless stereotactic **Platform** allows surgical planning anytime. The powerful, new **Guideline 4000 LP+** provides multi-channel recording and stimulation in a portable package. Comprehensive technical support is available 24/7!

## GLAXOSMITHKLINE

980 Great West Road
Brentford, Middlesex TW8 9GS
United Kingdom
Telephone: +44 20 8047 5000
Web site: www.gsk.co.uk

**Booth #: 13**

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

### IPSEN
65 Quai Georges Gorse
Boulogne Billancourt 92650
France
Telephone: +33 1 58 33 5000
Fax: +33 1 58 33 5001
Web site: www.ipsen.com

**Booth #: 11**

Ipsen is an innovation-driven international specialty pharmaceutical group with over 20 products on the market and a total worldwide staff of nearly 4,200. 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.

### MEDTRONIC, INC.
710 Medtronic Parkway
Minneapolis, MN 55432
USA
Telephone: +1 800-328-2518
Web site: www.medtronic.com

**Booth #: 15**

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, 6 million patients benefit from our technology. Medtronic DBS Therapy has been used in more than 75,000 patients for the treatment of Parkinson's disease, essential tremor and dystonia.

### MERCK SERONO S.A.
9, Chemin des Mines
Geneva 1202
Switzerland
Telephone: +41 22 414 3000
Web site: www.merckserono.com

**Booth #: 12**

Merck Serono has a long-term commitment to the development of innovative treatments to help manage neurological disorders such as Multiple Sclerosis (MS) and Parkinson's disease (PD). Through groundbreaking science and patient-friendly drug delivery systems, we help patients with neurodegenerative diseases to live fuller and more satisfying lives. Merck Serono conducts extensive research in the area of neurodegenerative diseases in order to offer new therapeutic options to patients with serious unmet medical needs.

### MERZ PHARMACEUTICALS GMBH
Eckenheimer Landstrasse 100
Frankfurt 60318
Germany
Telephone: +49 69 1503-0
Fax: +49 69 1503 722
Web site: www.merz.com

**Booth #: 08**

Merz Pharmaceuticals is a research based pharmaceutical company, headquartered in Frankfurt, Germany, focused on unmet needs in neurology and related diseases. It has developed memantine for moderate to severe Alzheimer's disease. Recently, it launched Xeomin®, a botulinum toxin free from complexing proteins. Currently, Merz is conducting a phase III development program of neramexane, a dual NMDA and alpha9/10 nicotinic receptor antagonist, for the treatment of Tinnitus.

### NOVARTIS PHARMA AG
Forum 1, Novartis Campus
Basel 4056
Switzerland
Telephone: +41 61 324 1111
Fax: +41 61 324 8001
Web site: www.novartis.com

**Booth #: 06**

Novartis AG provides healthcare solutions that address the evolving needs of patients and societies. Focused solely on healthcare, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, cost-saving generic pharmaceuticals, preventive vaccines, diagnostic tools and consumer health products. Headquartered in Basel, Switzerland, Novartis Group companies employ approximately 99,000 full-time-equivalent associates and operate in over 140 countries around the world.

# Exhibitor Directory

## ORION CORPORATION ORION PHARMA

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

**Booth #: 06**

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.

## SOLVAY PHARMACEUTICALS GMBH

*Solvay Pharmaceuticals is now Abbott*
Hegenheimermattweg 127
Allschwil 4123
Switzerland
Telephone: +41 61 487 0622
Fax: +41 61 487 0494
Web site: www.solvaypharmaceuticals.com

**Booth #: 07**

Abbott is a global, broad-based health care company devoted to the discovery, development, manufacture and marketing of pharmaceuticals and medical products, including nutritionals, devices and diagnostics. The company employs approximately 83,000 people and markets its products in more than 130 countries. On February 16, 2010, Abbott completed the acquisition of Solvay Pharmaceuticals.

## ST. JUDE MEDICAL NEUROMODULATION DIVISION

Neuromodulation Division Headquarters
6901 Preston Road
Plano, Texas 75024
USA
Telephone: +1 972 309 8000
Fax: +1 972 309 8150
Web site: www.sjm.com

**Booth #: 01**

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 PHARMACEUTICAL INDUSTRIES LTD.

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

**Booth #: 14**

Teva Pharmaceutical Industries Ltd. is a global pharmaceutical company specializing in the development, production and marketing of generic and proprietary branded pharmaceuticals as well as active pharmaceutical ingredients.
Azilect®, Teva's innovative product is indicated for the treatment of Parkinson's disease, both as initial monotherapy and as an adjunct to levodopa in moderate to advanced stages of the disease.

## H. LUNDBECK A/S

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

**Booth #: 14**

H. Lundbeck A/S is an international pharmaceutical company dedicated in research and development of new drugs for treatment of CNS disorders including Parkinson's disease and Huntington's disease (HD). Research has been the foundation of Lundbeck activities for more than 50 years. Lundbeck launched Azilect® (rasagiline) for the treatment of Parkinson's disease in 2005.

## TEVA NEUROSCIENCE

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

**Booth #: 14**

Teva Neuroscience is dedicated to the investigation and development of innovative products and services that address the health management needs within the areas of multiple sclerosis, Parkinson's disease and other neurological disorders. For more information, please visit www.TevaNeuroscience.com

## Exhibitor Directory

### TREMOR ACTION NETWORK

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

**Table #: B**

TremorAction.org connects the bench to Tremor patients through awareness, advocacy and research. TAN DVD in English and Español and other resources are available. Stop by our booth to discuss services we provide.

### UCB PHARMA SA

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

**Booth #: 05**

UCB, Brussels, Belgium (www.ucb.com) is a 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 10 000 people in over 40 countries, UCB generated revenue of EUR 3.6 billion in 2008. UCB is listed on Euronext Brussels (symbol: UCB).

### WILEY-BLACKWELL

350 Main Street
Malden, MA 02148
USA
Telephone: +1 800-532-5954
Fax: +1 781-338-8552
Web site: www.wiley.com

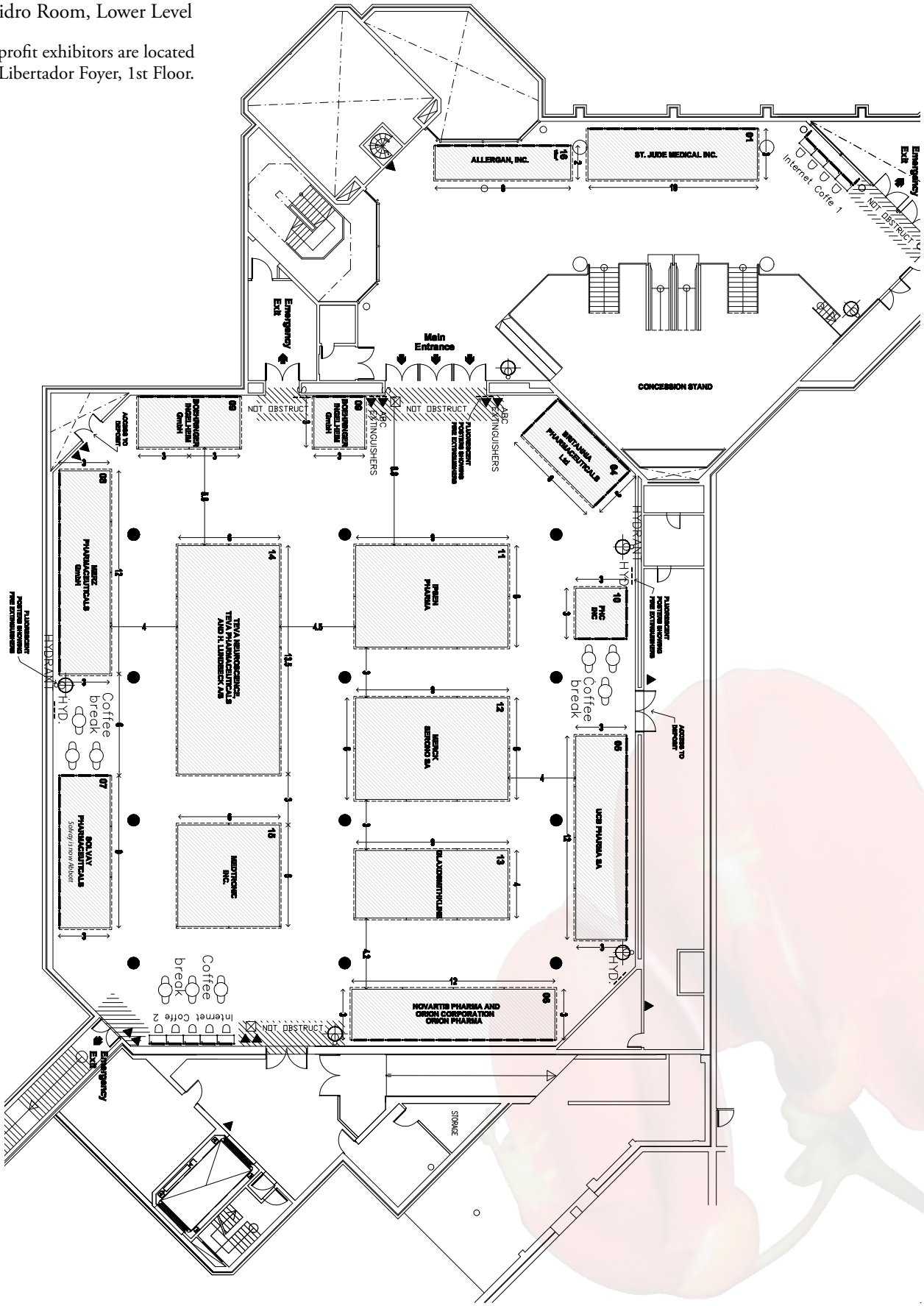
**Table #: E**

Wiley-Blackwell is the international scientific, technical, medical and scholarly publishing business of John Wiley & Sons, with strengths in every major academic and professional field and partnerships with many of the world's leading societies. We are honored to have been the Publisher of *Movement* Disorders since 2001. For more information, please visit www.wileyblackwell.com or www.interscience.wiley.com.

# Exhibit Hall Floor Plan

San Isidro Room, Lower Level

*Non-profit exhibitors are located in the Libertador Foyer, 1st Floor.



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# Guided Poster Tours

## Guided Poster Tour 1 – Neuroimaging

*Atalaya Room, 24th Floor*
14:00 - 15:30
Monday, June 14

Tour Leaders: Louis Tan, *Singapore;*
Klaus Seppi, *Innsbruck, Austria*

581 **Reduced dopamine transporter density in the ventral striatum of PD patients with impulse control disorders**
R. Cilia, J.H. Ko, S.S. Cho, T. van Eimeren, G. Marotta, G. Pellecchia, G. Pezzoli, A. Antonini, A.P. Strafella (Toronto, Ontario, Canada)

609 **Blinded analysis of conventional MR images in a cohort of pathologically confirmed parkinsonian illnesses at the QSBB**
L.A. Massey, C.D. Micallef, D.C. Paviour, S.S. O'Sullivan, D.J. Burn, J.L. Holton, T.A. Revesz, A.J. Lees, N.C. Fox, H.R. Jager (London, United Kingdom)

616 **Serotonin and fatigue in Parkinson's disease. An exploratory PET study**
N. Pavese, V. Metta, S.K. Bose, K.R. Chaudhuri, D.J. Brooks (London, United Kingdom)

596 **Olfactory impairment in early Parkinson's disease and white matter abnormalities in central olfactory areas. A voxel-based diffusion tensor imaging study**
N. Ibarretxe-Bilbao, C. Junque, M.J. Marti, F. Valldeoriola, P. Vendrell, N. Bargallo, M. Zarei, E. Tolosa (Barcelona, Spain)

577 **Hippocampal atrophy and ventricular enlargement in newly diagnosed Parkinson's disease; results from the Norwegian ParkWest study**
M.K. Beyer, K. Hwang, S. Babakchanian, K.S. Bronnick, J.P. Larsen, O.B. Tysnes, J.L. Cummings, J.H. Morra, C. Y, L.G. Apostolova (Stavanger, Norway)

573 **Magnetic susceptibility of substantia nigra in Parkinson's disease: A 7T in vivo MRI study**
A. Lotfipour, S. Wharton, V. Gontu, S. Schwartz, A. Schafer, R. Bowtell, P. Gowland, D.P. Auer, N. Bajaj (Nottingham, United Kingdom)

576 **Subthalamic-cortical resting state (fMRI-) functional connectivity is increased in early Parkinson's disease**
S. Baudrexel, T. Witte, J.C. Klein, H. Steinmetz, R. Deichmann, R. Hilker (Frankfurt am Main, Germany)

593 **How do the basal ganglia generate resting tremor in Parkinson's disease?**
R.C. Helmich, M. Jansen, W.J. Oyen, I. Toni, B.R. Bloem (Nijmegen, Netherlands)

622 **Microstructural white matter differences between dementia with Lewy bodies and Parkinson's disease with dementia**
C. Sanchez-Castaneda, R. Rene, J. Campdelacreu, J. Gascon, M. Calopa, S. Jauma, M. Juncadella, C. Junque (Barcelona, Spain)

590 **DTI and probabilistic tractography of the premotor to basal ganglia connections in healthy subjects and patients with Parkinson's disease**
S. Groppa, T. Bustorf, C. Riedel, J. Volkmann, J. Herzog (Kiel, Germany)

## Guided Poster Tour 2 – Parkinson's disease: Neuropharmacology

*Atalaya Room, 24th Floor*
14:00 - 15:30
Monday, June 14

Tour Leaders: Susan Fox, *Toronto, ON, Canada;*
Carlos Colosimo, *Rome, Italy*

689 **Long-term study on clinical benefits and quality-of-life of intraduodenal levodopa in routine care for a cohort of treatment-naïve patients with advanced Parkinson's disease**
A. Johansson, N. Dizdar, T.B. Hauge, B. Holmberg, R. Jansson, J. Linder, H. Widner, S.E. Palhagen (Uppsala, Sweden)

696 **Trehalose ameliorates dopaminergic and tau pathology in parkin deleted/tau overexpressing mice through autophagy activation**
J.A. Rodriguez-Navarro, M.J. Casarejos, L. Rodriguez, A. Gomez, R.M. Solano, J. Perucho, A.M. Cuervo, J.G. Yebenes, M.A. Mena (Madrid, Spain)

707 **In vivo evaluation of adenosine a2A receptor availability in Parkinson's disease patients with and without levodopa induced dyskinesias studied with [11C]SCH442416 PET**
A.F. Ramlackhansingh, S.K. Bose, I. Ahmed, F.E. Turkheimer, N. Pavese, D.J. Brooks (London, United Kingdom)

677 **COMT Val(158)Met polymorphism determines entacapone efficacy on L-DOPA pharmacodynamics and pharmacokinetics in Parkinson's disease**
J.-C. Corvol, C. Bonnet, F. Charbonnier-Beaupel, A.-M. Bonnet, E. Roze, A. Hartman, L. Lacomblez, J. Costentin, J.-S. Hulot, M. Vidailhet (Paris, France)

713 **Transdermal nicotinotherapy: An ongoing study in patients with advanced Parkinson's disease**
F. Grapin, G. Villafane, P. Cesaro, P. Maison, E. Itti (Creteil, France)

703 **Adverse drug reactions to dopaminergic agonists: A study in the French pharmacovigilance database**
S. Perez-Lloret, E. Bondon-Guitton, O. Rascol, J.-L. Montastruc (Toulouse, France)

680 **Safinamide reduces levodopa-induced dyskinesia in MPTP-lesioned primates while prolonging anti-parkinsonian efficacy**
L. Gregoire, A. Roach, T. Di Paolo (Quebec, PQ, Canada)

690 **Can inhibition of fatty acid amide hydrolase (FAAH) provide a useful approach to reduce impulse control disorder and dopamine dysregulation syndrome in Parkinson's disease?**
T.H. Johnston, P. Huot, S.H. Fox, J. Wakefield, K. Sykes, W. Bartolini, G.T. Milne, J.P. Pearson, J.M. Brotchie (Toronto, Ontario, Canada)

## Guided Poster Tours

687 **5-HT2A receptor levels are increased in dyskinetic, MPTP-lesioned macaques**
P. Huot, T.H. Johnston, L. Winkelmolen, S.H. Fox, J.M. Brotchie (Toronto, Ontario, Canada)

682 **Mu-selective, but not non-selective, opioid receptor antagonism reduces L-DOPA induced dyskinesia in the MPTP macaque model of Parkinson's disease**
S.H. Fox, J.B. Koprich, T.H. Johnston, A. Goodman, B. Le Bourdonnec, R.E. Dolle, R.N. DeHaven, D.L. DeHaven, P.J. Little, J.M. Brotchie (Toronto, Ontario, Canada)

### Guided Poster Tour 3 – Parkinson's disease: Behavioral disorders

*Aguila Room, 24th Floor*
14:00 - 15:30
Monday, June 14

Tour Leaders: David John Burn, *Newcastle upon Tyne, United Kingdom;* Erik Wolters, *Amsterdam, Netherlands*

283 **The relationship between mood and motor phenotype in Parkinson's disease (PD)**
D.J. Burn, S. Landau, J.V. Hindle, M. Samuel, K.C. Wilson, C.S. Hurt, R.G. Brown (Newcastle upon Tyne, Tyne and Wear, United Kingdom)

290 **Testing an aetiological model of visual hallucinations in Parkinson's disease**
D. Gallagher, A. Lees, A. Schrag (London, United Kingdom)

289 **Ophthalmic pathology and visual hallucinations (VH) in PD**
D. Gallagher, A. Spratt, A. Shah, F. Bremner, C. Davey, A. Lees, A. Schrag (London, United Kingdom)

304 **White matter lesions and depression in patients with Parkinson's disease**
I.N. Petrovic, N. Dragasevic, M. Svetel, V. Markovic, A. Tomic, M. Jecmenica-Lukic, T. Stojkovic, E. Stefanova, V.S. Kostic (Belgrade, Serbia, Serbia)

296 **Increased risk of developing depression for patients with Parkinson's disease (PD): A retrospective cohort study**
Y.-T. Hsu, Y.-W. Yang, C.-C. Liao, C.-Y. Hsu, C.-H. Tsai, F.-C. Sung (Taichung, Taiwan)

302 **'Walkabout': An unrecognized compulsive behavior in Parkinson's disease**
B. Pascual-Sedano, A. Gironell, C. Garcia-Sanchez, A. Campolongo, J. Pagonabarraga, J. Kulisevsky (Barcelona, Spain)

309 **Comparative neuropsychological profile of pathological gambling, hypersexuality and compulsive eating in Parkinson's disease**
G. Santangelo, C. Vitale, K. Longo, F. Verde, M. Rocco, A. Cozzolino, M. Picillo, M. Amboni, P. Barone (Naples, Italy)

312 **Behavioral, neuropsychiatric and cognitive disorders in parkinsonian patients with and without motor complications**
P. Solla, A. Cannas, C. Serra, L. Lavra, E. Costantino, F. Di Stefano, V. Piras, G. Floris, F. Marrosu, M.G. Marrosu (Monserrato, Cagliari, Italy)

292 **Frequency and type of impulse control disorders occurring in Parkinson's disease patients treated with dopamine agonists in a 2 year retrospective study**
A. Hassan, J.H. Bower, N. Kumar, J.Y. Matsumoto, R.D. Fealey, K.A. Josephs, J.E. Ahslkog (Rochester, Minnesota, USA)

### Guided Poster Tour 4 – Tics/Stereotypies

*Aguila Room, 24th Floor*
14:00 - 15:30
Monday, June 14

Tour Leaders: Kailash Bhatia, *London, United Kingdom;* Aikaterina Kompoliti, *Chicago, IL, USA*

1028 **Double-blind controlled randomized study of the use of levetiracetam to treat tics in children and adolescents with Tourette syndrome**
Y.M. Awaad, A.M. Michon, S. Minark, T. Rizk (Riyadh, Saudi Arabia)

1029 **Sensitivity to sensory stimuli is a common feature of Tourette syndrome, and is not a result of reduced detection threshold**
B.A. Belluscio, M. Hallett (Bethesda, Maryland, USA)

1033 **Cortical excitability in Tourette patients – differential effects of voluntary movements and median nerve stimulation**
S. Franzkowiak, B. Pollok, K. Biermann-Ruben, J. Paszek, G. Thomalla, A. Muenchau, A. Schnitzler (Duesseldorf, Germany)

1039 **Pitfalls in deep brain stimulation for treatment-refractory Tourette syndrome**
D. Servello, M. Sassi, S. Defendi, A. Brambilla, M. Porta (Milano, Italy)

1038 **Is it a tic? Twenty seconds to make a diagnosis**
J. Paszek, B. Pollok, K. Biermann-Ruben, K.R. Mueller-Vahl, V. Roessner, G. Thomalla, M.M. Robertson, M. Orth, A. Schnitzler, A. Muenchau (Duesseldorf, Germany)

1036 **Aripiprazole use in TS: A two year retrospective experience in 27 patients**
J.J. Juncos, G.J. Revuelta (Atlanta, Georgia, USA)

1030 **Quantitative wearable monitoring of Tourette motor tics**
M. Bernabei, E. Preatoni, M. Mendez, L. Piccini, M. Porta, M. Sassi, D. Servello, G. Andreoni (Milano, Italy)

1031 **Dystonic tics in patients with primary tics disorders**
J. Damasio, M.J. Edwards, A. Alonso, P. Scwingenschuh, K.P. Bhatia (London, United Kingdom)

1037 **Major determinants of psychosocial and occupational disability in adult Tourette syndrome**
D.G. Lichter, S.G. Finnegan (Buffalo, New York, USA)

# Guided Poster Tours

1035 **Stereotypies and repetitive motor behavior in patients with Alzheimer's disease who present spared vs. impaired executive functioning**
E. Gleichgerrcht, A. Chade, M. Roca, T. Torralva, F. Manes (Capital Federal, Buenos Aires, Argentina)

## Guided Poster Tour 5 – Basic Science

*Atalaya Room, 24th Floor*
13:30 - 15:00
Tuesday, June 15

Tour Leaders: Etienne Hirsch, *Paris, France;* Marie-Françoise Chesselet, *Los Angeles, CA, USA*

43 **Comprehensive pathological analysis in MPTP-treated macaques reveal widespread synucleopathy and tauopathy**
A. Vital, Q. Li, M.-H. Canron, P. Ravenscroft, M. Hill, E. Bezard (Bordeaux, France)

69 **The PINK1/parkin-pathway links ubiquitin to damaged mitochondria for selective autophagy**
S. Geisler, K.M. Holmström, D. Skujat, F.C. Fiesel, O.C. Rothfuss, P.J. Kahle, W. Springer (Tuebingen, Germany)

47 **Reduced basal autophagy and impaired mitochondrial dynamics due to loss of Parkinson's disease-associated protein DJ-1**
G. Krebiehl, S. Ruckerbauer, L.F. Burbulla, N. Kieper, B. Maurer, J. Waak, H. Wolburg, Z. Gizatullina, F.N. Gellerich, D. Woitalla, O. Riess, P.J. Kahle, T. Proikas-Cezanne, R. Krüger (Tubingen, Germany)

73 **A new DBS clinical target for Parkinson's disease (PD) – mapping the caudal zona incerta (ZI)**
M.G. Thomas, T. Chipungu, C. Watson, C.R.P. Lind (Perth, Western Australia, Australia)

56 **Role of tau oligomers in Parkinson's disease and dementia with Lewy bodies**
C.A. Lasagna-Reeves, B. Roi, M. Bakhoum, M.J. Guerrero-Munoz, D.L. Castillo-Caranza, R. Kayed, G.R. Jackson (Galveston, Texas, USA)

71 **Proteasome inhibition in medaka brain induces the features of Parkinson's disease**
R. Takahashi, H. Matsui, H. Itoh, Y. Taniguchi, H. Inoue, S.-I. Takeda (Kyoto, Japan)

46 **Impaired mitochondrial stress response due to novel mutations in the mortalin/GRP75 gene in Parkinson's disease**
L.F. Burbulla, C. Schelling, C. Schiesling, D. Ciceri, D. Woitalla, S. Jung, A. Nordheim, L. Schöls, O. Riess, R. Krüger (Tubingen, Germany)

50 **Dopamine peroxidation in the pathogenesis of Parkinson's disease: New evidences in human cerebellum**
A. De Iuliis, G. Arrigoni, P. Zambenedetti, G. Miotto, F. Vianello, P. Arslan (Padova, Italy)

51 **CSF amyloid b 1-42 predicts cognitive decline in Parkinson's disease**
A. Siderowf, S.X. Xie, H.I. Hurtig, D. Weintraub, J.E. Duda, A. Chen-Plotkin, L.M. Shaw, V. Van Deerlin, J.Q. Trojanowski, C.M. Clark (Philadelphia, Pennsylvania, USA)

45 **Effects of inflammation on substantia nigra dopamine neurons**
H.A. Boger, K.R.S. Reinert, A.-C. Granholm (Charleston, South Carolina, USA)

## Guided Poster Tour 6 – Huntington's disease

*Atalaya Room, 24th Floor*
13:30 - 15:00
Tuesday, June 15

Tour Leaders: Francisco Cardoso, *Belo Horizonte, Brazil;* Ralf Reilman, *Muenster, Germany*

257 **Longitudinal analysis of intermediate CAGn repeat length expansion in the prospective Huntington's disease at-risk observational study (PHAROS)**
K.M. Biglan, J. Jankovic, S. Eberly, E. Kayson, D. Oakes, A.B. Young, I. Shoulson, HSG PHAROS Investigators (Rochester, New York, USA)

255 **Postural control in Huntington's disease – cross sectional results from the TRACK-HD study**
N. Bechtel, R. Scahill, C. Jauffret, A. Sturrock, S. van den Bogaard, E. t'Haart, A. Patel, M.J. Say, J. Read, T. Acharya, D.R. Langbehn, H. Johnson, B. Leavitt, A. Durr, R.A.C. Roos, S.J. Tabrizi, R. Reilmann, the TRACK-HD Investigators (Muenster, Germany)

256 **Evaluating methods to enrich clinical trial populations in individuals at-risk for Huntington's disease: The prospective Huntington's disease observational at-risk study (PHAROS)**
K.M. Biglan, S. Eberly, D. Oakes, E. Kayson, J. Warner, A.B. Young, I. Shoulson, HSG PHAROS Investigators (Rochester, New York, USA)

270 **Using the Mattis Dementia Rating Scale (DRS) to track cognitive change in Huntington's disease (HD)**
S.L. Lessig, J.L. Goldstein, S. Edland, J. Corey-Bloom (La Jolla, California, USA)

272 **Therapeutic indications and prescription habits in Huntington's disease: Results from the REGISTRY observational study**
T.A. Mestre, M. Coelho, J.J. Ferreira, European Huntington Disease Network (EHDN) REGISTRY Study Group (Lisboa, Portugal)

264 **Sleep and sleepiness in Huntington's disease (HD): Effects on patient and caregiver quality of life**
R. Gupta, B. Ankush, L. Sue, S. Kathleen (Chicago, Illinois, USA)

## Guided Poster Tours

265 **Pioglitazone ameliorates behavioral, biochemical and cellular alterations in quinolinic acid induced neurotoxicity: Possible role of peroxisome proliferator activated receptor-¡ (PPAR¡) in Huntington's disease**
H. Kalonia, P. Kumar, A. Kumar (Chandigarh, India)

274 **Estimation of prevalence and molecular characteristics among Huntington's disease patients of Argentina**
E.M. Gatto, V. Parisi, G.G. Persi, J.L. Etcheverry, F. Leiguarda, A.P. López, V. Varela (Buenos Aires, Argentina)

259 **Cognition and brain metabolism of preclinical mutation carriers of huntington's disease: A follow-up study**
M. Dekker, J.C.H. van Oostrom, C.K. Jurgens, M.-N.W. Witjes-Ané, J.M. Spikman, R.A.C. Roos, K.L. Leenders (Groningen, Netherlands)

260 **Are gait and step initiation parameters early markers of Huntington's disease in presymptomatic mutation carriers?**
A. Delval, S. Bleuse, C. Simonin, M. Delliaux, B. Roland, L. Defebvre, K. Dujardin, P. Krystkowiak (lille, France)

### Guided Poster Tour 7 – Restless Legs Syndrome

*Aguila Room, 24th Floor*
13:30 - 15:00
Tuesday, June 15

Tour Leaders: Per Odin, *Bremerhaven, Germany;* Isabelle Arnulf, *Paris, France*

1008 **Evidence for bilateral caudate nucleus involvement in PLMS: A case-study employing simultaneous EEG-EMG-fMRI**
N.M. Maurits, R.J. Renken, B.M. de Jong, J.H. van der Hoeven (Groningen, Netherlands)

1003 **Neurophysiological approach to the complex organization in spine: A study on F-wave duration and cutaneous silent period in patients with primary restless legs syndrome**
B. Isak, K. Uluc, C. Salcini, K. Agan, T. Tanridag, O. Us (Istanbul, Turkey)

989 **MEIS1 as a potential mediator of the RLS-iron pathology**
N. Silver, R.P. Allen, C.J. Earley (Baltimore, Maryland, USA)

998 **Impact of neuropsychiatric comorbidity on treatment success in restless legs syndrome**
J. Godau, N. Spinnler, A.-K. Wevers, C. Trenkwalder, D. Berg (Tuebingen, Germany)

990 **Evaluating a murine iron-deficiency (ID) model for RLS**
E.L. Unger, R.P. Allen, C.J. Earley (Baltimore, Maryland, USA)

1014 **Restless leg syndrome (RLS) by gender: The effects of hormones, life cycles and comorbidity in a female Sicilian cohort**
R. Silvestri, I. Aricò, R. Condurso, G. Mento (Messina, Messina, Italy)

1002 **Where is the core of the volcano? The undetermined origin of primary restless legs syndrome**
B. Isak, K. Agan, A. Pehlivan, K. Uluc, T. Tanridag, O. Us (Istanbul, Turkey)

1001 **Long-term safety and efficacy of rotigotine in patients with idiopathic RLS: 5-year results from a prospective multinational open-label follow-up study**
B. Hogl, C. Trenkwalder, D. Garcia-Borreguero, R. Kohnen, W. Poewe, K. Stiasny-Kolster, L. Bauer, A. Fichtner, E. Schollmayer, W. Oertel, for the SP710 Study Group (Innsbruck, Austria)

1017 **Is the restless legs syndrome (RLS) mediated by inflammatory and immunological mechanisms? RLS is associated with an increased prevalence of small intestinal bacterial overgrowth**
A.S. Walters, L.B. Weinstock (Nashville, Tennessee, USA)

994 **Neuroanatomical aspect of the dopaminergic diencephalospinal pathway in the non human primate: Potential implications for restless legs syndrome**
Q. Barraud, I. Obeid, I. Aubert, H. Contamin, W. Mazier, G. Barriere, F. Tison, E. Bezard, I. Ghorayeb (Bordeaux, France)

### Guided Poster Tour 8 – Neuropharmacology

*Aguila Room, 24th Floor*
13:30 - 15:00
Tuesday, June 15

Tour Leaders: Giovanni Fabbrini, *Rome, Italy;* Joaquim Ferreira, *Lisbon, Portugal*

650 **Synergistic anti-dyskinetic effect of topiramate and amantadine in the MPTP-lesioned non-human primate model of Parkinson's disease**
C. Kobylecki, A.R. Crossman, R. Paula (Manchester, Lancashire, United Kingdom)

645 **Reconstitution dilution volumes and dysport® (botulinum toxin type A) doses used to treat pediatric cerebral palsy in five EU countries**
S. Hall, J. Schwab, J. Mendoza, B. Zakine, C. Hubert (Brisbane, California, USA)

651 **Neuroprotection of pramipexole in UPS impairment induced animal model of Parkinson's disease**
C. Li, W. Xie, J. Jankovic, W. Le (Houston, Texas, China)

644 **The tolerability of rasagiline when used concurrently with serotonin reuptake inhibitors in Parkinson's disease: A retrospective analysis**
P. Ghosh, J. Winslow, C. Musleh, C. Gandhy, L. Bahroo, F. Pagan (Washington, District of Columbia, USA)

653 **Pardoprunox: Effects on motor and non-motor symptoms of Parkinson's disease**
A.C. McCreary, M. Jackson, C. Ashby, Jr, S. Rose, P. Jenner (Weesp, Netherlands)

649 **MAO-B inhibitors and dopamine agonists as initial treatment in Parkinson's disease: A naturalistic survey**
T. Keränen, T. Mattila, H. Kuusisto (Kuopio, Finland)

# Guided Poster Tours

## Guided Poster Tour 9 – Dystonia

*Atalaya Room, 24th Floor*
13:30 - 15:00
Wednesday, June 16

Tour Leaders: Cynthia Comella, *Chicago, IL, USA;* Regina Katzenschlager, *Vienna, Austria*

195 **Identifying genetic risk factors of musician's dystonia**
A. Schmidt, K. Lohmann, C. Hemmelmann, H.-C. Jabusch, S. Winkler, S. Schreiber, E. Altenmueller, A. Ziegler, C. Klein (Luebeck, Germany)

194 **The syndrome of childhood-onset arm tremor followed by later development of cervical dystonia is a distinct dystonia subtype**
S. Schiebler, A. Schmidt, S. Zittel, T. Baeumer, C. Gerloff, C. Klein, A. Muenchau (Hamburg, Germany)

197 **Modulatory effects of 5Hz rTMS over the primary somatosensory cortex in focal dystonia – an fMRI-TMS study**
S.A. Schneider, B. Pleger, B. Draganski, C. Cordivari, J.C. Rothwell, K.P. Bhatia, R. Dolan (Luebeck, Germany)

182 **Linking DYT1 and DYT6 dystonia on the molecular level: Repression of DYT1 gene expression by the transcription factor activity of THAP1 (DYT6)**
A. Osmanovic, S. Orolicki, D. Braunholz, A. Rakovic, T. Lohnau, M. Albrecht, G. Gillessen-Kaesbach, K. Lohmann, C. Klein, F.J. Kaiser (Luebeck, Germany)

198 **The blink reflex recovery cycle distinguishes patients with benign essential blepharospasm from patients with presumed psychogenic blepharospasm**
P. Schwingenschuh, P. Katschnig, J.T. Teo, M.J. Edwards, J.C. Rothwell, K.P. Bhatia (London / Graz, United Kingdom)

131 **Juvenile onset dystonia-parkinsonism associated with cerebral folate deficiency**
E. Baratelli, M. Edwards, M. Carecchio, P.R. Jarman, S.J.R. Heales, K.P. Bhatia (london, United Kingdom)

151 **DYT6 dystonia phenotype and the effect of deep brain stimulation**
J.L. Groen, K. Ritz, F.M. Contarino, B.P. van de Warrenburg, J.J. van Hilten, M. Aramideh, E.M. Foncke, R. Schuurman, J.D. Speelman, R.M.A. de Bie, F. Baas, M.A.J. Tijssen (Amsterdam, Netherlands)

184 **The D216H (rs1801968) polymorphism in the DYT1 gene: A potential susceptibility factor for familial dystonia in Argentinean cases**
C. Perandones, M. Irisarri, M. Caputo, M.T. Gomez, L.A. Pellene, C.Z. Salazar, F.E. Micheli, D. Corach (Ciudad Autonoma de Buenos Aires, Argentina)

146 **Secondary non response (SNR) to botulinum toxins type A (BoNT-A) in cervical dystonia (CD) patients: Definition and therapeutic strategies results from an international survey**
J.J. Ferreira, R. Bhidayasiri, C. Colosimo, M.J. Marti, B. Zakine, P. Maisonobe (Lisboa, Portugal)

185 **Prevalence of focal task-specific dystonia among professional musicians in a community-based study from Argentina**
E.M. Gatto, A. Chade, G. Persi, V. Parisi, A. Ayarza, M. Campuzano, S. García (Buenos Aires, Argentina)

## Guided Poster Tour 10 – Genetics

*Atalaya Room, 24th Floor*
13:30 - 15:00
Wednesday, June 16

Tour Leaders: John Hardy, *London, United Kingdom;* Enza Maria Valente, *Rome, Italy*

856 **Parkinsonian features and motor network plasticity in LRRK2 patients and asymptomatic mutations carriers in comparison to sporadic PD and healthy controls**
K. Brockmann, A. Groeger, A. Di Santo, C. Schulte, A.-K. Hauser, D. Berg, T. Gasser (Tuebingen, Germany)

886 **Genome-wide association study identifies common variants at four loci as genetic risk factors for Parkinson's disease**
W. Satake, Y. Nakabayashi, I. Mizuta, M. Watanabe, A. Takeda, H. Tomiyama, K. Nakashima, K. Hasegawa, F. Obata, H. Kawakami, S. Sakoda, M. Yamamoto, N. Hattori, M. Murata, Y. Nakamura, T. Toda (Kobe, Japan)

871 **Genetic control of DNA methylation and expression in the context of neurological disease**
D.G. Hernandez, R. Gibbs, M.A. Nalls, S. Arepalli, M. Van der Brug, B. Traynor, S.B. Andrew (Bethesda, Maryland, USA)

894 **123I-MIBG cardiac uptake and smell identification in patients with LRRK2 mutations**
F. Valldeoriola, C. Gaig, A. Muxi, I. Navales, P. Paredes, F. Lomeña, A. De la Cerda, M. Ezquerra, P. Santacruz, M.J. Marti, E. Tolosa (Barcelona, Catalonia, Spain)

890 **Studies of alpha-synuclein in brain samples from patients with Lewy body disorders carrying glucocerebrosidase mutations**
O. Goker-Alpan, J.H. Choi, B.K. Stubblefield, M. Cookson, G. Lopez, E. Sidransky (Bethesda, Maryland, USA)

863 **Genome-wide analysis and accuracy of self-reported data: The 23andMe Parkinson's disease project**
N. Eriksson, C. Do, A. Kiefer, J.M. Macpherson, K. Marton, J. Tung, L.S. Hon, B. Naughton, S. Saxonov, A. Wojcicki, J. Mountain (Mountain View, California, USA)

868 **Clinical manifestation of patients with Parkinson's disease carriers of "severe" mutations in the GBA gene**
E. Rozenberg, A. Mirelman, S. Levy, M. Kedmi, A. Orr-Urtreger, N. Giladi, T. Gurevich (Tel Aviv, Israel)

888 **Mutational screening of the coding regions of MEIS1 and BTBD9 in patients with restless legs syndrome**
E.C. Schulte, F. Knauf, P. Lichtner, T. Meitinger, J. Winkelmann (Munich, Germany)

# Guided Poster Tours

893 **A new family with apparently dominant inheritance of PARK2**
F. Tison, N. Damon-Perriere, C. Cazeneuve, S. Lesage, P. Fernandez, A. Brice, W. Meissner (Pessac, France)

901 **The phenotypic spectrum of neurodegeneration associated to PLA2G6 mutations**
G. Zorzi, A. Giovannetti, F. Zibordi, V. Saletti, M. Sessa, S. Orcesi, M. Morbin, L. Chiapparini, B. Garavaglia, N. Nardocci (Milano, Italy)

## Guided Poster Tour 11 – Gene Therapies and Cell-based Therapies

*Aguila Room, 24th Floor*
13:30 - 15:00
Wednesday, June 16

Tour Leaders: Anthony Lang, *Toronto, ON, Canada;* Deniz Kirik, *Lund, Sweden*

249 **A phase I clinical trial on the safety and efficacy of ProSavin® a dopamine replacement gene therapy for Parkinson's disease (PD): An interim report**
B. Jarraya, H. Lepetit, S. Ralph, J. Miskin, J.-M. Gurruchaga, M. Vinti, G. Fenelon, P. Brugieres, K. Abhay, I. Gabriel, S. Boulet, C. Jan, S. Kingsman, P. Cesaro, P. Hantraye, P. Remy, K. Mitrophanous, S. Palfi (Paris, Creteil, France)

247 **Evidence of motor recovery after retinal pigment epithelial (RPE) cells implantation in the rat model of Parkinson's disease (PD)**
H. Gambhir, S. Vivekanandhan, V. Goyal, R. Mathur, M. Behari (New Delhi, Delhi, India)

248 **Investigation of optimal transduction targets in the nigrostriatal system for pleiotrophin gene therapy in a parkinsonian rodent model**
S.E. Gombash, T.J. Collier, B.F. Daley, S.L. Wohlgenant, N.D. Levine, B.T. Terpstra, R.J. Mandel, F.P. Manfredsson, C.E. Sortwell (Cincinnati, Ohio, USA)

253 **Restore neurotrophin signaling to enhance functional restoration following neural stem cell transplantation in Parkinson's disease**
K. Seth, A. Shukla, R.W. Ansari, R.K. Chaturvedi, A.K. Agrawal (Lucknow, UP, India)

251 **Therapeutic microinjection of autologous adult human neural stem cells and differentiated neurons for Parkinson's disease: Five-year post-operative outcome**
M.F. Levesque, T. Neuman, M. Rezak (Los Angeles, California, USA)

245 **Transgenic porcine xenografts: A model of brain immune response in parkinsonian primates**
R. Aron Badin, A. Padoan, M. Vadori, M. Boldrin, L. Chavicchioli, G.M. De Benedictis, F. Fante, M. Seveso, D. Sgarabotto, C. Jan, V. Daguin, P. Naveilhan, I. Neveu, J.P. Soulillou, B. Vanhove, M. Plat, F. Botte, F. Venturi, L. Denaro, R. Manara, P. Zampieri, D. D'Avella, D. Rubello, E. Ancona, P. Hantraye, C. Emanuele (Fontenay-aux-Roses, France)

246 **Derivation of dopaminergic neurons from human embryonic stem cells and IPS cells in animal-free conditions ready to use them in a treatment of Parkinson's disease**
S. Erceg, J. Kostic, V. Moreno-Manzano, M.A. Perez Arago, L.G. Maria, M. Ronaghi, P. Stojkovic, M. Stojkovic (Valencia, Spain)

250 **Enriching the environment for haematopoietic stem cell transplantation in MPTP-treated primates**
L.P. Kelly, M.B. Newman, R.A.E. Bakay (Chicago, Illinois, USA)

252 **Grafted serotonin neurons aggravate L-DOPA induced dyskinesia: In vivo evidence by microdialysis and [18F] fallypride PET imaging**
G. Sahin, S. Lavisse, L. Rbah, T. Bjorklund, M. Carta, L. Thompson, P. Hantraye, D. Kirik (Lund, Sweden)

254 **Vascular endothelial growth factor-B186 improves motor behavior in vivo in a rat model of Parkinson's disease**
X. Yue, T. Falk, S. Zhang, S.J. Sherman (Tucson, Arizona, USA)

## Guided Poster Tour 12 – Lewy Body Dementia and other dementias in movement disorders

*Aguila Room, 24th Floor*
13:30 - 15:00
Wednesday, June 16

Tour Leaders: Ian MacKenzie, *Vancouver, BC, Canada;* Jennifer Goldman, *Chicago, IL, USA*

911 **Extrapyramidal symptoms in frontotemporal dementia**
A.R. Chade, M. Roca, E. Gleichgerrcht, T. Torralva, F. Manes (Capital Federal, Buenos Aires, Argentina)

915 **Probable dementia Lewy body type is rare among Parkinson's disease patients**
J.M. Rabey, E. Dobronevsky, A. Miniovitz, T. Prokhorov (Zerifin, Israel)

917 **Parkinsonian features and apraxia in frontotemporal lobar atrophy behavioural variant (FTLA bv)**
S. Schmidegg, W. Struhal, S. Hoedl, C. Dorninger, M. Steffelbauer, M. Ortmayr, G. Ransmayr (Linz, Austria)

912 **Depression in dementia with Lewy bodies and Parkinson's disease dementia**
F. Fritze, U. Ehrt, D. Aarsland (Stavanger, Rogaland, Norway)

913 **Lack of beta-synuclein expression defines a specific group of dementia with Lewy bodies**
K. Beyer, M. Domingo-Sabat, L. Ispierto, C. Carrato, R. Alvarez, P. Latorre (Badalona, Spain)

916 **The SNCA locus in dementia with Lewy bodies**
A. Sailer, M. Kurzawa, P.F. Chinnery, I.G. McKeith, C.M. Morris, H. Houlden (London, United Kingdom)

# Guided Poster Tours

## Guided Poster Tour 13 – Parkinson's disease: Clinical trials

*Atalaya Room, 24th Floor*
13:30 - 15:00
Thursday, June 17

Tour Leaders: Günther Deuschl, *Kiel, Germany;* Bernard Ravina, *Rochester, NY, USA*

376 **Pardoprunox in early stage Parkinson's disease: Results from two large studies**
C. Sampaio, J.B. Bronzova, R.A. Hauser, A. Lang, O. Rascol, S.V. van de Witte, A. Theeuwes (Lisboa, Portugal)

327 **A multi-center, placebo-controlled, double-blind trial to examine the safety and efficacy of pimavanserin in the treatment of psychosis in Parkinson's disease**
J.H. Friedman, B. Ravina, R. Mills, H. Williams, D. Bahr, P. Peters, F. Tison, D. Burn (Newcastle upon Tyne, United Kingdom)

359 **Safinamide as add-on to levodopa improves motor function without worsening dyskinesia in patients with mid-late Parkinson's disease**
C.M. Meshram, M. Bhatt, D. Chirileanu, P. Stanzione, V. Lucini, S.M. Rossetti, R. Anand, the Study 016 Investigators (Nagpur, India)

342 **Eighteen months of intervention with exercise improve functional mobility with maintenance of mental state in people with Parkinson's disease**
L.T.B. Gobbi, S. Gobbi, C. Teixeira-Arroyo, N.M. Rinaldi, F.A. Barbieri, E. Lirani-Silva, R.A. Batistela, M.P. Pereira, F. Stella (Rio Claro, Sao Paulo, Brazil)

351 **Fipamezole in the treatment of dyskinesia in advanced Parkinson's disease (FJORD study)**
P.A. LeWitt, R.A. Hauser, M. Lu, A.P. Nicholas, W. Weiner, N. Coppard, M. Leinonen, J.M. Savola (Southfield, Michigan, USA)

349 **The impact of left prefrontal repetitive transcranial magnetic stimulation on depression with Parkinson's disease: A randomized, controlled, double-blinded, single center study**
N. Kovacs, F. Nagy, Z. Aschermann, E. Balazs, E. Pal (Pecs, Hungary)

364 **Efficacy and safety of rotigotine transdermal application in levodopa-treated patients with Parkinson's disease (PD)**
M. Nomoto, T. Kondo, K. Hasegawa, M. Murata, N. Hattori, Y. Mizuno, Rotigotine Study Group (Tohon, Ehime, Japan)

367 **Safety and tolerability profile of the adenosine A2A receptor antagonist BIIB014 in Parkinson's disease: Pooled analysis of two placebo-controlled 8-week studies**
S. Papapetropoulos, R. Borgohain, M. Kellet, N. Giladi, D. Tomic, A. Coppell, Y. Zhu, J. Barnard, L. Miller, G.N. O'Neill (Cambridge, Massachusetts, USA)

320 **Controlled study of intermittent theta-burst transcranial magnetic stimulation for the treatment of Parkinson's disease**
D. Benninger, B. Berman, E. Houdayer, N. Pal, D. Luckenbaugh, L. Schneider, S. Miranda, M. Hallett (Bethesda, Maryland, USA)

379 **Sustained efficacy and tolerability of pramipexole extended-release as adjunctive treatment in advanced Parkinson's disease**
A.H.V. Schapira, P. Barone, R.A. Hauser, Y. Mizuno, O. Rascol, M. Busse, L. Salin, M. Sohr, W. Poewe, in the name of the Pramipexole ER Studies Group (London, United Kingdom)

## Guided Poster Tour 14 – Parkinson's disease: Sleep Disorders

*Atalaya Room, 24th Floor*
13:30 - 15:00
Thursday, June 17

Tour Leaders: Kapil Sethi, *Augusta, GA, USA;* Aleksander Videnovic, *Chicago, IL, USA*

756 **Cyclic alternating pattern (CAP) in de novo Parkinson's disease**
R. Margis, R. Ferri, S.V. Schonwald, G.J.L. Gerhardt, C.R.M. Rieder (Porto Alegre, RS, Brazil)

759 **Effect of rotigotine on sleep and nocturnal symptoms in Parkinson's disease: RECOVER study**
C. Trenkwalder, B. Kies, M. Rudzinska, J. Fine, J. Nikl, D.L. Hill, T. Anderson, E. Surmann, J. Whitesides, B. Boroojerdi, K.R. Chaudhuri, on Behalf of the RECOVER Study Group (Kassel, Germany)

750 **Hallucinations and sleep disorders in Parkinson's disease: Ten year prospective longitudinal study**
C.G. Goetz, B. Ouyang, A. Negron, G.T. Stebbins (Chicago, Illinois, USA)

757 **Sleep-related falling out of bed (SFOB) in Parkinson's disease: A clinical marker of RBD?**
D.M. Wallace, D.Z. Carvalho, H. Moore, A. Pandey, F. Nahab, C. Singer (Miami, Florida, USA)

751 **A study of sleep problems in a community-dwelling cohort of people with PD**
R.W. Walker, A.R. Howells, I.L. Cookey, W.K. Gray (North Shields, Tyne and Wear, United Kingdom)

752 **Nighttime sleep and daytime sleepiness in idiopathic and genetic Parkinson's disease**
M. Kasten, V. Tadic, N. Brueggemann, A. Schmidt, L. Kertelge, C. Wisse, L. Drude, K. Lohmann, J. Hagenah, C. Klein (Luebeck, Germany)

755 **Does idiopathic restless legs syndrome protect against Parkinson's disease**
D.M. Elizabeth, W.G. Ondo (Houston, Texas, USA)

761 **Parkinson's disease patients: "Owls" or "larks"**
A. Videnovic, C. Noble, A. Marconi, T. Kuhta, C. Zadikoff, T. Simuni, P. Zee (Chicago, Illinois, USA)

## Guided Poster Tours

753 **The impact of depression on sleep quality and excessive daytime sleepiness in Parkinson's disease patients**
N. Klepac, M. Titlic, D. Britvic, I. Lusic, L. Unusic (Zagreb, Croatia)

749 **Excessive daytime sleepiness in the MPTP non human primate model of Parkinson's disease**
Q. Barraud, V. Lambrecq, S. McGuire, M. Hill, F. Tison, E. Bezard, I. Ghorayeb (Bordeaux, France)

### Guided Poster Tour 15 – Surgical Therapy: Parkinson's disease

*Aguila Room, 24th Floor*
13:30 - 15:00
Thursday, June 17

Tour Leaders: Marcelo Merello, *Buenos Aires, Argentina;* Andres Ceballos-Baumann, *Munich, Germany*

766 **Quality of life after DBS STN in Parkinson's disease is related to the stimulation amplitude**
M. Baláz, M. Bocková, I. Rektor (Brno, Czech Republic)

814 **Effect of globus pallidus internus and/or pedunculopontine nucleus DBS on posture and gait ignition in advanced Parkinson's disease**
C. Schrader, H. Capelle, D. Dressler, A. Windhagen, J.K. Kraus, F. Seehaus (Hannover, Germany)

774 **Effects of pedunculopontine nucleus area stimulation on speech production in Parkinson's disease**
S. Pinto, A. Maillet, A. Ghio, M. Ferraye, V. Fraix, R. Espesser, S. Chabardès, E. Seigneuret, A.L. Benabid, B. Debû, P. Pollak (Grenoble, France)

807 **Factors related to extended hospital stays following deep brain stimulation for Parkinson's disease**
A. Mikos, J. Pavon, D. Bowers, K.D. Foote, A.S. Resnick, H.H. Fernandez, P. Thomas, C. Garvan, A. Roy, M.S. Okun (Gainesville, Florida, USA)

816 **Role of mesocorticolimbic dopaminergic denervation in postoperative apathy and depression in Parkinson's disease**
S. Thobois, E. Lhommee, H. Klinger, C. Ardouin, J. Xie, V. Fraix, C. Lagrange, E. Seigneuret, P. Mertens, S. Chabardes, G. Polo, D. Le Bars, P. Pollak, E. Broussolle, P. Krack (Lyon, France)

808 **Effect of subthalamic deep brain stimulation on acceleration of the swing phase of gait in Parkinson's disease**
F.J. Revilla, A. Duker, H.A. Miranda, M. Matthew, G. Mandybur, A. Espay, C. Cox, A. Bhattacharya (Cincinnati, Ohio, USA)

791 **Effects of chronic STN-DBS on the levodopa response: Evidence for gain of long duration response**
C.S. Lee, S.-J. Chung, M.-J. Kim, S.-Y. You, S.-R. Kim, S.-Y. Chun (Seoul, Republic of Korea)

822 **Postoperative verbal fluency decline after subthalamic deep brain stimulation surgery correlates with laterality of the microlesion. Results of a prospective longitudinal study**
L. Wojtecki, L. Timmermann, U. Habel, C. Reck, M. Suedmeyer, V. Sturm, F. Schneider, A. Schnitzler (Duesseldorf, Germany)

770 **Active contact location and acute mood response to STN DBS stimulation in Parkinson's disease**
M.C. Campbell, P.M. Weaver, H.M. Lugar, T.O. Videen, K.J. Black, J.S. Perlmutter, T. Hershey (St. Louis, Missouri, USA)

827 **Comparison of bilateral subthalamic deep brain stimulation (STN-DBS) and duodenal levodopa infusion (DLI) in advanced Parkinson's disease (PD) patients**
M. Zibetti, A. Cinquepalmi, S. Angrisano, C. Azzaro, L. Rizzi, M. Lanotte, L. Lopiano (Torino, Italy)

### Guided Poster Tour 16 – Surgical Therapy: Other Movement Disorders

*Aguila Room, 24th Floor*
13:30 - 15:00
Thursday, June 17

Tour Leaders: Joachim Krauss, *Hannover, Germany;* Elena Moro, *Toronto, ON, Canada*

845 **Long term continuous deep brain stimulation to the internal globus pallidus in DYT1-gene positive dystonia induces lasting neural reorganization in the motor system**
D. Ruge, L. Cif, P. Limousin, V. Gonzalez, M.I. Hariz, P. Coubes, J.C. Rothwell (London, United Kingdom)

842 **Long-term clinical outcome in Meige syndrome treated with posteroventral lateral internal pallidum deep brain stimulation (GPi-DBS)**
R. Reese, D. Gruber, H. Bäzner, C. Blahak, H.-H. Capelle, D. Falk, J. Herzog, M.O. Pinsker, G.-H. Schneider, C. Schrader, G. Deuschl, H.M. Mehdorn, A. Kupsch, J. Volkmann, J.K. Krauss (Kiel, Germany)

847 **Pallidal deep brain stimulation may induce freezing of gait in patients with focal and segmental dystonia**
C. Schrader, H. Capelle, T. Kinfe, C. Blahak, H. Baezner, D. Dressler, J.K. Krauss (Hannover, Germany)

828 **Deep brain stimulation for segmental dystonia: Long-term (6-year) follow-up**
C. Blahak, H.-H. Capelle, H. Baezner, T. Kinfe, M.G. Hennerici, J.K. Krauss (Mannheim, Germany)

829 **Deep brain stimulation for camptocormia in dystonia and Parkinson's disease**
H.-H. Capelle, C. Schrader, C. Blahak, T.M. Kinfe, W. Fogel, H. Baezner, J.K. Krauss (Hannover, Germany)

## Guided Poster Tours

836 **Two year experience with DBS for pediatric onset dystonias: Generator selection**
W.A. Marks, J. Honeycutt, F. Acosta, Jr, M.A. Reed (Fort Worth, Texas, USA)

838 **Rescue DBS leads: Tailoring deep brain stimulation (DBS) when clinical symptoms do not respond as anticipated**
G. Oyama, K.D. Foote, N. Hwynn, C.E. Jacobson, P. Zeilman, J. Romrell, I.A. Malaty, H.H. Fernandez, R.L. Rodriguez, M.S. Okun (Gainesville, Florida, USA)

832 **Steady or not following thalamic deep brain stimulation for essential tremor**
N. Hwynn, C. Hass, P. Zeilman, J. Romrell, Y. Dai, S.S. Wu, K.D. Foote, S.H. Subramony, G. Oyama, F. Velez-Lago, H.H. Fernandez, A. Resnick, R.L. Rodriguez, I. Malaty, M.S. Okun (Gainesville, Florida, USA)

834 **Generalized dystonia treated with bilateral pallidotomy and bilateral subthalamic deep brain stimulation**
T. Mandat, H. Koziara, W. Bonicki, P. Nauman (Warszawa, Poland)

835 **Comparison of merged CT analysis and direct MRI visualization of GPi lead placement for deep brain stimulation**
W.A. Marks, J. Honeycutt, J. Paugh, R. Shivers, F. Acosta, Jr (Fort Worth, Texas, USA)

# 2nd WORLD PARKINSON CONGRESS

## Glasgow, Scotland, UK
## September 28 – October 1, 2010

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## Important Dates:

**June 30, 2010** – Reduced rate registration ends

**July 2, 2010** – Late-breaking abstracts close

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## Ataxia

1 **Clinical features and molecular genetics of autosomal dominant cerebellar ataxias in ethnic Bengalees**
K.B. Bhattacharyya, R. Singh, S. Basu, A. Mishra, M. Seshadri (Kolkata, West Bengal, India)

2 **Ataxia-telangiectasia: Mild and slowly progressive clinical presentation associated with two null ATM alleles**
S. Chaal, A.M. Taylor, P.F. Worth (Norwich, Norfolk, United Kingdom)

3 **Diffusion tensor imaging (DTI) tractography in autosomal recessive cerebellar ataxias (ARCA)**
M. Christophe, L.-B. Ouhaïd, A. Mathieu, K. Stephane, T. Christine (Strasbourg, France)

4 **Friedreich ataxia: Cognition and saccadic eye movement**
J. Fielding, L.A. Corben, P.D. Cremer, L. Millist, D. Hocking, O.B. White, M.B. Delatycki (Notting Hill, Victoria, Australia)

5 **Clinical spectrum and neurophysiology in a German family with a novel SCA-14 mutation**
C. Ganos, S. Zittel, C. Zühlke, V. Bernard, T. Bäumer, A. Münchau (Hamburg, Germany)

6 **Vocal cords myoclonus, progressive ataxia and horizontal gaze palsy in a patient with olivary nuclei hypertrophy and posterior fossa malformation**
P.S. Brito, J.A. Tenorio, C.O. Godeiro, Jr, J.B.R. Caldas (Natal, RN, Brazil)

7 **Aminopyridines correct presymptomatic neuronal dysfunction and improve late behavioral and cellular phenotype in a mouse model of spinocerebellar ataxia type 1 (SCA1)**
R. Hourez, L. Servais, D. Gall, M. Pandolfo, S.N. Schiffmann (Brussels, Belgium)

8 **Protective effect of valproate on SCA3/MJD transgenic cell and drosophila models**
H. Jiang, J.-P. Yi, B.-S. Tang (Changsha, Hunan, China)

9 **SCA32: An autosomal dominant cerebellar ataxia with azoospermia maps to chromosome 7q32-q33**
H. Jiang, H.-P Zhu, C.M. Gomez (Changsha, Hunan, China)

10 **Two in one: A case report of a patient with spinocerebellar ataxia types 2 and 10**
S.S. Kapur, J.G. Goldman (Chicago, Illinois, USA)

11 **Chronic and progressive ataxia program: Results of the first 30 patients**
M.A. Kauffman, D. Gonzalez Morón, F. Aguirre, L. Abaroa, V.E. Diaz Aragunde, T. Arakaki, N.S. Garretto (Buenos Aires, Argentina)

12 **Antioxidants and other pharmacological treatment for Friedreich ataxia**
M. Kearney, R.W. Orrell, M. Fahey, M. Pandolfo (Dublin, Ireland)

13 **Large normal polyQ runs underlies the highest prevalence of SCA2 in Cuba**
J.M. Laffita-Mesa, L.C. Velazquez, Y. González, Y.A. Vazquez, D. Gotay, T. Cruz-Mariño, Y. Rodríguez, L.E. Almaguer, N. Santos, G. Sánchez, D. Cuello, R. Rodríguez, A. Peña, M. Paneque, R. Rodríguez (Holguin, Cuba)

14 **Neuropathy in spinocerebellar ataxia type 1, 2, 3 and 6**
C. Linnemann, S. Tezenas du Montcel, M. Rakowicz, T. Schmitz-Huebsch, S. Szymanski, J. Berciano, B.P. Van de Warrenburg, C. Depondt, R. Rola, T. Klockgether, A. Garcia, G. Mutlu, L. Schols (Tuebingen, Germany)

15 **Safety and tolerability of lithium carbonate in spinocerebellar ataxia type 1 (SCA1) patients: Lessons from a feasibility study**
G.J. Lopez, B.A. McElroy, E. Considine, D. Haubenberger, M. Hallett (Bethesda, Maryland, USA)

16 **Electrophysiological parameters as preclinical and progression biomarkers of spinocerebellar ataxia type 2. A twenty years prospective follow up study**
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17 **Metabolic diseases revealed by cerebellar ataxia**
C. Marcel, M. Mallaret, O. Lagha-Boukbiza, L. Thomas, C. Tranchant (Strasbourg, France)

18 **Olfactory impairment in patients with spinocerebellar ataxias (SCA)**
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19 **Clinical and genetic analysis of spinocerebellar ataxia in Mali**
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20 **Effects of erythropoietin treatment on microvascularisation and metabolism of skeletal muscle in patients with Friedreich ataxia**
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21 **Classification of cerebellar atrophy using voxel-based morphometry and SPECT with an easy Z-score imaging system**
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22 **Distinct neurochemical profiles of spinocerebellar ataxias 1, 2, 6 and cerebellar MSA**
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23 **Assessment of posture using static posturography and accelerometry: Comparison of early stage Parkinson patients and elderly controls**
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25 **A novel mutation causing episodic ataxia type 2**
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26 **SCA15 is the most frequent form of autosomal dominant ataxia not caused by repeat expansions**
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27 **Different age of GAA repeat expansion of Friedreich's ataxia patients in North and South Indian population with globally shared ancestral origin**
I. Singh, M.F. Mohammed, A.K. Srivastava, O. Mukherjee, S. Jain, P.K. Pal, S.S. Suman, M.P.V. Srivastava, M. Behari, M. Mukerji (New Delhi, Delhi, India)

28 **Variable phenotype and early infantile onset of spinocerebellar ataxia type 17 (SCA17) within a family cluster**
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34 **Polysomnographic characterization in the SCA2 mutation. A two years prospective follow up study**
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35 **An integrative characterization of SCA2 in Cuba: Epidemiological, genetic neurochemical and electrophysiological findings in 7 926 Cuban carriers**
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44 **Inhibition of Ras-GRF1 signaling in the striatum reverts motor symptoms associated to L-dopa induced dyskinesia**
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45 **Effects of inflammation on substantia nigra dopamine neurons**
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73 **A new DBS clinical target for Parkinson's disease (PD) – mapping the caudal zona incerta (ZI)**
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74 **Substance P antagonists reduce onset of experimental L-DOPA induced dyskinesia**
E. Thornton, M. Hassall, R. Vink (Adelaide, South Australia, Australia)

75 **Accelerometer-based automated ambulatory-assessment of mobility in Parkinson's disease**
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76 **Caloric restriction protects against ageing diseases via NAD(H) and methyl pathways: Confirmation from pellagra**
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77 **Glial cell line-derived neurotrophic factor protects midbrain dopaminergic neurons against lipopolysaccharide neurotoxicity in the striatum-midbrain organotypic culture**
B. Xing, T. Xin, R. Hunter, Y. Chen, L. Zhao, G. Bing (Dallas, Texas, USA)

78 **Striatal neurotransmitter release-related presynaptic proteins in L-dopa induced dyskinesia in 6-hydroxydopamine model of parkinsonism**
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79 **The effects of a-synuclein overexpression in neural stem cells**
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R. Buzo, I. Amorin (Montevideo, Uruguay)

81 **Rat striatal infusion of antibodies from sydenham's chorea (SC) patients**
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82 **A family with female prevalence of "benign" paroxysmal kinesigenic choreoathetosis**
M. Fabbri, L. Di Vito, C. Marini, R. Vetrugno, F. Bisulli, P. Tinuper (Bologna, Italy)

83 **Acquired hepatocerebral degeneration: Presentation of eight patients**
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84 **Hyperglycemia associated with basal ganglia lesions and movement disorders**
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85 **Severe hyperglycemia induced hemichorea-hemiballismus with a dramatic response to tetrabenazine**
S.A. Kareus, K. Jefferies, J.J. Steffens, J.C. Wagner (Salt Lake City, Utah, USA)

86 **Acoustic analysis of prosody in dysarthric speech: A comparison of populations with basal ganglia disturbances**
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A. Schteinschnaider, G. Vazquez, C. Romero, J. Correale (Buenos Aires, Argentina)

90 **Paroxysmal kinesigenic dyskinesia with interictal myoclonus/dystonia in a family with infantile seizures and migraines: A case report**
I. Subramanian, R. Hamill (Los Angeles, California, USA)

91 **Hemichorea-hemibalism related to basal ganglia astrocytoma ipsilateral**
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Y.A. Trufanov, T.V. Mironenko (Lugansk, Ukraine)

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127 **Isolated eye lid opening apraxia with remarkable response to L-DOPA. Case report and review of literature**
I. Amorin, R. Buzo, D. Salinas (Montevideo, Uruguay)

128 **Focal dystonia affecting shoulder muscles (dancing scapula)**
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129 **Transcranial magnetic stimulation (TMS) studies in secondary dystonia**
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133 **CD-PROBE (cervical dystonia patient registry for observation of BOTOX® efficacy) — CD impact on quality of life (QOL) and patient reported outcomes (PRO)**
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134 **Two adult cases of congenital muscular torticollis successfully treated with botulinum toxin type A**
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135 **The utility of visual, tactile and mixed tasks in the determination of temporal discrimination thresholds in adult-onset primary torsion dystonia**
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136 **The temporal discrimination threshold in patients with sporadic adult-onset primary torsion dystonia and their first degree relatives**
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137 **The utility of temporal discrimination threshold testing in different adult-onset primary torsion dystonia phenotypes**
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139 **CD-PROBE (cervical dystonia patient registry for observation of BOTOX® efficacy) — preliminary safety data**
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140 **Thalamic deep brain stimulation for writer's cramp; a case report**
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143 **Successful treatment of Wilson's disease dystonia with botulinum toxin**
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144 **Family-based case-control study of coffee drinking in primary late-onset dystonia**
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145 **A transversal and longitudinal MRI-VBM study in patients with primary adult-onset cervical dystonia**
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146 **Secondary non response (SNR) to botulinum toxins type A (BoNT-A) in cervical dystonia (CD) patients: Definition and therapeutic strategies results from an international survey**
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177 **Zolpidem therapy in dystonia**
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178 **A neurophysiological study of patients with complex regional pain syndrome type I and fixed posture of the hand**
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179 **Jaw-opening oromandibular dystonia secondary to Wilson's disease. A preliminary report of 5 cases after use of botulinum toxin type A**
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182 **Linking DYT1 and DYT6 dystonia on the molecular level: Repression of DYT1 gene expression by the transcription factor activity of THAP1 (DYT6)**
A. Osmanovic, S. Orolicki, D. Braunholz, A. Rakovic, T. Lohnau, M. Albrecht, G. Gillessen-Kaesbach, K. Lohmann, C. Klein, F.J. Kaiser (Luebeck, Germany)

183 **Onset of dystonia and environmental factors in familial and sporadic primary late onset of dystonia**
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184 **The D216H (rs1801968) polymorphism in the DYT1 gene: A potential susceptibility factor for familial dystonia in Argentinean cases**
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185 **Prevalence of focal task-specific dystonia among professional musicians in a community-based study from Argentina**
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186 **The radiological signs of cervical dystonia**
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187 **Craniocervical dystonia as the presenting symptom in multiple sclerosis**
M. Poulopoulos, P.E. Greene (New York City, New York, USA)

188 **Cervical dystonia supported by imaging procedures – new method of examination for laterocollis – first results**
G. Reichel, S. Andrea (Zwickau, Germany)

189 **Spinocerebellar ataxia type 8 (SCA8) presenting as dystonia**
D.E. Riley (Cleveland, Ohio, USA)

190 **Dystonia secundary to Parry Romberg syndrome: Unresponsive to deep brain stimulation. Case report**
U. Rodríguez Ortiz, G. Cardenas, J.J. Mares Sámano, M.A. Vanegas (Distrito Federal, Mexico)

191 **Jaw clenching in anti-Ri-autoantibody-associated paraneoplastic syndrome**
E. Bekircan, C. Temucin, B. Elibol, E. Saka (Ankara, Turkey)

192 **Long-latency transcortical stretch reflexes in childhood hypertonic dystonia**
T. Sanger, S. Kukke, J. van Doornik (Los Angeles, California, USA)

193 **Spatial discrimination threshold abnormalities are not seen in a pilot study of DYT6 dystonia gene mutation carriers**
A. Deik, V.L. Shanker, D. Raymond, K. Stanley, S.B. Bressman, R. Saunders-Pullman (New York City, New York, USA)

194 **The syndrome of childhood-onset arm tremor followed by later development of cervical dystonia is a distinct dystonia subtype**
S. Schiebler, A. Schmidt, S. Zittel, T. Baeumer, C. Gerloff, C. Klein, A. Muenchau (Hamburg, Germany)

196 **Paroxysmal dystonia related to neuromyelitis optica**
F.R. Schmidt, F.H.R. Costa, F.M.L.C. Silva, H. Maultasch, A.L.Z. Rosso, D.H. Nicaretta, J.P. Mattos, S.A.P. Novis, S.V. Alves-Leon (Rio de Janeiro, Brazil)

195 **Identifying genetic risk factors of musician's dystonia**
A. Schmidt, K. Lohmann, C. Hemmelmann, H.-C. Jabusch, S. Winkler, S. Schreiber, E. Altenmueller, A. Ziegler, C. Klein (Luebeck, Germany)

197 **Modulatory effects of 5Hz rTMS over the primary somatosensory cortex in focal dystonia – an fMRI-TMS study**
S.A. Schneider, B. Pleger, B. Draganski, C. Cordivari, J.C. Rothwell, K.P. Bhatia, R. Dolan (Luebeck, Germany)

198 **The blink reflex recovery cycle distinguishes patients with benign essential blepharospasm from patients with presumed psychogenic blepharospasm**
P. Schwingenschuh, P. Katschnig, J.T. Teo, M.J. Edwards, J.C. Rothwell, K.P. Bhatia (London / Graz, United Kingdom)

199 **Comparative study of the variability of Tsui scale in patients with cervical dystonia in the resting position and on action**
F.A. Sekeff Sallem, R.M.P. do Nascimento Costa, E.R. Barbosa (Sao Paulo, Brazil)

200 **A novel exon deletion mutation of the epsilon-sarcoglycan gene in a Chinese family with myoclonus-dystonia syndrome associated with epilepsy**
R. Huang, B. Zhao, X.-H. Hu, H.-F. Shang (Chengdu, China)

201 **The results of botulinum toxin treatment for cervical dystonia**
L.P. Shperling, V.V. Vardosanidze (Novosibirsk, Russian Federation)

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### Epidemiology

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227 **A retrospective study about characteristics of Wilson's disease at tertiary care institute of North India**
A. Kumar, R. Kumar, U. Kumar, A. Sharan, S.K. Shahi (Patna, Bihar, India)

228 **Hyperechogenicity of the substantia nigra is associated with an increased risk to develop Parkinson's disease: A 37 months longitudinal multi-centre study of 1847 elderly free of PD at baseline**
I. Liepelt, K. Seppi, S. Behnke, J. Godau, F. Wollenweber, H. Stockner, U. Dillmann, A. Gaenslen, S. Kiechl, A. Di Santo, H. Huber, J. Willeit, W. Maetzler, T. Gasser, W. Poewe, D. Berg (Tuebingen, Germany)

229 **Eye movement abnormalities found in patients with parkinsonism within three months after the first visit**
J. Linder, B.-I. Wenngren, L. Forsgren (Umea, Sweden)

230 **Withdrawn by Author**

231 **Comorbid conditions in patients with Parkinson's disease: A US claims database analysis**
S. Papapetropoulos, A. Tibbetts, J. Barnard, A.S. Lanes, A. Ward, S.L. Mitchels, G.N. O'Neill (Cambridge, Massachusetts, USA)

232 **Gastrointestinal disorders in patients with Parkinson's disease: A double-edged sword**
F.F. Richy, A. Gunn, L. Makaroff, C. Gervasoni, S. Helmers (Brussels, Belgium)

233 **Parkinsonian syndromes among the community-dwelling elderly: High prevalence of vascular parkinsonism in southern Brazil**
M. Roriz-Cruz, I. Rosset-Cruz, R.C.P. Prado, A.S. Schuh, M.M. Bianchin, M.L. Chaves, C.R.M. Rieder (Porto Alegre, RS, Brazil)

234 **Clinical and demographic features of Parkinson's disease patients attending to a referral center in Mexico City**
M. Rodríguez-Violante, A. Cervantes-Arriaga, T. Corona (Mexico CIty, Mexico)

235 **The Birmingham, UK joint motor disorder clinic: A descriptive study**
L.A. Savage, N. Tarrant, H. Rickards, H. Pall (Birmingham, United Kingdom)

236 **Chronic low back pain and lumbar deformities are increased in patients with Parkinson's disease**
S. Stallforth, K. Franke, J. Franke, I. Galazky (Magdeburg, Germany)

237 **The long latencies of ALS, parkinsonism and dementia on Guam**
J.C. Steele (Tamuning, Guam, Guam)

238 **The Slovakia assisted living study: Prevalence, recognition and treatment of dementia, parkinsonism and depression in the assisted living population of Slovakia**
S. Sutovsky, K. Klobucnikova, V. Volarikova, R. Traubnerova, P. Turcani (Bratislava, Slovakia (Slovak Republic))

239 **Prevalence of parkinsonism in a health maintenance organization from Buenos Aires City**
J.P. Tartari, C.V. Stefani, D.J. Bauso, D. Giunta, J.I. Rojas, E. Cristiano (Ciudad de Buenos Aires, Argentina)

240 **Involuntary movement in Bickerstaff brainstem encephalitis**
M. Tatsumoto, M. Odaka, K. Funakoshi, K. Hirata, N. Yuki (Tochigi, Japan)

241 **Combining data from healthcare databases in Europe: A study of dopamine agonists**
G. Trifiro', J. Dieleman, M.M. Mokhles, E. van Soest, G. Mazzaglia, R. Herings, G. Brusselle, A. Colao, W. Haverkamp, R. Schade, G. Van Camp, R. Zanettini, C. de Luise, D. Ross, M. Sturkenboom (Rotterdam, Netherlands)

242 **The emerging role of spinocerebellar ataxia 17 in a Canadian movement disorders clinic**
K.M. Wiltshire, S. Furtado, S. Kraft, J. Parboosingh, O. Suchowersky (Calgary, Alberta, Canada)

243 **Attributable risk of passive community metal exposure on urban incident Parkinson's disease: A GIS study of medicare beneficiaries**
A. Wright Willis, B.A. Evanoff, M. Lian, S.R. Criswell, B.A. Racette (St. Louis, Missouri, USA)

244 **Malignancy frequency analysis in a Parkinson's disease patients sample**
I. Ybot, F. Vivancos, A. Tallon, E. D-Tejedor (Madrid, Spain)

### Gene Therapies and Cell-based Therapies

245 **Transgenic porcine xenografts: A model of brain immune response in parkinsonian primates**
R. Aron Badin, A. Padoan, M. Vadori, M. Boldrin, L. Chavicchioli, G.M. De Benedictis, F. Fante, M. Seveso, D. Sgarabotto, C. Jan, V. Daguin, P. Naveilhan, I. Neveu, J.P. Soulillou, B. Vanhove, M. Plat, F. Botte, F. Venturi, L. Denaro, R. Manara, P. Zampieri, D. D'Avella, D. Rubello, E. Ancona, P. Hantraye, C. Emanuele (Fontenay-aux-Roses, France)

246 **Derivation of dopaminergic neurons from human embryonic stem cells and IPS cells in animal-free conditions ready to use them in a treatment of Parkinson's disease**
S. Erceg, J. Kostic, V. Moreno-Manzano, M.A. Perez Arago, L.G. Maria, M. Ronaghi, P. Stojkovic, M. Stojkovic (Valencia, Spain)

247 **Evidence of motor recovery after retinal pigment epithelial (RPE) cells implantation in the rat model of Parkinson's disease (PD)**
H. Gambhir, S. Vivekanandhan, V. Goyal, R. Mathur, M. Behari (New Delhi, Delhi, India)

248 **Investigation of optimal transduction targets in the nigrostriatal system for pleiotrophin gene therapy in a parkinsonian rodent model**
S.E. Gombash, T.J. Collier, B.F. Daley, S.L. Wohlgenant, N.D. Levine, B.T. Terpstra, R.J. Mandel, F.P. Manfredsson, C.E. Sortwell (Cincinnati, Ohio, USA)

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249 **A phase I clinical trial on the safety and efficacy of ProSavin® a dopamine replacement gene therapy for Parkinson's disease (PD): An interim report**
B. Jarraya, H. Lepetit, S. Ralph, J. Miskin, J.-M. Gurruchaga, M. Vinti, G. Fenelon, P. Brugieres, K. Abhay, I. Gabriel, S. Boulet, C. Jan, S. Kingsman, P. Cesaro, P. Hantraye, P. Remy, K. Mitrophanous, S. Palfi (Paris, Creteil, France)

250 **Enriching the environment for haematopoietic stem cell transplantation in MPTP-treated primates**
L.P. Kelly, M.B. Newman, R.A.E. Bakay (Chicago, Illinois, USA)

251 **Therapeutic microinjection of autologous adult human neural stem cells and differentiated neurons for Parkinson's disease: Five-year post-operative outcome**
M.F. Levesque, T. Neuman, M. Rezak (Los Angeles, California, USA)

252 **Grafted serotonin neurons aggravate L-DOPA induced dyskinesia: In vivo evidence by microdialysis and [18F] fallypride PET imaging**
G. Sahin, S. Lavisse, L. Rbah, T. Bjorklund, M. Carta, L. Thompson, P. Hantraye, D. Kirik (Lund, Sweden)

253 **Restore neurotrophin signaling to enhance functional restoration following neural stem cell transplantation in Parkinson's disease**
K. Seth, A. Shukla, R.W. Ansari, R.K. Chaturvedi, A.K. Agrawal (Lucknow, UP, India)

254 **Vascular endothelial growth factor-B186 improves motor behavior in vivo in a rat model of Parkinson's disease**
X. Yue, T. Falk, S. Zhang, S.J. Sherman (Tucson, Arizona, USA)

### Huntington's disease

255 **Postural control in Huntington's disease – cross sectional results from the TRACK-HD study**
N. Bechtel, R. Scahill, C. Jauffret, A. Sturrock, S. van den Bogaard, E. t'Haart, A. Patel, M.J. Say, J. Read, T. Acharya, D.R. Langbehn, H. Johnson, B. Leavitt, A. Durr, R.A.C. Roos, S.J. Tabrizi, R. Reilmann, the TRACK-HD Investigators (Muenster, Germany)

256 **Evaluating methods to enrich clinical trial populations in individuals at-risk for Huntington's disease: The prospective Huntington's disease observational at-risk study (PHAROS)**
K.M. Biglan, S. Eberly, D. Oakes, E. Kayson, J. Warner, A.B. Young, I. Shoulson, HSG PHAROS Investigators (Rochester, New York, USA)

257 **Longitudinal analysis of intermediate CAGn repeat length expansion in the prospective Huntington's disease at-risk observational study (PHAROS)**
K.M. Biglan, J. Jankovic, S. Eberly, E. Kayson, D. Oakes, A.B. Young, I. Shoulson, HSG PHAROS Investigators (Rochester, New York, USA)

258 **Intergenerational variability of Huntington's disease (HD) with intermediate CAG repeat lengths: A case report**
N.L. Chan, Y. Bordelon, W. Grody, S. Perlman (Los Angeles, California, USA)

259 **Cognition and brain metabolism of preclinical mutation carriers of huntington's disease: A follow-up study**
M. Dekker, J.C.H. van Oostrom, C.K. Jurgens, M.-N.W. Witjes-Ané, J.M. Spikman, R.A.C. Roos, K.L. Leenders (Groningen, Netherlands)

260 **Are gait and step initiation parameters early markers of Huntington's disease in presymptomatic mutation carriers?**
A. Delval, S. Bleuse, C. Simonin, M. Delliaux, B. Roland, L. Defebvre, K. Dujardin, P. Krystkowiak (lille, France)

261 **Impact of caffeine intake on Huntington's disease (HD) course**
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262 **Two case reports of "almost homozygous" alleles in patients afflicted with Huntington's disease with divergent clinical manifestations**
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263 **[123I]-FP-CIT/SPECT for evaluating dopamine presynaptic terminal involvement in Huntington's disease: A pilot study**
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264 **Sleep and sleepiness in Huntington's disease (HD): Effects on patient and caregiver quality of life**
R. Gupta, B. Ankush, L. Sue, S. Kathleen (Chicago, Illinois, USA)

265 **Pioglitazone ameliorates behavioral, biochemical and cellular alterations in quinolinic acid induced neurotoxicity: Possible role of peroxisome proliferator activated receptor-¡ (PPAR¡) in Huntington's disease**
H. Kalonia, P. Kumar, A. Kumar (Chandigarh, India)

266 **Nigrostriatal function in Huntington's disease: Evidence from a SPECT study**
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267 **The iron content in brains in Huntington's disease**
J. Klempir, J. Vymazal, R. Jech, J. Zidovska, M. Syka, J. Keller, M. Kucharik, J. Stochl, J. Roth (Prague, Czech Republic)

268 **Valproate increases the survival in a transgenic mouse model of Huntington's disease**
P. Klivenyi, D. Zadori, A. Geisz, E. Vamos, L. Vecsei (Szeged, Hungary)

269 **Effect of MK-801 against intra-striatal quinolinic acid induced Huntington's like behavioral, oxidative stress and cellular alterations in rats**
A. Kumar, H. Kalonia, P. Kumar, B. Nehru (Chandigarh, India)

270 **Using the Mattis Dementia Rating Scale (DRS) to track cognitive change in Huntington's disease (HD)**
S.L. Lessig, J.L. Goldstein, S. Edland, J. Corey-Bloom (La Jolla, California, USA)

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271 **Efficacy and safety of the dopaminergic stabilizer pridopidine (ACR16) in patients with Huntington's disease**
A. Lundin, E. Dietrichs, S. Haghighi, M.-L. Göller, A. Heiberg, G. Loutfi, H. Widner, K. Wiktorin, L. Wiklund, A. Svenningsson, C. Sonesson, N. Waters, S. Waters, J. Tedroff (Stockholm, Sweden)

272 **Therapeutic indications and prescription habits in Huntington's disease: Results from the REGISTRY observational study**
T.A. Mestre, M. Coelho, J.J. Ferreira, European Huntington Disease Network (EHDN) REGISTRY Study Group (Lisboa, Portugal)

273 **Assessing patients' access to tetrabenazine (xenazine) after FDA approval**
A.M. Palao, G. Mostile, C.B. Hunter, J. Jankovic (Houston, Texas, USA)

274 **Estimation of prevalence and molecular characteristics among Huntington's disease patients of Argentina**
E.M. Gatto, V. Parisi, G.G. Persi, J.L. Etcheverry, F. Leiguarda, A.P. López, V. Varela (Buenos Aires, Argentina)

275 **Decreased levels of serotonin receptors in the basal ganglia of a murine Huntington's disease model**
X. Zhang, M. Paucar, P. Svenningsson (Stockholm, Sweden)

276 **Lack of interaction between acidic nuclear phosphoprotein 32 family member E (ANP32e), protein phosphatase 2A (PP2A) and amino-terminal fragments of mutant huntingtin (Htt) in human neuritic striatal aggregates**
C. Perandones, R.V. Costanzo, F.E. Micheli, M. Radrizzani (Ciudad Autonoma de Buenos Aires, Argentina)

277 **Clinical features of Huntington's disease in 241 Chinese patients**
X.-Y. Guo, S.-S. Zhang, B. Zhao, R. Huang, H.-F. Shang (Chengdu, China)

278 **Molecular diagnosis of Huntington's disease in Peruvian population**
G. Torres, C. Timana, M. Cornejo, V. Marca, O. Ortega, L. Torres, P. Mazzetti (Lima, Peru)

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279 **Impulsive control disorders in Parkinson's disease**
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280 **Is alexithymia a non-motor symptom of Parkinson's disease?**
F. Assogna, F.E. Pontieri, L. Cravello, K. Palmer, M. Pierantozzi, A. Stefani, W. Gianni, A. Peppe, C. Caltagirone, G. Spalletta (Roma, Italy)

281 **Prevalence of dopamine-related behaviour disorders in parkinsonian patients treated with continuous subcutaneous infusion of apomorphine**
A. Eusebio, C. Brefel-Courbon, C. Moreau, C. Tranchant, F. Viallet, T. Witjas, J.-P. Azulay (Marseille, France)

282 **Parkinson's disease psychosis (PDP): An under-diagnosed condition in spite of its prevalence and impact**
H. Fernandez, F. Lio, J. Kaiser, P. Davis, P. Peters, H. Williams, D. Bahr, R. Mills (San Diego, California, USA)

283 **The relationship between mood and motor phenotype in Parkinson's disease (PD)**
D.J. Burn, S. Landau, J.V. Hindle, M. Samuel, K.C. Wilson, C.S. Hurt, R.G. Brown (Newcastle upon Tyne, Tyne and Wear, United Kingdom)

284 **Facial emotion recognition in Parkinson's disease**
L. Cravello, F. Assogna, F.E. Pontieri, A. Peppe, M. Pierantozzi, A. Stefani, C. Pellicano, C. Caltagirone, G. Spalletta (Roma, Italy)

285 **Improvement of punding behavior after bilateral subthalamic stimulation**
V. Czernecki, M. Schupbach, F. Pineau, J.-C. Corvol, M. Vidailhet (Paris, France)

286 **Risk and learning in impulsive and non-impulsive patients with Parkinson's disease**
A. Djamshidian, A. Jha, S. O'Sullivan, L. Silvera-Moriyama, C. Jacobsen, P. Brown, A. Lees, B. Averbeck (London, United Kingdom)

287 **Predictors of impulse control disorders in MMPI-2 in patients suffering from Parkinson's disease: A pilot study**
K. Farnikova, R. Oberreigneru, P. Kanovsky (Olomouc, Czech Republic)

288 **Clinical characteristics of patients with visual hallucinations (VH) in PD**
D. Gallagher, A. Lees, A. Schrag (London, United Kingdom)

289 **Ophthalmic pathology and visual hallucinations (VH) in PD**
D. Gallagher, A. Spratt, A. Shah, F. Bremner, C. Davey, A. Lees, A. Schrag (London, United Kingdom)

290 **Testing an aetiological model of visual hallucinations in Parkinson's disease**
D. Gallagher, A. Lees, A. Schrag (London, United Kingdom)

291 **Reckless driving associated with dopamine agonist use**
A.F. Griffith, P. Agarwal, M. Borromeo-Wesner (Kirkland, Washington, USA)

292 **Frequency and type of impulse control disorders occurring in Parkinson's disease patients treated with dopamine agonists in a 2 year retrospective study**
A. Hassan, J.H. Bower, N. Kumar, J.Y. Matsumoto, R.D. Fealey, K.A. Josephs, J.E. Ahslkog (Rochester, Minnesota, USA)

293 **External cueing improves temporal characteristics of motor imagery in patients with Parkinson's disease**
E. Heremans, P. Feys, A. Nieuwboer, S. Vercruysse, W. Vandenberghe, N. Sharma, W. Helsen (Heverlee, Belgium)

294 **Evolution of hyperdopaminergic behaviors in PD patients treated with dopamine agonists**
H. Hesekamp, M. Schüpbach, F. Pineau, V. Czernecki, A.-M. Bonnet, M.-L. Welter, M. Vidailhet, E. Roze, J.-C. Corvol (Paris, France)

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### Parkinson's disease: Clinical Trials

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319 **MOTION (safinaMide add-On To dopamine agonist in early Idiopathic ParkinsON's disease) study design: A 24-week, double-blind, placebo-controlled study of the efficacy and safety of safinamide**
P. Barone, H. Fernandez, J.J. Ferreira, T. Müller, M. Saint-Hilaire, M. Stacy, E. Tolosa, F. von Raison, C. Kenney, B. Musch (Napoli, Italy)

320 **Controlled study of intermittent theta-burst transcranial magnetic stimulation for the treatment of Parkinson's disease**
D. Benninger, B. Berman, E. Houdayer, N. Pal, D. Luckenbaugh, L. Schneider, S. Miranda, M. Hallett (Bethesda, Maryland, USA)

321 **AFQ056 treatment of severe levodopa-induced dyskinesias: Proof of concept study**
D. Berg, J. Godau, C. Trenkwalder, K. Eggert, I. Csoti, A. Storch, F. Gasparini, S. Hariry, M. Vandemeulebroecke, D. Johns, B. Gomez-Mancilla (Tubingen, Germany)

322 **Memantine improves "off periods" in patients with advanced Parkinson's disease**
O. Bernal-Pacheco, R.L. Rodriguez, I.U. Haq, S.S. Wu, M.S. Okun, I.A. Malaty, C.E. Jacobson, H.H. Fernandez (Gainesville, Florida, USA)

323 **Rationale and design of the IMPACT study: A cluster controlled trial to evaluate cost-effectiveness of multidisciplinary care in Parkinson's disease**
M.A. van der Marck, B.R. Bloem, W.M. Mulleners, E.M. Hoogerwaard, S. Overeem, E.M.M. Adang, G.F. Borm, M. Munneke (Nijmegen, Netherlands)

324 **Effect of safinamide on depressive symptoms in patients with mid-late stage Parkinson's disease**
R. Borgohain, N.A. Mehta, O.A. Bajenaru, R. Quatrale, V. Lucini, R. Anand, the Study 016 investigators (Hyderabad, India)

325 **Effect of subthalamic nuclei deep brain stimulation on pain in Parkinson's disease: A clinical and neuroimaging study**
E. Dellapina, F. Ory-Magne, L. Calvière, W. Regragi, P. Payoux, C. Brefel-Courbon (Toulouse, France)

326 **Pardoprunox adjunctive to L-dopa for treating motor symptoms in advanced PD: Results from a randomized, double-blind, placebo-controlled study**
J.B. Bronzova, C. Sampaio, R.A. Hauser, A. Lang, O. Rascol, S.V. Van de Witte, A. Theeuwes (Weesp, Netherlands)

327 **A multi-center, placebo-controlled, double-blind trial to examine the safety and efficacy of pimavanserin in the treatment of psychosis in Parkinson's disease**
J.H. Friedman, B. Ravina, R. Mills, H. Williams, D. Bahr, P. Peters, F. Tison, D. Burn (Newcastle upon Tyne, United Kingdom)

328 **Global motor training with rythmical auditory cues improve and maintain balance control in Parkinson's disease (PD) patients**
T. Capato, M.E. Piemonte (Sao Paulo, Brazil)

329 **Effect of rotigotine on control of early morning motor function in Parkinson's disease: RECOVER study**
C. Trenkwalder, B. Kies, M. Rudzinska, J. Fine, J. Nikl, D.L. Hill, T. Anderson, E. Surmann, J. Whitesides, B. Boroojerdi, K.R. Chaudhuri, on Behalf of the RECOVER Study Group (London, United Kingdom)

330 **Effect of the exercise program on postural stability in Parkinson's disease**
H.R. Sung, B.K. Chae, H.-Y Jo, S.H. Choi, S.-M. Cheon, J.W. Kim (Busan, Republic of Korea)

332 **Homocysteine-lowering or antioxidant therapy for bone loss in Parkinson's disease**
S.J. Chung, S.H. Lee, M.J. Kim, B.-J. Kim, S.R. Kim, S. Chun, J.S. Ryu, G.S. Kim, M.C. Lee, J.-M. Koh (Seoul, Korea)

331 **Baseline measurement and demographics of patients with Parkinson's disease referred for physiotherapy: A retrospective study**
C.L.H.A. Chung, M.D. Barathi (Singpaore, Singapore)

333 **Repetitive transcranial magnetic stimulation using the H-coil for Parkinson's disease**
O.S. Cohen, S. Hassin-Baer, R. Amiaz, Z. Nitzan, L. Ephraty, I. Avisar, H. Strauss, K. Evgenia, A. Zangen (Ramat-Gan, Israel)

334 **Nocturnal symptoms response in patients with advanced Parkinson's disease treated with ropinirole prolonged release or placebo**
P. Martinez-Martin, R. Coles, K. Rolfe, A. Lipschitz, W. Ondo (Brentford, United Kingdom)

335 **Improvements in awake time spent "on" throughout the day in patients with advanced Parkinson's disease treated with adjunctive ropinirole prolonged release**
K.R. Chaudhuri, K. Rolfe, A. Lipschitz, J. Cooper (Brentford, United Kingdom)

336 **Clinical prospective controlled trial to determine the rasagiline efficacy in the symptomatic improvement of Parkinson's disease in patients under 50 years**
E. Cornejo-Valse, C. Cuevas, G. Neri-Nani, F. Delgado, E. Siliézar-Pineda, L. Cornejo-Valse, A. Calderón-Vallejo (San Salvador, El Salvador)

337 **Correlation study between nigrostriatal denervation and pain in Parkinson's disease**
E. Dellapina, F. Ory-Magne, E. Harroch, P. Payoux, C. Brefel-Courbon (Toulouse, France)

338 **The investigation of the effect of exercises on static and dynamic balance using balance master in Parkinson's disease**
B. Kara, A. Genc, B. Donmez Colakoglu, R. Cakmur (Izmir, Turkey)

339 **Methylphenidate for the treatment of gait impairment in Parkinson's disease: A randomized, double-blind, placebo-controlled cross-over trial**
A.J. Espay, A. Kumar Dwivedi, S. Savage, L. Gaines, J.E. Vaughan, M. Gartner, A. Sahay, F.J. Revilla, A.P. Duker, R. Shukla (Cincinnati, Ohio, USA)

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364 **Efficacy and safety of rotigotine transdermal application in levodopa-treated patients with Parkinson's disease (PD)**
M. Nomoto, T. Kondo, K. Hasegawa, M. Murata, N. Hattori, Y. Mizuno, Rotigotine Study Group (Tohon, Ehime, Japan)

365 **Improved fluctuations following retinal fetal cell implantation compared to controls**
W.G. Ondo (Houston, Texas, USA)

366 **Safety and tolerability profile of the adenosine a2A receptor antagonist BIIB014 in healthy volunteers: Pooled analysis of four phase 1 studies**
S. Papapetropoulos, P. He, Y. Zhu, G.N. O'Neill, K. Kwiatkowski, K. Donaldson (Cambridge, Massachusetts, USA)

367 **Safety and tolerability profile of the adenosine A2A receptor antagonist BIIB014 in Parkinson's disease: Pooled analysis of two placebo-controlled 8-week studies**
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378 **SETTLE study design: A 24-week, double-blind, placebo-controlled study of the efficacy and safety of safinamide as add-on therapy to levodopa in patients with Parkinson's diseases Add-On Therapy to Levodopa in Patients with Parkinson's disease**
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449 **Deep brain stimulation of the subthalamic nucleus increases blood glucose in patients with Parkinson's disease**
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480 **Electrophysiologic analysis of reaction time variability in patients with Parkinson's disease**
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481 **Chronic local field potential recordings for adaptive deep brain stimulation**
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482 **Altered parieto-motor functional connectivity in Parkinson's disease**
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483 **Modulation of dysarthropneumophonia in advanced Parkinson's disease by low-frequency subthalamic nucleus deep brain stimulation**
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484 **Radicular and nonradicular back pain in Parkinson's disease patients**
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486 **Involvement of cerebellothalamocortical pathway in generating tremor in Parkinson's disease**
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487 **STN hole in Parkinson patients**
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488 **Mu rhythm and rigidity in parkinsonian patients with DBS**
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489 **Subthalamic deep brain stimulation in Parkinson's disease: Influence of pulse width on motor, verbal and depressive symptoms**
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490 **Enhanced intrinsic excitability of striatal cholinergic interneurons in a rat model of Parkinson's disease**
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491 **Intermittent synchronous neural oscillations in subthalamic nucleus in Parkinson's disease**
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492 **Intraoperative microelectrode recording in Parkinon's disease reveals STN subdivisions by means of discharge pattern and waveform**
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493 **High frequency stimulation of subthalamic nucleus restore to a normal level the enhanced group II spinal excitation observed at cervical level in patients with Parkinson's disease**
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494 **Effect of micro lesion during complex tasks in basal ganglia dysfunctions**
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495 **Rate-dependent impairments in repetitive finger movements in Parkinson's disease are associated with tonic suppression of movement-related cortical oscillations**
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496 **Effect of partial weight supported treadmill gait training on cardio autonomic modulation in patients with Parkinson's disease**
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497 **Patients with Parkinson's disease have a less differentiated muscle activation pattern than healthy controls during manual circle movement**
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498 **Initiation and inhibition of wrist movements in parkinson patients and healthy controls**
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499 **Antidromic activation of subthalamic neurons by contralateral subthalamic deep brain stimulation in Parkinson's disease**
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500 **Effects of STN DBS on saccade latency – analysis using a probability distribution (the LATER model)**
A. Yugeta, Y. Terao, H. Fukuda, R. Okiyama, F. Yokochi, M. Taniguchi, R. Hanajima, Y. Ugawa (Tokyo, Japan)

501 **Levodopa and deep brain stimulation partially harness different therapeutic mechanisms**
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504 **The use of the original and new UPDRS in Tanzanian patients with Parkinson's disease**
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505 **Comparison of the toe tapping component of the MDS-UPDRS motor scale with leg agility and finger tapping**
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507 **Developing a better UPSIT for PD**
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509 **Use of smell test identification in Parkinson's disease in Mexico**
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510 **Evaluation of autonomic dysfunction in Parkinson's disease using SCOPA-AUT scale**
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511 **Expression of psychotic symptoms in Parkinson's disease as assessed by the scale for the assessment of positive symptoms (SAPS)**
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516 **Asymptomatic pulmonary dysfunction in Parkinson's disease**
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517 **Learning perspective on paradoxical kinesia (PK) in Parkinson's disease (PD)**
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518 **Accuracy of archimedes spiral analysis in differentiating tremor dominant Parkinson's disease from tremulous subjects without evidence of dopaminergic deficit (SWEDDS): An FP-CIT validated study**
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519 **Epidemiology of Parkinson's disease in Argentina. National registry of Parkinson's disease Parkinson en movimiento program**
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520 **Valosin-containing protein (VCP) gene mutation and Parkinson's disease (PD): A case report**
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521 **Congenital mirror movements associated with Parkinson's disease: Clinical and neurophysiological observations**
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522 **Some clinical and epidemiological features of a Peruvian cohort of patient with Parkinson's disease**
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523 **Clinical management of depression and apathy in early Parkinson's disease: The animo study**
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524 **Split-belt locomotion in Parkinson's disease reveals how asymmetry interferes with interlimb coordination**
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525 **Gait analysis using a wearable accelerometer system: Comparison between control subjects and patients with Parkinson's disease**
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528 **Dyskinesia-hyperpyrexia syndrome: Another Parkinson's disease emergency**
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529 **Risk factors for freezing of gait in Parkinson's disease**
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533 **Differences in myocardial sympathetic degeneration and the clinical features of subtypes of Parkinson's disease**
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536 **Bradykinesia in Parkinson's disease and related conditions**
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541 **Detection of falls in fluctuated Parkinson's disease: Combination of fall reports and motion recordings**
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542 **Paradoxical kinesia in parkinsonian patients surviving earthquake**
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543 **Lateral spine deviation in Parkinson's disease**
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544 **The relationship between balance, as measured by clinical posturography, and vitamin D in Parkinson's disease**
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545 **Relationship of brain organochlorine levels with total dopamine concentration in the caudate and the putamen: The Honolulu-Asia aging study**
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546 **Camptocormia in Parkinson's disease: Cystonia, myopathy or something else?**
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547 **Argentinian national registry of Parkinson's disease Parkinson en movimiento program**
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548 **T2* relaxation time in patients with early Parkinson's disease and increased iron cerebral deposition**
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549 **Handedness and Parkinson's disease**
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550 **Characteristics of PD patients according to the age of onset: Dopaminergic load and motor complications**
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551 **Mirror movements in Parkinson's disease; disturbance of motor lateralization beyond the level of basal ganglia**
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552 **Neuropathic mechanisms contribute to pain in Parkinson's disease: A cross-sectional study**
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556 **Steroid responsive camptocormia in a patient with PD showing focal myopathic abnormality of the paraspinal muscles**
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557 **Gait characteristics during dual tasking in depressed and non-depressed Parkinson's disease patients**
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558 **The effect of saccade intrusion on the latency of subsequent voluntary motor and oculomotor actions in normal subjects and patients with Parkinson's disease**
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559 **Laryngeal resistance as a marker of altered aerodynamic mechanism in parkinsonian dysarthria**
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561 **Association between cognitive measures and falls and near falls in Parkinson's disease**
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562 **Categorization of falls and near falls in Parkinson's disease**
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563 **Atrophy, autocarnivory amd informatic mismatches determine neurological disability: Lessons from pellagra**
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565 **Motor fluctuations and pharmacological treatment of Parkinson's disease in Argentina. First national registry of Parkinson's disease: Parkinson en movimiento**
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568 **Why do clinicians request DaT scans? An analysis of requesting practice and outcome in 455 consecutive scans**
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571 **Patterns of morphological change in basal ganglia (BG) structures in Parkinson's disease (PD)**
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572 **Effects of levodopa and the feedback process on set-shifting in Parkinson's disease**
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573 **Magnetic susceptibility of substantia nigra in Parkinson's disease: A 7T in vivo MRI study**
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574 **In vivo marker of substantia nigra depigmentation in Parkinson's disease using optimised neuromelanin sensitive MRI at 3Tesla**
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575 **Changes of basal ganglia detected by transcranial sonography and 123I FP-CIT SPECT**
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576 **Subthalamic-cortical resting state (fMRI-) functional connectivity is increased in early Parkinson's disease**
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579 **Quantitative measurement of indirect pathway activation and default mode network deactivation by the adenosine A2a antagonist SYN115 in Parkinson's disease**
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580 **Imaging gambling severity in patients with Parkinson's disease: Evidence of fronto-striatal disconnection retinal morphology in Parkinson's disease (PD)**
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581 **Reduced dopamine transporter density in the ventral striatum of PD patients with impulse control disorders**
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586 **Transcranial sonography in idiopathic Parkinson's disease, monogenic forms and asymptomatic mutation carriers (parkin, LRRK2 and GBA)**
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589 **Automatic brain image reading for the differential diagnosis between atypical parkinsonian syndromes & Parkinson's disease**
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590 **DTI and probabilistic tractography of the premotor to basal ganglia connections in healthy subjects and patients with Parkinson's disease**
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591 **Diffusion tensor MRI of new brainstem areas can distinguish PSP from PD and MSA-P**
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592 **Comparative neuroimaging study of PD and DLB by diffusion tensor imaging, voxel based morphometry and SPECT**
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593 **How do the basal ganglia generate resting tremor in Parkinson's disease?**
R.C. Helmich, M. Jansen, W.J. Oyen, I. Toni, B.R. Bloem (Nijmegen, Netherlands)

594 **Can 123I-FP-CIT SPECT detect preclinical nigrostriatal deficit in "de novo" Parkinson's disease patients?**
J. Hernandez-Vara, C. Lorenzo-Bosquet, G. Cuberas-Borros, O. De Fabregues-Boixar, A. Palasi-Franco, M. Barios-Profitos, J. Castell-Conesa, J. Alvarez-Sabin (Barcelona, Spain)

595 **Inter-rater reproducibility and accuracy of measurement of the substantia nigra using transcranial B-mode sonography (TCS)**
H. Huber, J. Godau, A. Gaenslen, K. Brockmann, D. Berg (Tuebingen, Germany)

596 **Olfactory impairment in early Parkinson's disease and white matter abnormalities in central olfactory areas. A voxel-based diffusion tensor imaging study**
N. Ibarretxe-Bilbao, C. Junque, M.J. Marti, F. Valldeoriola, P. Vendrell, N. Bargallo, M. Zarei, E. Tolosa (Barcelona, Spain)

597 **From where begins? The degeneration of substantia nigra pars compacta in Parkinson's disease**
K. Isonishi, F. Moriwaka, K. Ito, S. Kaneko, T. Kashiwaba (Sapporo, Hokkaido, Japan)

598 **Sonographical features in idiopathic Parkinson's disease and correlation with clinical parameters**
L. Ispierto, D. Vilas, P. Latorre, A. Davalos, R. Alvarez (Badalona, Spain)

599 **Baseline characteristics of the PARS study cohort**
D. Jennings, A. Siderowf, M. Stern, K. Hawkins, J. Seibyl, K. Marek (New Haven, Connecticut, USA)

600 **Evaluation of mGluR5 in early Parkinson's disease using 18F-FPEB PET imaging**
D. Jennings, D. Russell, G. Tamagnan, O. Barrett, J. Seibyl, K. Marek (New Haven, Connecticut, USA)

601 **Characterisation of resting oscillatory cortico-subthalamic connectivity in patients with Parkinson's disease**
A. Jha, V. Litvak, T. Foltynie, P. Limousin, L. Zrinzo, M. Hariz, G. Barnes, K. Friston, P. Brown (London, United Kingdom)

602 **Study of the changes in the cerebral metabolic activity measured by 18F-FDG PET during the progression of dopaminergic depletion induced by unilateral lesion of the nigrostriatal pathway in rats**
C. Juri, M. Collantes, B. Gago, E. Prieto, E. Iglesias, M. Rodriguez-Oroz, I. Penuelas, J.A. Obeso (Pamplona, Spain)

603 **Role of striatal interdependence in the compensation of dopaminergic depletion in early Parkinson's disease**
C. Juri, J. Arbizu, J. Blesa, M. Rodriguez-Oroz, E. Iglesias, E. Prieto, M. Collantes, I. Penuelas, J.A. Obeso (Pamplona, Spain)

604 **Neuromelanin-sensitive nigral volume is reduced in patients with multiple system atrophy and progressive supranuclear palsy**
K. Kashihara, T. Imamura, T. Shinya (Okayama, Japan)

605 **Neuroimaging of dopaminergic function in a case of Perry syndrome**
R. Kuriakose, S. Appel-Cresswell, J. MacKenzie, L. Grantier, V. Sossi, M.J. Farrer, Z.K. Wszolek, A.J. Stoessl (Vancouver, British Columbia, Canada)

606 **Paramagnetic signals in Wilson's disease demonstrated by susceptibility-weighted magnetic resonance imaging**
J.-H. Lee, D.-S. Kim, S.-K. Baik (Yangsan-si, Gyeongsangnam-do, Republic of Korea)

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607 **Effects of aging on [18F]FP-CIT PET measures in normal subjects and PD patients**
C.S. Lee, S.-Y. You, C.-G. You, K.-A. Kim, J.-S. Kim (Seoul, Republic of Korea)

608 **A multimodal assessment of the brainstem using 3T MRI in PSP and PD**
L.A. Massey, C.D. Sinclair, L.C. Mancini, M.J. White, J.S. Thornton, A.J. Lees, T.A. Yousry, H.R.J. Jager (London, United Kingdom)

609 **Blinded analysis of conventional MR images in a cohort of pathologically confirmed parkinsonian illnesses at the QSBB**
L.A. Massey, C.D. Micallef, D.C. Paviour, S.S. O'Sullivan, D.J. Burn, J.L. Holton, T.A. Revesz, A.J. Lees, N.C. Fox, H.R. Jager (London, United Kingdom)

610 **Differences in effective connectivity between tremor-predominant (PDT) and akinetic-rigid (PDAR) variants of Parkinson's disease (PD)**
M.J. McKeown, S.J. Palmer, J. Li, J. Wang (Vancouver, British Columbia, Canada)

611 **Region-specific cerebral atrophy in Parkinson's disease without dementia, identified with 3T MRI and voxel-based morphometry**
A.M. Meppelink, B.M. de Jong, K.L. Leenders, L. Teune, T. van Laar (Groningen, Netherlands)

612 **Transcranial brain parenchyma sonography in Parkinson's disease**
M. Mijajlovic, I. Petrovic, M. Svetel, E. Stefanova, V.S. Kostic (Belgrade, Serbia)

613 **Mapping neurodegeneration in Parkinson's disease: A pilot functional MRI study**
F.B. Nahab, P. Kundu, H.M. Islam, A.M. Mittel, D. Severino, B. Levin, P.M. Pattany (Miami, Florida, USA)

614 **Characterizing brainstem functional connectivity in essential tremor**
H.M. Islam, M.B. Blanco, P.M. Pattany, P. Kundu, C. Myerson, B. Levin, H. Katzen, D. Severino, M. Hallett, F.B. Nahab (Miami, Florida, USA)

615 **Nigro-striatal signature from MRI markers in Parkinson's disease**
P. Péran, A. Cherubini, F. Assogna, O. Rascol, P. Celsis, J.-F. Démonet, A. Peppe, C. Caltagirone, F. Pontieri, G. Spalletta, U. Sabatini (Roma, Italy)

616 **Serotonin and fatigue in Parkinson's disease. An exploratory PET study**
N. Pavese, V. Metta, S.K. Bose, K.R. Chaudhuri, D.J. Brooks (London, United Kingdom)

617 **Experience with dopamine transporter (DAT) scan in patients with parkinsonism in Mumbai, India**
W.M. Pettarusp, S. Hina, D. Joy, L. Vikram (Mumbai, Maharashtra, India)

618 **Dopamine transporter SPECT in autopsy-confirmed MSA and Parkinson's disease**
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619 **Metabolic and network correlates of disease severity in multiple system atrophy**
K. Poston, C. Tang, T. Eckert, S. Frucht, J.-P. Vonsattel, S. Fahn, D. Eidelberg (Stanford, California, USA)

620 **Equivocal DAT – SPECT scan and clinical outcome over 4 years**
S. Raha, L. Ebenezer, G. Middleton, G. Tudor (Bridgend, United Kingdom)

621 **Evaluation of novel radiotracers targeting non-dopaminergic striatal biomarkers in HD: [18F]FPEB and PET imaging for metabotrophic glutamate receptor type 5 (mGluR5) in healthy subjects and subjects with Huntington's disease (HD)**
D.S. Russell, D.L. Jennings, G. Tamagnan, D. Alagilles, R.E. Carson, O. Barret, J. Batis, A. Koren, G. Zubal, J.P. Seibyl, K.L. Marek (New Haven, Connecticut, USA)

622 **Microstructural white matter differences between dementia with Lewy bodies and Parkinson's disease with dementia**
C. Sanchez-Castaneda, R. Rene, J. Campdelacreu, J. Gascon, M. Calopa, S. Jauma, M. Juncadella, C. Junque (Barcelona, Spain)

623 **Optimal MRI methods for direct stereotactic targeting of the subthalamic nucleus and globus pallidus**
A. Shahidiani, R.L. O'Gorman, K. Shmueli, D.J. Lythgoe, S.J. Wastling, M. Footman, M. Samuel, R.P. Selway, J. Jarosz, K. Ashkan (London, United Kingdom)

624 **Fahr syndrome in a patient with hipoacusia as the only clinical manifestation**
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625 **Transcranial brain sonography in differential diagnosis of Parkinson's disease and progressive supranuclear palsy**
T. Stojkovic, M. Mijajlovic, A. Tomic, V. Spica, N. Kresojevic, M. Jecmenica Lukic, I. Petrovic, E. Stefanova, M. Svetel, V.S. Kostic (Belgrade, Serbia)

626 **Impaired prefrontal-striatal connectivity during executive processing in Parkinson's disease**
S. Leh, M. Bohlken, A. Sadikot, A. Ptito, A.P. Strafella (Toronto, Ontario, Canada)

627 **Resting brain networks in patients with Parkinson's disease and freezing of gait**
A. Tessitore, M. Amboni, F. Esposito, A. Russo, M. Picillo, M.T. Pellecchia, M. Cirillo, G. Tedeschi, P. Barone (Napoli, Italy)

628 **Typical cerebral metabolic patterns in neurodegenerative brain diseases**
L.K. Teune, A.L. Bartels, B.M. De Jong, A.T.M. Willemsen, S.A. Eshuis, J.J. De Vries, J.C.H. van Oostrom, K.L. Leenders (Groningen, Netherlands)

629 **Differential neural activation during cognitive tasks in asymptomatic carriers of the Parkinson's disease related LRRK2 G2019S mutation**
A. Thaler, E.L. Ash, A. Mirelman, T. GurevicH, H. Rick, B.F.L. Van Nuenen, B. Bloem, N. Giladi, T. Hendler (Tel Aviv, Israel)

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630 **Retrospective monocentric study of the unrestricted clinical use of [123I]FP-CIT SPECT in 618 consecutive patients**
C. Thiriez, E. Itti, G. Fénelon, Z. Malek, P. Cesaro, M. Meignan, P. Remy (Creteil, France)

631 **123I-Ioflupane (DaTSCAN™) dopaminergic brain SPECT: Establishing semiquantification reference values in a normal Greek population**
S. Tsiouris, A. Papadopoulos, D. Dristiliaris, J. Al-Boukharali, X. Xourgia, T. Exarchopoulos, A. Georgiou, E. Gkika, M. Tsironi, E. Koletsi, C. Bougias, A. Fotopoulos (Ioannina, Greece)

632 **Freezing in Parkinson's disease: A pilot fMRI study**
S.L. Vercruysse, J. Spildooren, E. Heremans, N. Deroost, S. Swinnen, N. Wenderoth, W. Vandenberghe, A. Nieuwboer (Leuven, Belgium)

633 **Does dopamine transporter SPECT (single photon emission computerised tomography) imaging alter patient management?**
A. Verma, D. Watkins, B. Mohamed, C. Thomas (Cardiff, United Kingdom)

634 **Ultrasonographical findings in movement disorders: Our experience**
D. Vilas, L. Ispierto, P. Latorre, A. Davalos, R. Alvarez (Barcelona, Spain)

635 **An fMRI study of visual processing and hallucinations in Parkinson's disease: Preliminary data**
D.L. Whitehead, D.H. Ffytche, K. Ray Chaudhuri, R.G. Brown (London, United Kingdom)

636 **DTI study of brainstem white matter tract degeneration and voxel-based morphometry patterns of atrophy in PSP**
J.L. Whitwell, C.R. Jack, K.A. Josephs (Rochester, Minnesota, USA)

637 **Stereological evaluation of basal ganglia and substantia nigra in Parkinson's disease**
O. Yilmaz Kusbeci, N. Gocmen Mas, A. Yucel, H.S. Karabekir, A.C. Yazici (Afyonkarahisar, Turkey)

638 **Distinct anatomical circuits underlie simple and complex tics, and repetitive behaviors in Gilles de la Tourette syndrome**
W. Yulia, H. Andreas, D. Christine, V. Romain, R. Emmanuel, G. David, T. Leon, V. Marie, L. Stephane (Paris, France)

639 **A magnetic resonance spectroscopy study of patients with early PD and PD with depression**
Y. Zhang, Y. Wang, S. Li, K. Nie, L. Wang, L. Wang (Guangzhou, Guangdong, China)

640 **A prospective study of SPECT DAT imaging with [123I]PE2I in patients with movement disorders**
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641 **Lower limb spasticity treatment in the EU: Dysport® (botulinum toxin type A) dosing and reconstitution techniques**
C. Coleman, J. Schwab, J. Mendoza, B. Zakine, C. Hubert (Brisbane, California, USA)

642 **Hyposmia and dopaminergic therapy in Parkinson's disease: Case report**
L. Correia Guedes, J.J. Ferreira (Lisbon, Portugal)

643 **Neurotoxic effect of aluminium exploratory behaviors and spatial learning in mice**
N. Djebli, O. Rebai (Mostaganem, Algeria)

644 **The tolerability of rasagiline when used concurrently with serotonin reuptake inhibitors in Parkinson's disease: A retrospective analysis**
P. Ghosh, J. Winslow, C. Musleh, C. Gandhy, L. Bahroo, F. Pagan (Washington, District of Columbia, USA)

645 **Reconstitution dilution volumes and dysport® (botulinum toxin type A) doses used to treat pediatric cerebral palsy in five EU countries**
S. Hall, J. Schwab, J. Mendoza, B. Zakine, C. Hubert (Brisbane, California, USA)

646 **Reconstitution dilution volumes and dysport® (botulinum toxin type A) doses used to treat blepharospasm/hemifacial spasm in the EU**
T.S. Ichishta, J. Schwab, J. Mendoza, B. Zakine, C. Hubert (Brisbane, California, USA)

647 **Reconstitution dilution volumes and Dysport® (botulinum toxin type A) doses used to treat cervical dystonia (CD) in five EU countries**
S. Illsley, J. Schwab, J. Mendoza, B. Zakine, C. Hubert (Brisbane, California, USA)

648 **Levels of reduced and oxidized coenzymeQ-10 and 8-hydroxy-2'-deoxyguanosine in the cerebrospinal fluid of the patients with living Parkinson's disease demonstrate that mitochondrial oxidative damage and/or oxidative DNA damage contributes to the neurodegenerative process**
C. Isobe, T. Abe, N. Hattori, Y. Terayama (Chitose-shi, Hokkaido, Japan)

649 **MAO-B inhibitors and dopamine agonists as initial treatment in Parkinson's disease: A naturalistic survey**
T. Keränen, T. Mattila, H. Kuusisto (Kuopio, Finland)

650 **Synergistic anti-dyskinetic effect of topiramate and amantadine in the MPTP-lesioned non-human primate model of Parkinson's disease**
C. Kobylecki, A.R. Crossman, R. Paula (Manchester, Lancashire, United Kingdom)

651 **Neuroprotection of pramipexole in UPS impairment induced animal model of Parkinson's disease**
C. Li, W. Xie, J. Jankovic, W. Le (Houston, Texas, China)

652 **Dysport® (botulinum toxin type A) dosing and reconstitution techniques used to treat upper limb spasticity in the EU**
K. McClendon, J. Schwab, J. Mendoza, B. Zakine, C. Hubert (Brisbane, California, USA)

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653 **Pardoprunox: Effects on motor and non-motor symptoms of Parkinson's disease**
A.C. McCreary, M. Jackson, C. Ashby, Jr, S. Rose, P. Jenner (Weesp, Netherlands)

654 **Mildronate attenuates reactive gliosis in the corpus striatum in 6-hydroxydopamine model of Parkinson's disease**
J. Rumaks, J. Pupure, S. Svirskis, S. Isajevs, B. Jansone, V. Klusa (Riga, Latvia)

655 **Botulinum neurotoxin type A complex proteins bind to neuronal as well as non-neuronal cells**
Y. Sun, L. Wang, B.R. Singh (North Dartmouth, Massachusetts, USA)

656 **Risk of cardiac valve fibrosis and other fibroses with dopamine agonist use in Parkinson's disease**
G. Trifiro', M.M. Mokhles, J. Dieleman, E. van Soest, G. Mazzaglia, R. Herings, G. Brusselle, A. Colao, W. Haverkamp, R. Schade, G. Van Camp, R. Zanettini, C. de Luise, D. Ross, M. Sturkenboom (Rotterdam, Netherlands)

### Non-motor Aspects of Movement Disorders (not PD): Dysautonomia

657 **Progression of autonomic failure in MSA assessed by the UMSARS-I subscale – a prospective 2-year follow-up survey by the EMSA-SG**
S. Duerr, M. Koellensperger, F. Geser, W. Poewe, G.K. Wenning, on Behalf of the EMSA-SG (Innsbruck, Austria)

658 **A comparison of prevalence of non-motor symptoms in movement disorders**
S.E. Malik, M.S. Siddiqui, M.S. Cartwright, V. Abbott, I. Ul Haq (Edison, New Jersey, USA)

659 **Safety and efficacy of droxidopa (Northera™) for the treatment of symptomatic neurogenic orthostatic hypotension (NOH) in patients with Parkinson's disease (PD)**
C.J. Mathias, H. Kaufmann (London, United Kingdom)

### Non-motor Aspects of Movement Disorders (not PD): Behavior

660 **Non-motor manifestations in essential tremor: A literature review and description of neuropsychiatric profiles in 15 cases**
R. Ventura, I. Amorin, R. Buzo (Montevideo, Uruguay)

661 **Home polysomnography in sleep related movement disorders**
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662 **Executive functions in primary focal dystonia and in Parkinson's disease**
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663 **Social cognition impairments in early stages of corticobasal degeneration**
A.R. Chade, M. Roca, T. Torralva, O.S. Gershanik, G.J. Gomez Arevalo, B.F. Boeve, F. Manes (Capital Federal, Buenos Aires, Argentina)

664 **Neuropsychiatric symptoms in Wilson's disease**
N. Dragasevic, A. Potrebic, T. Pekmezovic, A. Tomic, N. Kresojevic, R. Jesic, V.S. Kostic (Belgrade, Serbia)

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666 **Psychogenic movement disorders in children**
D. Ghosh, L. Chahine (Cleveland, Ohio, USA)

667 **Complex neuropsychiatric symptoms in adolescent Wilson's disease: The need for multidisciplinary care**
T. Hedderly, C. Hinnell, J. Moriarty, J. Jarosz, P. Hindley, A. Dhawan, R. Sherwood, M. Samuel (London, United Kingdom)

668 **Unilateral subthalamotomy in Parkinson's disease and response inhibition**
M. Jahanshahi, I. Obeso, L. Wilkinson, E. Casabona, M.L. Bringas, M. Alvarez, M.C. Rodríguez-Oroz, N. Pavon, L. Alvarez, R. Macias, J. Obeso (London, United Kingdom)

669 **Variation of muscle activity in REM sleep in patients with REM sleep behaviour disorder (RBD) and controls (Co) during 6 consecutive nights**
G. Mayer, K. Kesper, W. Oertel (Schwalmstadt-Treysa, Hessen, Germany)

670 **The effect of levodopa on inhibition and response initiation under conflict in Parkinson's disease**
I. Obeso, M. Jahanshahi (London, United Kingdom)

671 **Subthalamic activity in impulse control disorders in Parkinson's disease**
M. Rodriguez-Oroz, J. Lopez-Azcarate, D. Garcia, M. Alegre, J. Artieda, J. Obeso (Pamplona, Navarra, Spain)

672 **Biomarker identification in CSF in patients with Parkinson's disease and major depression**
P. Svenningsson, J. Walinder, A.-K. Granerus, S.E. Palhagen (Stockholm, Sweden)

673 **Depression and psychosis in patients with Parkinson's disease; association with vitamin B12 and vitamin D deficiency**
M. Wasay, A. Yousuf, I. Azam (Karachi, Pakistan)

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674 **A specific inhibitor of RhO kinase 1 exerts a neuroprotective role on dopaminergic neurons in an experimental model of Parkinson's disease**
C. Barcia, V. Annese, C.M. Ros, A. Gomez, F. Ros, E. Fernandez-Vilalba, M.-T. Herrero (Murcia, Spain)

675 **Neuroinflammation and blood-brain barrier P-glycoprotein function after striatal 6-hydroxydopamine lesion and COX-2 inhibition**
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699 **Evolution of the "short duration" response to L-DOPA in the MPTP-lesioned non-human primate model of Parkinson's disease**
T.A. Mestre, T.H. Johnston, J.M. Brotchie, S.H. Fox (Toronto, Ontario, Canada)

700 **Pulsatile and continuous infusion of L-dopa induce abnormal involuntary movements in 6-OHDA-lesioned rats**
M. Papathanou, R. van der Laan, S. Rose, P. Jenner, A.C. McCreary (London, England, United Kingdom)

701 **Does L-dopa have toxic effects in Parkinson's disease brain?**
L. Parkkinen, S.S. O'Sullivan, M. Kuoppamaki, C. Collins, J.L. Holton, T. Revesz, A.J. Lees (London, United Kingdom)

702 **Prevalence and factors related to impulse-control disorders in Parkinson's disease patients**
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703 **Adverse drug reactions to dopaminergic agonists: A study in the French pharmacovigilance database**
S. Perez-Lloret, E. Bondon-Guitton, O. Rascol, J.-L. Montastruc (Toulouse, France)

704 **Improvement of Parkinson's disease symptoms with zolpidem**
L. Abaroa, V.A. Pujol Lereis, N.S. Garretto, T. Arakaki, M.R. Arce, J.J. Rayer (Caba, Argentina)

705 **Neuroprotective efficacy of mildronate in 6-hydroxydopamine neurotoxicity model in rats**
J. Pupure, S. Isajevs, J. Rumaks, K. Jekabsons, S. Svirskis, B. Jansone, I. Kalvinsh, V. Klusa (Riga, Latvia)

706 **Nicotinic alpha4beta2 agonist promotes turning behaviour in 6-hydroxydopamine lesioned rats**
F. Rode, K.L. Troelsen, D. Holst, E.Ø. Nielsen, L.C.B. Rønn (Ballerup, Denmark)

707 **In vivo evaluation of adenosine a2A receptor availability in Parkinson's disease patients with and without levodopa induced dyskinesias studied with [11C]SCH442416 PET**
A.F. Ramlackhansingh, S.K. Bose, I. Ahmed, F.E. Turkheimer, N. Pavese, D.J. Brooks (London, United Kingdom)

708 **Abdominal pain – a wearing off symptom in Parkinson's disease**
A.Q. Rana (Toronto, Ontario, Canada)

709 **Dopamine agonist induced compulsive eating in diabetic patient with Parkinson's disease**
A.Q. Rana (Toronto, Ontario, Canada)

710 **Do Parkinson's disease patients disclose adverse drug reactions spontaneously?**
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711 **Motor and non motor efficacy of subcutaneous apomorphine infusion in advanced PD compared to Parkinson's patients on conventional therapy. A "real life" study**
P. Martinez-Martin, A. Todorova, P. Odin, T. Henriksen, Y. Naidu, S. Tluk, P. Reddy, A. Martin, R. Katzenschlager, A. Antonini, K. Ray Chaudhuri (London, United Kingdom)

712 **The effect of continuous dopaminergic stimualtion with ropinirole on non-motor symptoms, quality of life and autonomic functions in Parkinson's disease patients**
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713 **Transdermal nicotinotherapy: An ongoing study in patients with advanced Parkinson's disease**
F. Grapin, G. Villafane, P. Cesaro, P. Maison, E. Itti (Creteil, France)

714 **High-speed dopamine detection in the awake primate brain**
K. Yoshimi, M. Inoue, S. Natori, N. Nishikawa, N. Mitani, Y. Einaga, Y. Shimo, N. Hattori, S. Kitazawa (Tokyo, Japan)

## Parkinson's disease: Quality of Life/Caregiver burden

715 **The effect of therapy in Parkinson's disease**
B. Aguiar, R. Aljanati, M. Martinovich, V. Raggio, V. Pomar, R. Buzo, A. Ojeda, N. Gonzalez, G. Nogueira, L. Aguerre, G. Montado, F. Alfonso (Montevideo, Uruguay)

716 **An approach to improve Parkinson's disease (P.D.) quality of life**
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717 **Moving towards patient-centered healthcare for patients with Parkinson's disease**
M. van der Eijk, M. Munneke, M. Faber, B.R. Bloem (Nijmegen, Netherlands)

718 **Motor impairment and its impact on quality of life in Parkinson's disease: A Mexican hospital-based study**
A. Cervantes-Arriaga, M. Rodríguez-Violante, T. Corona (Mexico City, Mexico)

719 **Speaking range profiles in Argentine patients with Parkinson's disease**
M.J. Codino, A. Barmat de Mines, G.A. Albanese (Buenos Aires, Argentina)

720 **Non-motor symptoms in early Parkinson's disease are the key determinants of health-related quality of life**
P. Martinez-Martin, C. Falup-Pecurariu, J.J. van Hilten, P. Odin, A. Antonini, C. Trenkwalder, D. Aarsland, D.J. Brooks, K.R. Chaudhuri (Brasov, Romania)

721 **A study of the nutritional status of people with idiopathic Parkinson's disease: Comparison of urban and rural community-dwellers**
A. Jaafar, B. Porter, W.K. Gray, E.J. Turnbull, R.W. Walker (North Shields, Tyne and Wear, United Kingdom)

722 **Care requirements of a prevalent population of rural, community-dwelling people with idiopathic Parkinson's disease**
R.W. Walker, J. Dunn, W.B. Sweeney, W.K. Gray (North Shields, Tyne and Wear, United Kingdom)

723 **Is motor phenotype important in predicting health status in Parkinson's disease?**
C. Hinnell, C. Hurt, R. Brown, S. Landau, M. Samuel (London, United Kingdom)

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724 **Coping with Parkinson's disease and its relationship to mood and cognition**
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725 **Mismatch of non-motor symptoms among DBS-candidate Parkinson patients and their carepartners may be scale driven**
N. Hwynn, I.U. Haq, I. Malaty, A.S. Resnick, Y. Dai, M.S. Okun, D.S. Carew, K.D. Foote, S.S. Wu, A. Sudhyadhom, R.L. Rodriguez, C.E. Jacobson IV, H.H. Fernandez (Gainesville, Florida, USA)

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727 **Non-motor symptoms in advanced Parkinson's disease are the key determinants of health-related quality of life**
P. Martinez-Martin, M.M. Kurtis, C. Falup-Pecurariu, J.J. van Hilten, P. Odin, A. Antonini, C. Trenkwalder, D. Aarsland, D.J. Brooks, K.R. Chaudhuri (Madrid, Spain)

728 **Constipation and Parkinson's disease: Stories from the bathroom**
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729 **Health-related quality of life declines before depressive symptoms commence in Parkinson's disease**
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730 **The burden of direct care tasks on the Parkinson's disease caregiver**
T.M. Mangin, K.S. Lyons, J.H. Carter (Portland, Oregon, USA)

731 **Video assisted swallowing therapy improved quality of life measures more than traditional swallowing therapy in patients with Parkinson's disease**
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732 **Quality of life in Parkinson patients with duodopa treatment: A one year follow up**
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733 **Impact of non-motor dysfunction in the quality of life of Mexican patients with Parkinson's disease**
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735 **Is mood phenotype important in predicting health status in Parkinson's disease?**
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736 **A prospective review of admissions of Parkinson's disease (PD) patients**
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737 **Driving and Parkinson's disease**
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739 **The effect of the medicare part D on Parkinson's disease patients**
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740 **Initial diagnosis and treatment patterns in Parkinson's disease**
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743 **Occurrence of diabetes and hypertension in overweight vs. normal weight veterans with Parkinson's disease**
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744 **Five year follow-up of newly diagnosed Parkinson's disease: Progression and prognostic factors of motor impairment, disability and quality of life**
D.C. Velseboer, B. Post, N. van Geloven, R.J. de Haan, R.M.A. de Bie (Amsterdam, Netherlands)

745 **Impact of nonmotor symptoms in Parkinson's disease on quality of life: A veteran based study**
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746 **Incidence of hip fracture in Parkinson's disease: A population-based study**
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747 **Three months follow-up study about improvement of functional impairment in patients with Parkinson's disease treated with entacaponum**
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748 **Sleep disorders in Parkinson's disease in Uruguay**
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749 **Excessive daytime sleepiness in the MPTP non human primate model of Parkinson's disease**
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750 **Hallucinations and sleep disorders in Parkinson's disease: Ten year prospective longitudinal study**
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752 **Nighttime sleep and daytime sleepiness in idiopathic and genetic Parkinson's disease**
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753 **The impact of depression on sleep quality and excessive daytime sleepiness in Parkinson's disease patients**
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754 **Sleep related comfort in patients with Parkinson's disease**
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755 **Does idiopathic restless legs syndrome protect against Parkinson's disease**
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756 **Cyclic alternating pattern (CAP) in de novo Parkinson's disease**
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757 **Sleep-related falling out of bed (SFOB) in Parkinson's disease: A clinical marker of RBD?**
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758 **Is there correlation between tear of the rotator cuff and REM sleep behavior disorder in patients with Parkinson's disease? A preliminary study of 20 patients**
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759 **Effect of rotigotine on sleep and nocturnal symptoms in Parkinson's disease: RECOVER study**
C. Trenkwalder, B. Kies, M. Rudzinska, J. Fine, J. Nikl, D.L. Hill, T. Anderson, E. Surmann, J. Whitesides, B. Boroojerdi, K.R. Chaudhuri, on Behalf of the RECOVER Study Group (Kassel, Germany)

760 **Clinical and polysomnographic features of sleep disorders in Mexican Parkinson's disease patients**
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761 **Parkinson's disease patients: "Owls" or "larks"**
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763 **A novel and systematic approach to evaluating lower limb apraxia in Parkinson's disease**
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764 **Potential practical difficulties in the administration of the updated movement disorder society – Unified Parkinson's Disease Rating Scale (MDS-UPDRS)**
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765 **Functional stereotopy of the subthalamic nucleus. Circuitry projections and somatotopy within the Schaltenbrand-Wahren Atlas virtual model**
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766 **Quality of life after DBS STN in Parkinson's disease is related to the stimulation amplitude**
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767 **Impulse control disorders in PD patients who have undergone DBS surgery**
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768 **Short and long-term effects of dbs on gait and other symptoms of Parkinson's disease**
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769 **Target specificity for post-DBS anger**
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770 **Active contact location and acute mood response to STN DBS stimulation in Parkinson's disease**
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771 **The dominant-STN in Parkinson's disease: A new concept?**
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772 **Family dysfunction after deep brain stimulation of the subthalamic nucleus for advanced Parkinson's disease**
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773 **Extensor bar for deep brain stimulation electrode insertion: Technical note**
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774 **Effects of pedunculopontine nucleus area stimulation on speech production in Parkinson's disease**
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799 **A systematic review of the effects of bilateral subthalamic nucleus stimulation after one year in patients with Parkinson's disease**
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800 **Neuroendocrinology of weight gain in patients with Parkinson's disease (PD) treated with deep brain stimulation of the subthalamic nucleus (STN DBS)**
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801 **New unrelated involuntary movements during the immediate postoperative period following deep brain stimulation electrodes placement for treatment of Parkinson's disease caused by interference with cardiac monitoring devices**
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802 **Deep brain stimulation and Parkinson's disease: Low stimulation frequency and gait disturbances**
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803 **Anatomical situation of subthalamic nucleus (STN) from midcommissural point (MCP) in Parkinson's disease patients underwent deep brain stimulation (DBS): An MRI targeting study**
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804 **Cerebral blood flow changes induced by concomitant pedunculopontine nucleus and subthalamic stimulation in patients with Parkinson's disease: A [(15)O] H2O PET study**
N. Pavese, S. Khan, L. Mooney, S.S. Gill, D.J. Brooks (London, United Kingdom)

805 **Subthalamic deep brain stimulation in Parkinson's disease: Ten years follow up**
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806 **Speech treatment for individuals with IPD post deep brain stimulation: LSVT-DBS**
A. Halpern, J. Spielman, L. Ramig, P.M. Gilley (Boulder, Colorado, USA)

807 **Factors related to extended hospital stays following deep brain stimulation for Parkinson's disease**
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808 **Effect of subthalamic deep brain stimulation on acceleration of the swing phase of gait in Parkinson's disease**
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809 **Persistent hemidystonia after STN DBS implantation for Parkinson's disease**
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810 **Pallidal stimulation in advanced Parkinson's patients with contraindications for subthalamic stimulation**
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811 **Does subthalamic DBS directly impact levodopa-induced dyskinesias?**
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812 **Efficacy of re-programming of subthalamic deep brain stimulation parameters**
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813 **Subthalamic nucleus deep brain stimulation for camptocormia associated with Parkinson's disease**
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814 **Effect of globus pallidus internus and/or pedunculopontine nucleus DBS on posture and gait ignition in advanced Parkinson's disease**
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816 **Role of mesocorticolimbic dopaminergic denervation in postoperative apathy and depression in Parkinson's disease**
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817 **The use of a novel side-outlet curved test electrode in deep brain stimulation (DBS) for the per-operative assessment of patients with Parkinson's disease (PD)**
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818 **Stimulation of zona incerta in Parkinson's disease: A first look at speech outcomes**
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819 **The national DBS brain tissue network pilot study: A need for more tissue and for more standardization**
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820 **Influence of deep brain stimulation in the subthalamic nucleus in Parkinson's disease on comprehension of emotional prosody**
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821 **Effects of zona incerta lesions upon striatal neurochemistry and behavioural asymmetry in 6OHDA-lesioned rats**
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822 **Postoperative verbal fluency decline after subthalamic deep brain stimulation surgery correlates with laterality of the microlesion. Results of a prospective longitudinal study**
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823 **Protruding exposure of the internal pulse generator (IPG) through the skin: A rare complication of the deep brain stimulation (DBS)**
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824 **Coherent activity in the parkinsonian STN and PPN: Preliminary findings**
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825 **Safety of intraoperative microelectrodes multiple recording tracks in deep brain stimulation of subthalamic nucleus in advanced Parkinson's disease**
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826 **Eight-year follow-up of bilateral deep brain stimulation of the subthalamic nucleus (STN-DBS) in Parkinson's disease (PD)**
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827 **Comparison of bilateral subthalamic deep brain stimulation (STN-DBS) and duodenal levodopa infusion (DLI) in advanced Parkinson's disease (PD) patients**
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829 **Deep brain stimulation for camptocormia in dystonia and Parkinson's disease**
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830 **A pilot study of laughter induction in the NIH OCD DBS cohort: A predictor of efficacy?**
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831 **What Is the best surgical target for dystonic tremor – GPi or VIM?**
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832 **Steady or not following thalamic deep brain stimulation for essential tremor**
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833 **Globus pallidus internus deep brain stimulation for hemidystonia following penetrating head injury**
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834 **Generalized dystonia treated with bilateral pallidotomy and bilateral subthalamic deep brain stimulation**
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835 **Comparison of merged CT analysis and direct MRI visualization of GPi lead placement for deep brain stimulation**
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836 **Two year experience with DBS for pediatric onset dystonias: Generator selection**
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837 **Length of surgery in paediatric patients receiving Activa RC® neurostimulator devices may not be longer then with previous neurostimulator devices**
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838 **Rescue DBS leads: Tailoring deep brain stimulation (DBS) when clinical symptoms do not respond as anticipated**
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839 **Successful bilateral pallidal stimulation for idiopathic camptocormia: Case report**
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840 **Routine AICD interrogation in a patient with unilateral DBS: A case report**
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841 **Successful pallidal DBS therapy in an elderly patient with DYT-1 dystonia**
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842 **Long-term clinical outcome in Meige syndrome treated with posteroventral lateral internal pallidum deep brain stimulation (GPi-DBS)**
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843 **Need for bilateral thalamic deep brain stimulation (DBS) to address unsuccessful single-sided procedure for Tourette syndrome: A case report**
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844 **Efficacy of subthalamic nucleus stimulation for tremor dystonia: A case report**
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845 **Long term continuous deep brain stimulation to the internal globus pallidus in DYT1-gene positive dystonia induces lasting neural reorganization in the motor system**
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846 **Deep brain stimulation in Lesch-Nyhan disease (LND): Report of two cases**
G. Schechtmann, J. Winter, G. Malm, B. Linderoth, G. Lind (Stockholm, Sweden)

847 **Pallidal deep brain stimulation may induce freezing of gait in patients with focal and segmental dystonia**
C. Schrader, H. Capelle, T. Kinfe, C. Blahak, H. Baezner, D. Dressler, J.K. Krauss (Hannover, Germany)

848 **Treatment-refractory status dystonicus after bilateral pallidal DBS in a child with pantothenate kinase-associated neurodegeneration**
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850 **GABA A receptor RHO1 (GABRR1) polymorphisms and risk for essential tremor**
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851 **Analysis of LRRK2 variants in Parkinson's disease**
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852 **A study on L/I272 and S/N167 single nucleotide polymorphisms in the parkin gene in South Indian population with parkinsonism**
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853 **Investigation of the LRRK2 G2019S mutation in South African Parkinson's disease patients**
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854 **The co-occurence of early onset Parkinson's disease (PD) and 22q11.2 deletion syndrome (22qDS): More than a coincidence?**
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855 **Mechanism of the epigenetic defect in Friedreich ataxia**
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856 **Parkinsonian features and motor network plasticity in LRRK2 patients and asymptomatic mutations carriers in comparison to sporadic PD and healthy controls**
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857 **The GIGYF2 variants are not associated with Parkinson's disease in the Chinese population**
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858 **A novel ATP13A2 frameshift mutation leading to juvenile parkinsonism and dementia**
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859 **Unexpected combination of ataxia with oculomotor apraxia type 2 and anti- GAD antibodies**
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860 **Woodhouse-Sakati syndrome: Four new mutations of a movement disorder syndrome**
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861 **A clinicopathological study of a case of parkin disease**
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862 **Novel PRKN exon is identified**
F. Ghazavi, Z. Fazlali, S.S. Banihosseini, M.H. Kazemi, S.R. Hosseini, K. Parsa, H. Sadeghi, F. Sina, G.-A. Shahidi, E. Elahi (Tehran, Islamic Republic of Iran)

863 **Genome-wide analysis and accuracy of self-reported data: The 23andMe Parkinson's disease project**
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864 **G2019S and R1441G mutations and R1628P SNPs throughout LRRK2 gene in patients with Parkinson's disease from Argentina**
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865 **Penetrance and frequency of the LRRK2-G2019S mutation in the Italian population: An update**
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866 **Role of the H1 haplotype of microtubule-associated protein tau (MAPT) gene in Chinese patients with sporadic Parkinson's disease**
J. Guo, L. Hu, L. Wang, X. Yan, B. Tang (Changsha, Hunan, China)

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867 **The research on two hotspot variants in mainland China, Pro755Leu and Gly2385Arg in LRRK2 gene, reported to be associated with sporadic Parkinson's disease**
J.-F. Guo, L.-Y. Yao, L. Wang, X.-X. Yan, B.-S. Tang (Changsha, Hunan, China)

868 **Clinical manifestation of patients with Parkinson's disease carriers of "severe" mutations in the GBA gene**
E. Rozenberg, A. Mirelman, S. Levy, M. Kedmi, A. Orr-Urtreger, N. Giladi, T. Gurevich (Tel Aviv, Israel)

869 **Fragile X gray zone alleles: Association with clinically diagnosed PD in women**
D.A. Hall, K. Howard, G. Zerbe, W. Zhang, F. Tassone, E. Spector, P. Hagerman, M. Leehey (Chicago, Illinois, USA)

870 **H63D polymorphism in the hemochromatosis gene is associated with sporadic amyotrophic lateral sclerosis in China**
X. He, X. Lu, J. Hu, J. Xi, D. Zhou, H. Shang, L. Liu, H. Zhou, B. Yan, L. Yu, F. Hu, Z. Liu, L. He, X. Yao, Y. Xu (Chengdu, Sichuan, China)

871 **Genetic control of DNA methylation and expression in the context of neurological disease**
D.G. Hernandez, R. Gibbs, M.A. Nalls, S. Arepalli, M. Van der Brug, B. Traynor, S.B. Andrew (Bethesda, Maryland, USA)

872 **Deep brain stimulation outcome in parkin, LRRK2, and glucocerebrosidase mutation carriers and non-carriers in early onset Parkinson's disease**
D.E. Huddleston, M. Tang, R.N. Alcalay, H. Mejia-Santana, L. Coté, L. Clark, B. Ford, K. Marder (New York City, New York, USA)

873 **Tau gene polymorphism influences risk of sporadic tauopathy by allele-specific changes in transcription and alternative splicing**
V. Kay, J. Vandrovcova, A. Pittman, A. Lees, R. de Silva (London, United Kingdom)

874 **Regional distribution of subtypes of spinocerebellar ataxia in Korea: A nation-wide survey**
H.-J. Kim, J.-Y. Yun, Y.-E. Kim, J. Cho, B.S. Jeon (Seoul, Korea)

875 **Novel Nurr1 point mutations identified in ethnic Chinese patients with Parkinson's disease**
W. Le, M. Ming, F.F. Lu, P. Xu, H. Deng (Shanghai, China)

876 **The c.-237_236GA>TT THAP1 sequence variant is not associated with a significantly increased risk for primary dystonia**
M.S. LeDoux, J. Xiao, Y. Zhao, R.W. Bastian, J.S. Perlmutte, B.A. Racette, S.D. Tabbal, M. Karimi, R.C. Paniello, Z.K. Wszolek, R.J. Uitti, J.A. Van Gerpen, D.K. Simon, D. Tarsy, P. Hedera, D.D. Truong, K. Frei, S.D. Batish, A. Blitzer, R.F. Pfeiffer, C. Le, E. Akano (Memphis, Tennessee, USA)

877 **Differential genetic susceptibility in diphasic and peak-dose dyskinesias in Parkinson's disease**
J.Y. Lee, J. Cho, E.-K. Lee, S.-S. Park, B.S. Jeon (Goyang, Republic of Korea)

878 **Study of the SGCE gene in Tourette syndrome patients of Taiwanese**
C.S. Lu, W.Y. Lin, H.C. Chang, R.S. Chen, S.C. Lai, T.H. Yeh, Y.H. Weng, Y.H. Wu-Chou (Taoyuan, Taiwan)

879 **The M129V polymorphism in the prion protein (PrP) gene in Wilson's disease (WD) – a reappraisal**
J.C. Möller, T. Todorov, A. Czlonkowska, B. Leinweber, H. Hefter, U. Reuner, P. Günther, J. Büttner, W.H. Oertel, H.H. Schmidt (Marburg, Germany)

880 **Latin American research consortium on the genetics of Parkinson's disease: LARGE-PD**
I.F. Mata, V. Borges, R. Buzo, C. Cosentino, P.M. de Carvalho Aguiar, E. Dieguez, H.B. Ferraz, W. Marques, P. Mazzetti, F. Micheli, V. Raggio, G. Rodrigues, Z. Salazar, L. Torres, L. Tschopp, V. Tumas, C.P. Zabetian (Seattle, Washington, USA)

881 **Gait in healthy carriers and non-carriers of the LRRK2 G2019S mutation: Preliminary evidence of subtle pre clinical motor changes**
A. Mirelman, T. Gurevich, A. Weiss, J.M. Hausdorff, A. Bar-Shira, A. Orr-Urtreger, N. Giladi (Tel Aviv, Israel)

882 **A pilot genome-wide association study of Ashkenazi Parkinson's disease patients**
A. Orr-Urtreger, A. Bar-Shira, E. Kenny, I. Pe'er, N. Giladi, M. Kedmi (Tel Aviv, Israel)

883 **Analysis of LRRK2 S1647T as a risk factor for Parkinson's disease among Han-Chinese from mainland China**
X. Mao, Z.J. Zhang, X. Chang, J.-M. Burgunder, R. Peng (Chengdu, Sichuan, China)

884 **MAO-B G polymorphism influences time to onset of parkinsonian symptoms in male Parkinson's disease patients**
A.S. Schuh, C.R.M. Rieder, V. Altmann, C.M. Francisconi, T.L. Monte, M.H. Hutz (Porto Alegre, Brazil)

885 **Val158Met COMT polymorphism is not associated with the presence of motor fluctuation or hallucination in Parkinson's disease**
A.S. Schuh, C.M. Francisconi, V. Altmann, T.L. Monte, A.L. Rosso, D.H. Nicaretta, J.S. Pereira, I.C. Bastos, M. Pimentel, C.B. Santos-Reboucas, C.R.M. Rieder, M.H. Hutz (Porto Alegre, Brazil)

886 **Genome-wide association study identifies common variants at four loci as genetic risk factors for Parkinson's disease**
W. Satake, Y. Nakabayashi, I. Mizuta, M. Watanabe, A. Takeda, H. Tomiyama, K. Nakashima, K. Hasegawa, F. Obata, H. Kawakami, S. Sakoda, M. Yamamoto, N. Hattori, M. Murata, Y. Nakamura, T. Toda (Kobe, Japan)

887 **Accumulation of 27-hydroxycholesterol in SPG5 patients may offer new therapeutical possibilities**
R. Schüle, T. Siddique, H.-X. Deng, Y. Yang, S. Donkervoort, M. Hansson, R.E. Madrid, N. Siddique, L. Schöls, I. Björkhem (Tubingen, Germany)

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888 **Mutational screening of the coding regions of MEIS1 and BTBD9 in patients with restless legs syndrome**
E.C. Schulte, F. Knauf, P. Lichtner, T. Meitinger, J. Winkelmann (Munich, Germany)

889 **Pathway based genome wide association study on Parkinson and Alzheimer's disease reveals common pathway**
M. Sharma, M. Steffens, C. Schulte, J.S. Sanchez, J.M. Bras, J.R. Gibbs, M.A. Nalls, O. Riess, J. Hardy, A. Singleton, T. Gasser (Tuebingen, Germany)

890 **Studies of alpha-synuclein in brain samples from patients with Lewy body disorders carrying glucocerebrosidase mutations**
O. Goker-Alpan, J.H. Choi, B.K. Stubblefield, M. Cookson, G. Lopez, E. Sidransky (Bethesda, Maryland, USA)

891 **Pathogenic mutations in ATP13A2 (PARK9) causing Kufor-Rakeb syndrome, a form of hereditary parkinsonism**
J.-S. Park, P. Mehta, N. Manwaring, V.S.C. Fung, C.M. Sue (Sydney, New South Wales, Australia)

892 **Multiple sclerosis (MS) and Parkinson's disease (PD) in a patient with the LRRK2 variant E334K**
S. Felix, N. Damon-Perriere, C. Marchal, I. Lesage, A. Brice, W. Meissner, F. Tison (Pessac, France)

893 **A new family with apparently dominant inheritance of PARK2**
F. Tison, N. Damon-Perriere, C. Cazeneuve, S. Lesage, P. Fernandez, A. Brice, W. Meissner (Pessac, France)

894 **123I-MIBG cardiac uptake and smell identification in patients with LRRK2 mutations**
F. Valldeoriola, C. Gaig, A. Muxi, I. Navales, P. Paredes, F. Lomeña, A. De la Cerda, M. Ezquerra, P. Santacruz, M.J. Marti, E. Tolosa (Barcelona, Catalonia, Spain)

895 **More evidence of population specificity of LRRK2 G2019S mutation**
B. Vijayan, S. Gopala, A. Kishore (Trivandrum, Kerala, India)

896 **Shared genetic susceptibility in primary and secondary restless legs syndrome: A case-control association study in end-stage renal disease patients**
B. Schormair, J. Plag, D. Roeske, N. Gross, B. Mueller-Myhsok, U. Heemann, T. Meitinger, J. Winkelmann (Munich, Germany)

897 **Spectrum of clinical features in two sisters with early-onset Parkinson's disease (EOPD) and identical mutations in parkin gene**
T. Xie, P. Greene, K. Marder, L. Clark (New York City, New York, USA)

898 **Case-control study of the UCH-L1 S18Y variant in sporadic Parkinson's disease in Chinese population**
X.-X. Yan, L. Wang, J.-F. Guo, L.-L. Nie, B.-S. Tang (Changsha, Hunan, China)

899 **Coincidence of two novel SPG11 genemutations in Korean patient causing atypical hereditary spastic paraplegia with thin corpus callosum**
B.-K. Kim, J.Y. Ahn, W.T. Yoon, W.Y. Lee, H.-T. Kim (Seoul, Republic of Korea)

900 **SNP rs7684318 of the a-synuclein gene is associated with Parkinson's disease in Chinese Han population**
L. Yu, X. He, F. Hu, P. Xu, Z. Lin, M. Zhu, Z. Liu, L. He, Y. Xu (Chengdu, Sichuan Province, China)

901 **The phenotypic spectrum of neurodegeneration associated to PLA2G6 mutations**
G. Zorzi, A. Giovannetti, F. Zibordi, V. Saletti, M. Sessa, S. Orcesi, M. Morbin, L. Chiapparini, B. Garavaglia, N. Nardocci (Milano, Italy)

### History

902 **Lauri Laitinen and the contributions of the Swedish school of Umeå to functional neurosurgery**
P. Blomstedt, J. Linder, L. Forsgren, G.-M. Hariz, T. Bergenheim, M.I. Hariz (Umea, Sweden)

903 **A historical case of Hallervorden-Spatz disease**
P. Cras, A. Van Craenenbroeck, M. Gebruers, J.-J. Martin (Edegem, Antwerpen, Belgium)

904 **Dystonia and art**
P.J. Garcia Ruiz, J.C. Martinez Castrillo (Madrid, Spain)

905 **FMR1 gene expansion may be associated with DAT/SPECT SWEDD in parkinsonism patients**
D.A. Hall, D. Jennings, J. Seibyl, F. Tassone, K. Marek (Chicago, Illinois, USA)

906 **Movement disorders in the works of Charles Dickens**
A. Lavrov, O.S. Levin (Maidenhead, United Kingdom)

907 **To review the interesting history of restless legs syndrome**
A.Q. Rana (Toronto, Ontario, Canada)

908 **Lumpers and splitters: Lessons from pellagra**
A.C. Williams (Birmingham, United Kingdom)

909 **Homeostatic breakdowns cause diseases including movement and intellectual disorders: Historical sketch to a systems approach**
A. Williams, B. Simpson, J. Mitchell (Birmingham, United Kingdom)

### Lewy Body Dementia and other dementias in movement disorders

910 **Baseline data from a long-term safety study of rivastigmine capsules and patch in mild to moderate Parkinson's disease dementia**
P. Barone, P. De Deyn, M. Emre, J. Kulisevsky, W. Poewe, E. Pourcher, T. van Laar, N. Tenenbaum, S. Tekin (Naples, Italy)

911 **Extrapyramidal symptoms in frontotemporal dementia**
A.R. Chade, M. Roca, E. Gleichgerrcht, T. Torralva, F. Manes (Capital Federal, Buenos Aires, Argentina)

912 **Depression in dementia with Lewy bodies and Parkinson's disease dementia**
F. Fritze, U. Ehrt, D. Aarsland (Stavanger, Rogaland, Norway)

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913 **Lack of beta-synuclein expression defines a specific group of dementia with Lewy bodies**
K. Beyer, M. Domingo-Sabat, L. Ispierto, C. Carrato, R. Alvarez, P. Latorre (Badalona, Spain)

914 **Mixed resting and postural tremor with overflow in orthostatism is observed in PDD/DLB patients**
L. Bonanni, A. Thomas, F. Ciccocioppo, D. Monaco, F. Anzellotti, E. Mancino, M. Onofrj (Chieti, Italy)

915 **Probable dementia Lewy body type is rare among Parkinson's disease patients**
J.M. Rabey, E. Dobronevsky, A. Miniovitz, T. Prokhorov (Zerifin, Israel)

916 **The SNCA locus in dementia with Lewy bodies**
A. Sailer, M. Kurzawa, P.F. Chinnery, I.G. McKeith, C.M. Morris, H. Houlden (London, United Kingdom)

917 **Parkinsonian features and apraxia in frontotemporal lobar atrophy behavioural variant (FTLA bv)**
S. Schmidegg, W. Struhal, S. Hoedl, C. Dorninger, M. Steffelbauer, M. Ortmayr, G. Ransmayr (Linz, Austria)

### Myoclonus

918 **Cervical injury-related polyminimyoclonus: Case report**
C.M. Akbostanci, N.F. Durmaz, B.S. Arica, R. Yilmaz (Ankara, Samanpazari, Turkey)

919 **Abdominal myoclonus associataxed with vitamin B12 deficiency: Report of three cases**
B.S. Arica, R. Yilmaz, C.M. Akbostanci (Ankara, Turkey)

920 **Creutzfeldt-Jakob disease presenting with various positive myoclnous**
J.C. Chen, C.H. Tsai, M.K. Lu (Taichung, Taiwan)

921 **Hemifacial spasm as the first manifestation of multiple sclerosis**
M. Gallardo, A. Soto, A. Abreu (Caracas, Miranda, Venezuela)

922 **Hemibody myoclonus associated with contralateral medullary compression by a dolichoectatic vertebral artery**
N.K. Iwata, P.T. Lin, C. Toro, Z. Mari, M. Hallett, S.G. Reich (Bethesda, Maryland, USA)

923 **Unilateral cortical myoclonus**
P. Katschnig, P. Schwingenschuh, M.J. Edwards, K.P. Bhatia (London /Graz, United Kingdom)

924 **Lance-Adams syndrome in El Salvador: Effects of piracetam therapy follow-up. A case report**
R. Lopez-Contreras, R. Lopez-Castellanos (San Salvador, El Salvador)

925 **Very rare mitochondrial DNA mutation (G13042A) in a young man with MELAS/MERFF overlap syndrome and with good response to levetiracetam**
M. Schinwelski, A. Szpiech, W. Soltan, J. Szady, B. Kierdaszuk, K. Tonska, A. Kodron, J. Slawek (Gdansk, Pomorskie, Poland)

926 **Isolated progressive subcortical myoclonus associated with POLG 1 mutations**
S.M.A. van der Salm, J.P.P. van Vugt, M.C.F. Gerrits, M.A.J. Tijssen (Amsterdam, Netherlands)

927 **A case of subacute encephalopathy, ataxia and myoclonus due to amantadine toxicity in chronic renal insufficiency**
A. Hardwick, M. Devereaux, B.L. Walter (Cleveland, Ohio, USA)

928 **Lingual myoclonus associated with brain tumour**
R. Yilmaz, B.S. Arica, A. Yigit (Ankara, Turkey)

### Parkinsonism (secondary and parkinsonism-plus)

929 **Atypical parkinsonism with apraxia and supranuclear gaze abnormalities in type 1 Gaucher disease. Expanding the spectrum**
A. Alonso-Canovas, P. Katschnig, A. Tucci, M. Carecchio, N. Wood, M. Edwards, J.C. Martinez-Castrillo, D. Burke, S. Heales, K. Bhatia (London, United Kingdom)

930 **Parkinsonism and progressive external ophthalmoplegia with multiple mitochondrial DNA deletions: Report of two new cases**
B.R. Barton, S. Jackson, N.J. Diederich (Chicago, Illinois, USA)

931 **Articulatory dysfunction in Parkinson's disease: An fMRI study**
M. Behari, M. Saxena, S. Kumaran, V. Goyal, G. Shukla, S. Singh, V. Narang (New Delhi, Delhi, India)

932 **Immunmodulatory treatment-responsive corticobasal degeneration-like symptomatology secondary to antiphospholipid syndrome**
E. Bekircan, T. Tombul, M.A. Topcuoglu, U. Kalyoncu, E. Saka, B. Elibol (Ankara, Turkey)

933 **Unilateral spatial neglect and visual exploration strategies in corticobasal syndrome**
A.-S. Berteloot, A. Kreisler, J. Honoré, T. Bernati, B. Braem, P. Debruyne, K. Dujardin, S. Defoort-Dhellemmes, L. Defebvre, A. Destée (Lille, France)

934 **Parkinsonism, multiple lipomas and hearing impairment in a patient with reduced activity of mitochondrial respiratory chain complexes II+III**
M. Carecchio, S. Rahman, M.G. Hanna, S. Heales, I. Hargreaves, J. Land, K. Bhatia (London, United Kingdom)

935 **Serum and cerebrospinal fluid urate levels in Parkinson's disease and atypical parkinsonian disorders**
R. Constantinescu, U. Andreasson, B. Holmberg, H. Zetterberg (Goteborg, Sweden)

936 **Abnormal cortical plasticity in primary motor cortex in progressive supranuclear palsy**
A. Conte, D. Belvisi, D. Ottaviani, A. Suppa, G. Fabbrini, C. Colosimo, D. Williams, A. Berardelli (Rome, Italy)

937 **Progressive supranuclear palsy (PSP) with prominent corticospinal tract degeneration mimicking motor neuron disease (MND)**
K.M. Doherty, Z. Ahmed, L. Silveira-Moriyama, S.S. O'Sullivan, S. Wroe, J.L. Holton, A.J. Lees, T. Revesz (London, United Kingdom)

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938 **A case of parkinsonism perhaps caused by pellagra in Tanzania**
C.L. Dotchin, A. Jusabani, R.W. Walker, A. Williams (Newcastle upon Tyne, United Kingdom)

939 **Syndrome of primary progressive freezing gait. A study of striatal dopamine transporter and of response to treatment**
Y. Ahmar-Beaugendre, E. Itti, J.-P. Lefaucheur, P. Remy, G. Fénelon (Creteil, France)

940 **Parkinsonism secondary to primary progressive multiple sclerosis**
M. Gallardo, A. Soto (Caracas, Miranda, Venezuela)

941 **Lithium in progressive supranuclear palsy and corticobasal degeneration**
W.R. Galpern, on Behalf of the NINDS Pilot Therapeutics Network (NPTUNE) Investigators (Bethesda, Maryland, USA)

942 **Prospective 5-year natural history study of probable multiple system atrophy (MSA) in 175 North American subjects**
S. Gilman, P. Low, S. May, C. Tanner, M. Stern, P. Sandroni, S. Reich, F. Marshall, P. Novak, J. Jankovic, G.F. Wooten, B. Racette, D. Sletten, C. Shults (Ann Arbor, Michigan, USA)

943 **Clinical features of dystonia in atypical parkinsonism**
C.O. Godeiro, Jr, A.C. Felicio, O.G.P. Barsottini, P.M.C. Aguiar, S.M.A. Silva, V. Borges, H.B. Ferraz (Sao Paulo, Brazil)

944 **Lower limb dystonia: A unusual symptom in a patient with a tauopathy**
G. Turc, C. Roue-Jagot, H. Brasme, T. Lenglet, M.-O. Habert, A. Kas, A. Funkiewiez, M. Sarrazin, B. Fontaine, D. Grabli (Paris, France)

945 **Case report and literature review of levodopa-reponsive young onset Parkinson's disease in a patient with Down's syndrome**
P. Agarwal, A.F. Griffith, M. Borromeo-Wesner (Kirkland, Washington, USA)

946 **Respiratory disturbances in the early phase of progressive supranuclear palsy**
M.M. Hensler, C. Abright, J. Levin, L. Deutschenbauer, M. Behr, S. Lorenzl (Munich, Germany)

947 **Effectiveness of an inpatient movement disorders program for patients with atypical parkinsonism**
E. Terry, A.D. Hohler, D.I. Katz, T.J. DePiero, D.K. White, C.L. Hehl, A. Leonard, V. Allen, J. Dentino, M. Gardner, H. Phenix, M. Saint-Hilaire (Boston, Massachusetts, USA)

948 **Exclusion of linkage to chromosome 14q in Serbian family with idiopathic basal ganglia calcification**
M. Jecmenica-Lukic, I. Petrovic, V. Dobricic, T. Stojkovic, I. Novakovic, V.S. Kostic (Belgrade, Serbia)

949 **Duodenal duodopa in MSA-p**
P.M. Jeene, J.P. ter Bruggen ('s Hertogenbosch, Brabant, Netherlands)

950 **Cerebral glucose metabolism, clinical features, neuropsychological profile and MR imaging in patients with corticobasal syndrome and multiple system atrophy**
R.M. Kandadai, R. Borgohain, M.A. Kanikannan, S.A. Jabeen, T. Suryaprabha, N. Kavitha (Hyderabad, Andhra Pradesh, India)

951 **The PINK1 gene: Investigating South African Parkinson's disease patients**
R.J. Keyser, J. Carr, S. Bardien (Cape Town, South Africa)

952 **Comparison of frontal executive dysfunction and neuropsychiatric features in patients with PSP, PSP-P and PD in India**
R. Nehru, F. Khanam, S. Kumar, A. Batla, J.B. Sharma (New Delhi, Delhi, India)

953 **Does the addition of new raters to a Parkinson's disease clinical trial result in increased noise? (Initial findings)**
A. Kott, D.S. Miller (Praha 2, Prague, Czech Republic)

954 **Anticholinergic responsive freezing of gait as a presentation of pantothenate kinase-associated neurodegeneration**
S.-H. Kuo, P. Greene (New York City, New York, USA)

955 **Clinical factors related to the size of carotid arterial plaque in patients with vascular parkinsonism**
J.H. Lee (Koyang-shi, Kyonggi-do, Republic of Korea)

956 **Vascular Parkinson's syndrome after cerebrovascular diseases: Comparision of one ischemic lesion and multiple silent lacunar infarction**
N. Lobjanidze, A. Dzagnidze, M. Kukava, D. Bendeliani, A. Jeiranashvili, M. Beridze, M. Janelidze, I. Khatiashvili, N. Sebiskveradze (Tbilisi, Georgia)

957 **Effect of rasagiline in patients with progressive supranuclear palsy (PSP)**
S. Lorenzl, L. Deutschenbaur, M. Hensler (Munich, Germany)

958 **Autopsy confirmed multiple system atrophy (MSA) cases: Mayo experience and role of autonomic function tests**
V. Iodice, A. Lipp, J.E. Ahlskog, P. Sandroni, R.D. Fealey, J.E. Parisi, J.Y. Matsumoto, D.M. Maraganore, E.E. Benarroch, K. Kimpinski, W. Singer, T.L. Gehrking, J.A. Gehrking, D.M. Sletten, A.M. Schmeichel, J.H. Bower, S. Gilman, P.A. Low (Rochester, Minnesota, USA)

959 **Quantitative analysis of the pull test in patients with impaired postural reflexes**
R.A. McGovern, A.P. Wilson, A.K. Rao, P.E. Greene, G.M. McKhann, P. Mazzoni (New York City, New York, USA)

960 **Quality of life in multiple system atrophy: Validation of the french version of the MSA-QoL**
W.G. Meissner, S. Dupouy, V. Cochen-de Cock, A. Gerdelat-Mas, O. Rascol, F. Tison (Pessac, France)

961 **Late-onset neurological Wilson's disease without K-F rings or characteristic MRI findings**
E.S. Molho (Albany, New York, USA)

962 **Progression of cardinal symptoms and MRI findings in multiple system atrophy**
M. Murata, M. Ogawa (Tokyo, Japan)

963 **Tractography in a case of corticobasal syndrome**
G.M. Nàpoli, F. Meli, E. Silva, D. Miñarro, P. Bonardo, J. Halfon, R. Reisin, M. Fernandez Pardal (Buenos Aires, Argentina)

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964 **Retrospective study of the therapeutic effect of deep brain stimulation in multiple system atrophy**
Y. Wu, M.A. Almaguer, F. Atassi, E.C. Lai, J. Jankovic, W.G. Ondo (Houston, Texas, USA)

965 **Curcumin, accelerates the clearance of mutant alpha-synuclein and injured mitochondria via autophagy induction**
T. Pan, Y. Wu, W. Le, J. Jankovic (Houston, Texas, USA)

966 **Gait characteristics in patients with progressive supranuclear palsy while dual task walking**
S. Radovanovic, N. Kresojevic, M. Jecmenica-Lukic, V. Spica, N. Dragasevic, M. Svetel, V.S. Kostic (Belgrade, Serbia)

967 **Long-term experience with 110 Wilson's disease patients**
M. Relja, V. Miletic (Zagreb, Croatia)

968 **Extrapyramidal symptoms as first manifestations in adult neuronal ceroid lipofucsinosis**
G.G. Cardenas, U.U. Rodriguez, S.P.S.P. Gonzalez Carmona (Mexico City, Mexico)

969 **Can BOLD brain activation pattern differentiate the different classes of parkinsonism for a simple motor task**
M. Saxena, S. Kumaran, S. Singh, V. Goyal, M. Behari (New Delhi, Delhi, India)

970 **Transcranial magnetic stimulation over the cerebellum in ataxic and non-ataxic patients with progressive supranuclear palsy**
Y. Shirota, M. Hamada, R. Hanajima, Y. Terao, S. Tsuji, Y. Ugawa (Tokyo, Japan)

971 **Dysphagia as a presenting symptom of progressive supranuclear palsy**
D. Shprecher, R. Evans (Salt Lake City, Utah, USA)

972 **An analysis of cognitive and behavioural features of MSA-P and MSA-C patients**
C. Siri, S. Duerr, M. Canesi, G. Wenning, M. Delazer, R. Esselink, B.R. Bloem, T. Gurevich, N. Giladi, M. Balas, L. Raz-Rubinstien, P. Santacruz, F. Marti, E. Tolosa, A. Rubino, G. Meco, W. Poewe, A. Antonini (Milan, Italy)

973 **Blood-brain barrier impairment is functionally correlated with the clinical severity in patients of multiple system atrophy**
S.-K. Song, Y.H. Sohn, S.-K. Lee, J.J. Lee, J.E. Lee, H.S. Choi, P.H. Lee (Seoul, Korea)

974 **Morphological differences between two subtypes of progressive supranuclear palsy on MRI: A voxel-based morphometric and diffusion tensor imaging study**
K. Srulijes, A. Groeger, E. Dietzel, M. Nechyporenko, J. Godau, C. Maenz, D. Berg, W. Maetzler (Tuebingen, Germany)

975 **In vivo demonstration of microstructural brain pathology in progressive supranuclear palsy: A DTI study using TBSS**
M. Stamelou, M. Belke, H. Katja, U. Pilatus, K. Eggert, W.H. Oertel, S. Knake, G.U. Hoeglinger (Marburg, Germany)

976 **Spatio-temporal dynamics of brain volume changes in patients with cortico-basal-degeneration**
M. Suedmeyer, P. Pieperhoff, S. Groiss, L. Wojtecki, K. Zilles, K. Amunts, A. Schnitzler (Duesseldorf, Germany)

977 **To subtype the protean clinical and analyze the MRI appearances of Wilson's disease (WD) – a two year prospective study at Indira Gandhi Government General Hospital &PGI – Pudhucherry. (IGGGH&PGI)**
S.C. Thirunavukarasu, V. Sivasankari, A. Mukundan, S.D.T.J. Krishna, G.A. Ganesan, S. Paranjothi, V. Govindaraj (Pudhucherry, India)

978 **Indian variant PSP-P: Clinical and quantitative MRI profile**
R. Nehru, A. Batla, T. Vijay, J.B. Sharma, S.K. Puri (New Delhi, Delhi, India)

### Quality of life/caregiver burden in movement disorders

979 **Depression and quality of life (QOL) in Parkinson's disease. Preliminary results of a broad spectrum analysis in a non-demented Brazilian sample**
F.H.R. de Costa, A.L.Z. de Rosso, M.P. de Gama, J.M. Pitágoras, D.H. Nicaretta (Rio de Janeiro, Brazil)

980 **Results of a multi-national patient and physician survey on treatment satisfaction with current botulinum toxin treatment in focal dystonia**
M. Fargel, E. Psaila (Rueckersdorf, Germany)

981 **Measuring quality of life in patients with Parkinson's disease using the McGill quality of life questionnaire**
T.E. Gofton, H. Kumar, A. South, M. Speechley, M.S. Jog (London, Ontario, Canada)

982 **Measuring existential, psychological and physical contributors to quality of life in Parkinson's disease using the mcgill quality of life tool**
T.E. Gofton, H. Kumar, M.S. Jog (London, Ontario, Canada)

983 **Bone metabolism in Parkinson's disease**
H. Ito, T. Sano, S. Hattori, T. Kamei (Chigasaki, Kanagawa, Japan)

984 **Baseline characteristics of patients receiving botulinum toxin type A (BOTOX®) for approved therapeutic indications in the Canadian MOBILITY study: A large ongoing phase IV prospective observational cohort study**
M. Jog, T. Wein, R. Beauchamp, R. Miller, M. Bhogal, S. Simonyi (London, Ontario, Canada)

985 **Botulinum toxin type A (BOTOX®) improves health utility in patients treated for approved therapeutic indications: Interim analysis of a large ongoing phase IV prospective observational cohort study (MDs on BOTOX® Utility-MOBILITY) in Canada**
M. Jog, T. Wein, R. Beauchamp, R. Miller, M. Bhogal, S. Simonyi (London, Ontario, Canada)

986 **Resilience in patients with Parkinson's disease**
S.R. Kim, S.J. Chung, H.-W. Shin, M.S. Kim, S.J. Lee, M.C. Lee (Seoul, Republic of Korea)

987 **Quality of life in patients with Parkinson's disease: Translation and psychometric evaluation of the Iranian version of PDQ-39**
M. Nojomi, Z. Mostafavian, G.A. Shahidi, C.J. DPhil (Tehran, Islamic Republic of Iran)

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988 **Treatment satisfaction with current botulinum toxin treatment of post-stroke spasticity: Results of a multi-national patient and physician survey**
E. Psaila, M. Fargel (Rueckersdorf / Nuremberg, Germany)

### Restless legs syndrome

989 **MEIS1 as a potential mediator of the RLS-iron pathology**
N. Silver, R.P. Allen, C.J. Earley (Baltimore, Maryland, USA)

990 **Evaluating a murine iron-deficiency (ID) model for RLS**
E.L. Unger, R.P. Allen, C.J. Earley (Baltimore, Maryland, USA)

991 **Periodic leg movements during sleep in narcoleptic patients with or without restless legs syndrome**
E. Antelmi, C. Franceschini, S. Vandi, R. Ferri, G. Plazzi (Bologna, Italy)

992 **Sonographic abnormalities of brainstem structures of restless legs syndrome: Comparison between idiopathic RLS and RLS in Parkinson's disease**
J.S. Baik, J.H. Park, J.H. Lee (Seoul, Korea)

993 **Safety and efficacy of long-term treatment with transdermal rotigotine in patients with idiopathic restless legs syndrome: A 12-month open-label extension study**
H. Benes, D. Garcia-Borreguero, W. Oertel, A. Fichtner, E. Schollmayer, C. Trenkwalder, on Behalf of the SP791 Study Group (Schwerin, Germany)

994 **Neuroanatomical aspect of the dopaminergic diencephalospinal pathway in the non human primate: Potential implications for restless legs syndrome**
Q. Barraud, I. Obeid, I. Aubert, H. Contamin, W. Mazier, G. Barriere, F. Tison, E. Bezard, I. Ghorayeb (Bordeaux, France)

995 **Transcranial sonography in differential diagnosis of restless legs syndrome**
M. Budisic, Z. Trkanjec, A. Lovrencic Huzjan, D. Azman, M. Crnjakovic, M. Strineka, V. Demarin (Zagreb, Croatia)

996 **A Brazilian multicenter prevalence study of restless legs syndrome in multiple sclerosis patients**
Y.D. Fragoso, A. Finkelstejn, D.R. Kaimen-Maciel, S. Gomes, C.L.S. Oliveira, J. Lopes, R.A. Cristovam (Santos, Brazil)

997 **Augmentation incidence during a 26-week controlled trial of pramipexole for restless legs syndrome**
D. Garcia-Borreguero, B. Högl, C. Trenkwalder, L. Ferini-Strambi, W. Hening (Deceased), W. Poewe, S. Brenner, M. Sohr, S. Albrecht, R.P. Allen (Madrid, Spain)

998 **Impact of neuropsychiatric comorbidity on treatment success in restless legs syndrome**
J. Godau, N. Spinnler, A.-K. Wevers, C. Trenkwalder, D. Berg (Tuebingen, Germany)

999 **Withdrawal incidence after a 26-week controlled trial of pramipexole for restless legs syndrome**
B. Högl, D. Garcia-Borreguero, C. Trenkwalder, L. Ferini-Strambi, W. Hening (Deceased), W. Poewe, S. Brenner, M. Sohr, S. Albrecht, R.P. Allen (Innsbruck, Austria)

1000 **Prevalence of secondary restless legs syndrome in Japan – rheumatoid arthritis**
K. Hasegawa, T. Yokoyama, E. Horiuchi, T. Matsui, S. Toma (Sagamihara, Japan)

1001 **Long-term safety and efficacy of rotigotine in patients with idiopathic RLS: 5-year results from a prospective multinational open-label follow-up study**
B. Hogl, C. Trenkwalder, D. Garcia-Borreguero, R. Kohnen, W. Poewe, K. Stiasny-Kolster, L. Bauer, A. Fichtner, E. Schollmayer, W. Oertel, for the SP710 Study Group (Innsbruck, Austria)

1002 **Where is the core of the volcano? The undetermined origin of primary restless legs syndrome**
B. Isak, K. Agan, A. Pehlivan, K. Uluc, T. Tanridag, O. Us (Istanbul, Turkey)

1003 **Neurophysiological approach to the complex organization in spine: A study on F-wave duration and cutaneous silent period in patients with primary restless legs syndrome**
B. Isak, K. Uluc, C. Salcini, K. Agan, T. Tanridag, O. Us (Istanbul, Turkey)

1004 **Prevalence of restless legs syndrome in patients taking neuroleptic drugs**
P. Jagota, T. Asawavichienjinda, R. Bhidayasiri (Bangkok, Thailand)

1005 **Rotigotine reduced impairment of daily activities due to pain in patients with idiopathic restless legs syndrome**
K. Stiasny-Kolster, C. Trenkwalder, D. Garcia-Borreguero, L. Bauer, F. Grieger, E. Schollmayer, R. Kohnen, on Behalf of the SP790 Study Group (Nuremberg, Germany)

1006 **Periodic limb movements in obstructive sleep apnea-hypopnea syndrome patients**
R. Chen, L.-L. Zhao, J.-Y. Huang, K.-P. Xiong, M.-Y. Zhao, C.-F. Liu (Suzhou, Jiangsu, China)

1007 **Prevalence of restless legs syndrome in parents of children with attention deficit/hyperactivity disorder**
J.C. Möller, K. Stiasny-Kolster, M. Heinzel-Gutenbrunner, S. Friedel, K. Konrad, M. Linder, A. Warnke, W.H. Oertel, O. Bandmann, J. Hebebrand (Marburg, Germany)

1008 **Evidence for bilateral caudate nucleus involvement in PLMS: A case-study employing simultaneous EEG-EMG-fMRI**
N.M. Maurits, R.J. Renken, B.M. de Jong, J.H. van der Hoeven (Groningen, Netherlands)

1009 **Restless legs syndrome and periodic limb movements in patients after spinal cord injuries. Risk of symptoms being misinterpreted**
S.K. Nilsson, A. Nordstrom (Umea, Sweden)

1010 **Clinical characteristic of pediatric restless legs syndrome (RLS)**
Y. Oka, K. Hayashida, F. Horiuchi, Y. Inoue (Toon, Ehime, Japan)

1011 **"Pure motor restless legs syndrome" mimicking myoclonus**
W.G. Ondo (Houston, Texas, USA)

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1012 **Prevalence and profile of restless legs syndrome in Parkinson's disease and other neurodegenerative disorders: A case-control study**
P.K. Pal, K. Suresh, U.B. Muthane (Bangalore, Karnataka, India)

1013 **Phase-imaging study in restless legs syndrome**
G. Rizzo, D. Manners, C. Testa, C. Tonon, R. Vetrugno, S. Marconi, G. Plazzi, F. Pizza, F. Provini, C. Scaglione, E. Malucelli, B. Barbiroli, P. Martinelli, P. Montagna, R. Lodi (Bologna, Italy)

1014 **Restless leg syndrome (RLS) by gender: The effects of hormones, life cycles and comorbidity in a female Sicilian cohort**
R. Silvestri, I. Aricò, R. Condurso, G. Mento (Messina, Messina, Italy)

1015 **Pediatric RLS: Diagnostic problems, co-morbidity and developmental impact in a Sicilian cohort**
R. Silvestri, I. Aricò, R. Condurso, T. Calarese, G. Giacobbe, A. Gagliano (Messina, Italy)

1016 **Restless legs syndrome following peripheral trauma**
L.F.R. Vasconcellos, P. Oliveira, I.M. Tavares, R. Braga (Rio de Janeiro, Brazil)

1017 **Is the restless legs syndrome (RLS) mediated by inflammatory and immunological mechanisms? RLS is associated with an increased prevalence of small intestinal bacterial overgrowth**
A.S. Walters, L.B. Weinstock (Nashville, Tennessee, USA)

### Spasticity

1018 **Stiff person syndrome as the initial manifestation of systemic lupus erythematosus – case report**
R.P. Munhoz, M.M. Moscovich, H. Fameli, L. Filla, H. Teive (Curitiba, Brazil)

1019 **Post stroke arm spasticity – results of the German-Austrian prospective survey**
H. Hefter, W. Jost, A. Reissig, J. Wissel (Duesseldorf, Germany)

1020 **Efficacy of NT 201 (botulinum neurotoxin type A, free from complexing proteins) in the treatment of patients with upper limb spasticity**
P. Kanovsky, M.P. Barnes, I. Pulte, P. Minnasch, S. Grafe, for the NT 201 Spasticity Study Groups (Olomouc, Czech Republic)

1021 **Use of botulinum toxin in neurology: Experience of the neuroactive-neuromuscular blocking interdisciplinary service**
C. Milani (Ribeirao Preto, Sao Paulo, Brazil)

1022 **Visual-induced startle reactions in a patient with stiff limb syndrome**
P. Schestatsky, A. Dall Pizzol, L. Cabral, A.S. Schuh, M. Roriz-Cruz, F. Batistela, T.L. Monte, M.M. Bianchin, C.R.M. Rieder (Porto Alegre, Brazil)

1023 **Analysis of surgical intrathecal [i.t.] baclofen [ITB] implant results emphasizing revision surgery in a mixed pediatric/adult population**
N. Roosen, Y. Awaad, K. McIntosh, M. Waines (Dearborn, Michigan, USA)

1024 **Surgical complications with intrathecal baclofen (ITB) – management experience in children (<16-years-old) and adults**
N. Roosen, K.A. McIntosh, Y.M. Awaad (Wyandotte, Michigan, USA)

1025 **Juvenile parkinsonism due to a novel SPG 15 mutation**
J. Schicks, M. Synofzik, H. Petrusson, P. Bauer, L. Schöls (Tuebingen, Germany)

1026 **The unexpected mutation frequency of SPG4 gene in Chinese AD-HSP patients**
L. Shen, Y. Wang, C. Chen, J. Du, Y. Luo, B. Tang (Changsha, Hunan, China)

### Tics/Stereotypies

1027 **Synchronization and continuation: Analysis of repetitive finger movements in patients with Tourette syndrome**
L. Avanzino, A. Tachino, M. Bove, D. Martino, E. De Grandis, M. Mirabelli, E. Pelosin, E. Veneselli, G. Abbruzzese (Genova, GE, Italy)

1028 **Double-blind controlled randomized study of the use of levetiracetam to treat tics in children and adolescents with Tourette syndrome**
Y.M. Awaad, A.M. Michon, S. Minark, T. Rizk (Riyadh, Saudi Arabia)

1029 **Sensitivity to sensory stimuli is a common feature of Tourette syndrome, and is not a result of reduced detection threshold**
B.A. Belluscio, M. Hallett (Bethesda, Maryland, USA)

1030 **Quantitative wearable monitoring of Tourette motor tics**
M. Bernabei, E. Preatoni, M. Mendez, L. Piccini, M. Porta, M. Sassi, D. Servello, G. Andreoni (Milano, Italy)

1031 **Dystonic tics in patients with primary tics disorders**
J. Damasio, M.J. Edwards, A. Alonso, P. Scwingenschuh, K.P. Bhatia (London, United Kingdom)

1032 **Motor and vocal tics and their association with ADH among children in Ulaanbaatar**
U. Dashdorj, B. Tserensodnom, B. Jigjidsuren (Ulaanbaatar, Mongolia)

1033 **Cortical excitability in Tourette patients – differential effects of voluntary movements and median nerve stimulation**
S. Franzkowiak, B. Pollok, K. Biermann-Ruben, J. Paszek, G. Thomalla, A. Muenchau, A. Schnitzler (Duesseldorf, Germany)

1034 **Autism stereotypies in Allan-Herndon-Dudley syndrome**
A.D. Gika, A.J. Hulse, D. Josifova, G. Baird, T.J. Hedderly (London, United Kingdom)

1035 **Stereotypies and repetitive motor behavior in patients with Alzheimer's disease who present spared vs. impaired executive functioning**
E. Gleichgerrcht, A. Chade, M. Roca, T. Torralva, F. Manes (Capital Federal, Buenos Aires, Argentina)

1036 **Aripiprazole use in TS: A two year retrospective experience in 27 patients**
J.J. Juncos, G.J. Revuelta (Atlanta, Georgia, USA)

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1037 **Major determinants of psychosocial and occupational disability in adult Tourette syndrome**
D.G. Lichter, S.G. Finnegan (Buffalo, New York, USA)

1038 **Is it a tic? Twenty seconds to make a diagnosis**
J. Paszek, B. Pollok, K. Biermann-Ruben, K.R. Mueller-Vahl, V. Roessner, G. Thomalla, M.M. Robertson, M. Orth, A. Schnitzler, A. Muenchau (Duesseldorf, Germany)

1039 **Pitfalls in deep brain stimulation for treatment-refractory Tourette syndrome**
D. Servello, M. Sassi, S. Defendi, A. Brambilla, M. Porta (Milano, Italy)

### Tremor

1040 **Clinical features that best differentiate patients with adult onset dystonic tremor from tremulous Parkinson's disease**
C. Lonngren, T. Maggs, V. Gontu, N. Bajaj (Nottingham, United Kingdom)

1041 **The influence of age in essential tremor**
N. Cinar, S. Sahin, T. Okluoglu, S. Karsidag (Istanbul, Turkey)

1042 **Holmes tremor in a HIV positive patient worsened by immune recovery inflammatory syndrome (IRIS)**
R.B. Correa, F.R. Schmidt, F.M.L.C. Silva, F.H.R. Costa, A.L.Z. Rosso, D.H. Nicaretta, J.P. de Mattos, S.A.P. Novis (Rio de Janeiro, Brazil)

1043 **Percentage of essential tremor patients for whom front-fine medications have been discontinued**
N.L. Diaz, E. Louis (New York City, New York, USA)

1044 **Disappearance of essential tremor after stroke**
M.J.-M. Dupuis, F.L.A. Evrard, J.G. Philippe, P.R. Gaetane, L.G. Oliver (Ottignies Louvain La Neuve, Brabant, Belgium)

1045 **Essential tremor across diagnostic and/or categorical assessment**
S.G. Echebarria Mendieta (Las Arenas - Getxo, Bizkaia, Spain)

1046 **Risk factors for perioperative complications in deep brain stimulation surgery for tremor**
J. Fang, E. Presant, F. Phibbs (Nashville, Tennessee, USA)

1047 **Neuropathic tremor with response to rituximab**
C.V. Garcia Mendez, J.C. Giugni, V. Silva, R. Diez, A. Cueto, R.J. Giannaula (Buenos Aires, Argentina)

1048 **Electrophysiological correlates of lithium tremor**
D. Haubenberger, G.J. Lopez, B. McElroy, E. Considine, M. Hallett (Bethesda, Maryland, USA)

1049 **Is the central component of physiologic tremor a positive predictive factor for the incidence of a pathologic tremor?**
H. Hellriegel, I. Petrovic, F. Pawlas, G. Deuschl, J. Raethjen (Kiel, Germany)

1050 **The effects of transcranial magnetic stimulation on electromyographic characteristics in primary writing tremor patients**
M.R. Ljubisavljevic, M. Cukic, A. Kalauzi, S. Filipovic, I. Fatima (Al Ain, United Arab Emirates)

1051 **Holmes' tremor or rubral tremor, description of 5 cases**
E.R. Lopez (Chillan, Nuble, Chile)

1052 **Cognitive and motor functional activity in nondemented community-dwelling essential tremor cases**
E.D. Louis, J. Benito-Leon, S. Vega-Quiroga, F. Bermejo-Pareja (New York City, New York, USA)

1053 **Neurophysiologic tremor analysis in patients with non-parkinsonian tremors**
U. Meenakshisundaram, V. Agarwal (Chennai, Tamilnadu, India)

1054 **Botulinum toxin A injections are an effective treatment of essential head tremor**
S.G. Ochudlo, G.M. Opala (Katowice, Upper Silesia, Poland)

1055 **Parkinsonian features in essential tremor patients**
R.P. Prado, L.C. Ferreira, A.G.P. Prado (Aracaju, Sergipe, Brazil)

1056 **Tremor profile of a movement disorder clinic**
S. Raha, S. Aithal, L. Ebenezer (Bridgend, United Kingdom)

1057 **Hand tremor in dystonic patients**
I. Zekja, D. Dobi, J. Kruja, M. Rakacolli (Tirana, Albania)

1058 **Validation of TremAn – a tool for analysis of tremor frequency from video recordings**
E. Ruzicka, Z. Uhrikova, O. Sprdlik, M. Hoskovcova, V. Hlavac, C.D. Nugent (Prague, Czech Republic)

1059 **Thalamic and subthalamic dbs for essential tremor. What is the optimal location of the electrode?**
U. Sandvik, L.-O.D. Koskinen, P. Blomstedt (Umea, Sweden)

1060 **Neurophysiological evidence for cerebellar dysfunction in neuropathic tremor**
P. Schwingenschuh, P. Katschnig, M. Aguirregomozcorta, T. Saifee, M.P. Lunn, H. Manji, M.M. Reilly, K.P. Bhatia, J.C. Rothwell, M.J. Edwards (London / Graz, United Kingdom)

1061 **Clinical presentation of SWEDDS with abnormal olfaction**
L. Silveira-Moriyama, V. Gontu, J. Birchall, J. Patterson, D.G. Grosset, P. Bain, N.P.S. Bajaj, A.J. Lees (London, United Kingdom)

1062 **Orthostatic tremor: Is it really benign? A review of 33 cases**
D. Sirisena, L. Aldous, K. Tuck, M. Cowey, D.R. Williams (Melbourne, Victoria, Australia)

1063 **Essential tremor: Factors influencing the quality of life**
S. Telarovic (Zagreb, Croatia)

1064 **"Bag tremor" as a type of task-specific isometric tremor**
C. Villa, J. Pagonabarraga, A. Gironell, B. Pascual-Sedano, J. Kulisevsky (Barcelona, Spain)

1065 **Is botulinum toxin treatment useful in patients with tremor?**
S. Vohanka, B. Micankova, S. Skutilova (Brno, Czech Republic)

1066 **Direct evidence for central oscillators underlying neuropathic tremor**
D. Weiß, R. Govindan, A. Rilk, W. Tobias, B. Sorin, K. Rejko, A. Gharabaghi (Tubingen, Germany)

1067 **Orthostatic tremor: A review of 40 cases**
T.C. Yaltho, J. Jankovic, W.G. Ondo (Houston, Texas, USA)

## Notes

## Notes

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# The *Movement* Disorder Society

Certifies that

has attended The *Movement* Disorder Society's 14th International Congress of Parkinson's Disease and Movement Disorders on June 13-17, 2010 at Sheraton Buenos Aires Hotel and Convention Center located in Buenos Aires, Argentina.

Christopher G. Goetz, MD
2010 Congress Scientific Program
Committee Chair

Oscar Gershanik, MD
2010 Congress Scientific Program
Committee Co-Chair

The *Movement* Disorder Society's

# 15TH INTERNATIONAL CONGRESS OF PARKINSON'S DISEASE AND MOVEMENT DISORDERS

# TORONTO

JUNE 5-9, 2011 TORONTO, ON, CANADA

## SAVE THE DATE

October 4, 2010 — Abstract Submission Opens
December 1, 2010 — Registration Opens
January 7, 2011 — Abstract Submission Closes
April 12, 2011 — Early Registration Deadline
May 10, 2011 — Final Registration Deadline
June 5-9, 2011 — 15th International Congress of Parkinson's Disease and Movement Disorders

MERCK SERONO

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13:00 -14:00

Retiro Room
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Co-chairs:
Professor Anthony Schapira
Professor Oscar Gershanik