A *MOVEMENT* DISORDER SOCIETY UPDATE

Moving Along

87-0605-004

VOLUME 7, ISSUE 1 • SPRING/SUMMER 2005 • EDITORS, DR. THOMAS GASSER, DR. IRENE LITVAN

Wing of Fly, Tail of Rodent, Scale of Fish, and Pinch of Yeast: Cooking Up the Ultimate Animal Model in Movement Disorders

—Joshua M. Shulman, MD, PhD, Department of Medicine, Massachusetts General Hospital, Boston, MA, USA

A veritable menagerie of experimental animals is currently available for modeling Movement Disorders. How is one to choose between the fruit fly or the mouse, the budding yeast or the monkey, and the nematode or the zebrafish? The ultimate model of Parkinson's disease (PD) or Huntington's disease (HD) would recapitulate both clinical and pathologic features, and would also offer rapid genetic analysis, be amenable to neurophysiology, and permit effective screening of potential therapeutic agents. This idealized model would be equally applicable to dissecting determinants of toxic protein aggregation and illuminating how basal ganglia dysfunction produces motor symptoms. However, no single animal model has yet successfully delivered on so many levels. Instead, each offers its own unique set of strengths and weaknesses.

In PD research, methyl-phenyl-tetrahydropyridine (MPTP) administration to non-human primates remains a useful experimental paradigm. In contrast to transgenic animal models, the MPTP monkey develops clinically meaningful parkinsonism and also recapitulates selective nigrostriatal degeneration. Given the excellent conservation of basal ganglia organization in primates, the MPTP model has taught us important lessons about the neuroanatomic and neurophysiologic basis of parkinsonism. However, the MPTP model falls short in addressing questions about genetic influences, and given the absence of Lewy bodies, it is difficult to make clinicopathologic correlations relevant to idiopathic PD.

Transgenic mouse models of PD and HD, based on the neuronal expression of the disease-linked genes *alpha-synuclein* and *huntingtin*, respectively, were developed in part to bridge this gap. To a clinician, mouse models of Movement Disorders can initially seem disappointing, as their motor symptoms are not recognizable as parkinsonism or chorea, and they fail to reliably develop significant neurodegeneration in the expected cell populations. Nevertheless, these animals have taught us that motor symptoms can precede widespread neuronal loss, and in the case of the mouse model of PD, that dopaminergic dysfunction can occur in the absence of Lewy bodies. Therefore, neuroprotective interventions may need to do more than prevent neurodegenerative cell death and block the formation of large macromolecular aggregates.

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Earlier this year, on March 5-8, 2005, The *Movement* Disorder Society (MDS) convened its 9th International Congress of Parkinson's Disease and Movement Disorders in New Orleans, LA, USA. It was fascinating to see that only nine months after the 8th International Congress, which had been held in Rome, Italy in June 2004, the Society was able to stage another International Congress, filled with exciting scientific sessions and educational opportunities. As is now almost customary, the organizers did a magnificent job to put together a great meeting in a vibrant location. Undoubtedly, the yearly schedule is as much an opportunity as it is a challenge, to organizers, to the Society, and last but not least, to the scientists and clinicians, who are generating all the knowledge that is presented during the meetings. Nevertheless, the success of this past meeting is certainly a strong encouragement to continue on this path, and the yearly International Congresses will help to bring the Movement Disorders community even closer together.

This Spring/Summer edition of *Moving Along*, the official newsletter of The *Movement* Disorder Society, is devoted to a particular scientific topic of great interest: the role of animal models in Movement Disorders research. The Cover Story by Dr. Shulman highlights the diversity of animal models that have been developed in recent years. It is fascinating to see how species as far removed from the human species as worms, fruit flies or even yeast can teach us different aspects of the molecular events underlying neurodegeneration or neuronal dysfunction, whereas the more closely related species, such as rats or primates are more valuable in modeling the pathophysiologic basis of Movement Disorders.


Irene Litvan, MD


Thomas Gasser, MD

Nevertheless, the value of animal models in Movement Disorders research is still controversial. The "Controversy", a section that has become a regular feature of this newsletter, tries to focus on whether animal models are required for therapeutic research. Two scholarly articles take somewhat opposing views. While Prof. Erwan Bézard clearly takes the affirmative point of view, highlighting the many advances that have been brought about by studying animal models and supporting his view by many examples, Profs. Mailman and Koller are more critical and bring forward many of the still unresolved issues and unanswered questions. While animal models are clearly a major part of today's research, particularly with respect to etiology and pathogenesis, it is important to keep in mind their limitations and the fact that well designed clinical studies are still the irreplaceable gold standard in defining the best treatment for Movement Disorders patients.

Besides the scientific focus on animal models, this issue again brings you reports on past meetings, as well as notifications of International Congresses and meetings to come, job opportunities and other news from the Movement Disorders community.

LETTERS TO THE EDITORS

Your Comments and Questions Are Always Welcome

Editorial Policy

As part of its democratic commitment, MDS welcomes the input of all its members about the features and articles that appear in this newsletter. Have a comment or question? Each issue will include your responses in the "Letters to the Editor" section. All materials submitted become the property of MDS.

Address your communications to:

Editor: *Moving Along*
The *Movement* Disorder Society
555 East Wells Street, Suite 1100
Milwaukee, WI 53202-3823, USA
Tel: +1 414-276-2145
Fax: +1 414-276-3349
E-mail: info@movementdisorders.org

I am honoured to take over the Presidency of MDS, which in ten short years has risen to become the premier forum and the world's most highly respected learned society for clinicians and scientists with a special interest in Parkinson's disease and Movement Disorders. I look forward to working with my fellow Officers and International Executive Committee (IEC) members, and will do my utmost to be sensitive and responsive to suggestions for improvement from the grass roots membership. I also hope to increase the profile of our exciting sub-specialty within neurology in order to ensure that we continue to attract the best young neurologists into this fascinating and challenging field.

The 9th International Congress of Parkinson's Disease and Movement Disorders in New Orleans, Louisiana, USA, March 5-8, 2005, our first annual meeting, was a phenomenal success attended by just over two thousand enthusiastic and committed delegates. In addition to the exceptionally high quality of the faculty, the meeting was notable for two educational innovations for MDS meetings, namely Parallel Sessions and Skills Workshops. These both proved to be extremely popular as indeed was the initiative to embrace all the New Orleans educational sessions within the meeting registration fee. In contrast to many international symposia excellent attendance of all sessions occurred throughout the meeting.

The truly international nature of MDS remains one of its great strengths and something I intend to nourish and expand during my Presidency. 2006 will prove to be a special year when the first ever World Parkinson Congress will take place in Washington, DC, USA, February 22-26, with MDS as a major sponsor. This is planned to be an international, interdisciplinary forum showcasing the most important developments in Parkinson's disease, as well as bringing together those serving the Parkinson's community and those living with the condition, including researchers, allied health professionals, caregivers, individuals with Parkinson's disease, representatives of the pharmaceutical industry and those writing policy relevant to Parkinson's disease.

The *Movement* Disorder Society's own 10th International Congress of Parkinson's Disease and Movement Disorders will be held in Kyoto, Japan, October 29-November 2, 2006. We are hoping all of you will be keen to attend what is now incontrovertibly the most respected international meeting on Movement Disorders for clinicians and translational scientific researchers in the world.

Together, these events will focus our combined efforts toward promoting and providing optimal patient care for those living with Parkinson's disease and other Movement Disorders.

During the MDS 10th International Congress in Kyoto, the Society will also celebrate an exciting milestone with the establishment of the Asian and Oceanic Section (AOS). Together, Asia and Oceania comprise a vast geographical region with an approximate population of three billion people, roughly half of the world's population. The new Section will increase the involvement of Asian and Oceanic Movement Disorder specialists, general neurologists and other allied health professionals in our Society and facilitate new educational initiatives.

This summer, MDS will hold a two-day Strategy and Planning Meeting in Dublin, Ireland. Leadership will review the Society's 2002-2005 Strategic Plan, define the Society's goals and objectives for the near and long-term future, and confirm the 2006-2009 iteration of the MDS Strategic Plan. At the same time, the Education Committee and the European Section's Education in Europe Work Group will meet to determine the future global and regional direction of the Society's rapidly expanding educational program.

I look forward to serving as your President and welcome your insights and suggestions as to how we can further develop and improve our fledgeling and thriving Society.

Andrew Lees, MD, FRCP
MDS President 2005-2006

The *Movement* Disorder Society
International Secretariat
Caley A. Kleczka
Executive Director
555 East Wells Street, Suite 1100
Milwaukee, Wisconsin 53202-3823
USA
Tel: +1 414-276-2145
Fax: +1 414-276-3349
E-mail:
ckleczka@movementdisorders.org

Wing of Fly, Tail of Rodent, Scale of Fish, and Pinch of Yeast: Cooking Up the Ultimate Animal Model in Movement Disorders

Continued from cover...

Invertebrate transgenic animal models, including the fruit fly, *Drosophila melanogaster*, and the nematode worm, *Caenorhabditis elegans*, offer accelerated and more facile genetic manipulation, and these systems have succeeded in recapitulating features of disease where mice have thus far failed. The *Drosophila* PD model, for example, develops age-dependent, selective dopaminergic cell loss, Lewy body-like aggregates of alpha-synuclein, and progressive motor decline. Fly models of PD and the polyglutamine-repeat diseases, including both HD and the spinocerebellar ataxias, have served as platforms for large genetic modifier screens. These studies have demonstrated the importance of heat shock proteins, molecular chaperones, and the ubiquitin-proteasome degradation pathways for modulating neuronal cell death. Significantly, some of these findings have now also been confirmed in mouse models. While invertebrate models have now established their niche in Movement Disorder research, they are not without their limitations. Most notably, the invertebrate nervous system lacks basal ganglia, thus limiting its applicability to questions about higher-order systems neurophysiology. A potential compromise between the more genetically tractable invertebrate models and the more highly evolved vertebrate nervous system may be found in the zebrafish, *Danio rerio*. Dopaminergic neurons have been found to be vulnerable to MPTP in zebrafish, and this system was also recently utilized to successfully model the tauopathy, frontotemporal dementia and parkinsonism linked to chromosome 17 (FTDP-17).

If a fly or worm model seems like a stretch, it may come as a surprise to learn that even the single-celled budding yeast, *Saccharomyces cerevisiae*, has now been used to model the aggregation and cytotoxicity of alpha-synuclein and huntingtin. Yeast models of PD and HD should be ideal for rapid primary screens of large chemical libraries of potential therapeutics. Candidate molecules can secondarily be confirmed in additional animal models, progressively ascending the evolutionary ladder. Thus, the field is moving away from the paradigm of a single, prototypic animal model to one where Movement Disorders are modeled collectively by a host of different species, each with their unique contribution to unraveling disease mechanisms.

SUGGESTIONS FOR FURTHER READING:

Levine et al. (2004). Genetic mouse models of Huntington's and Parkinson's diseases: illuminating but imperfect. *Trends in Neurosciences.* 27: 691-697.

Shulman et al. (2003). From fruit fly to bedside: translating lessons from *Drosophila* models of neurodegenerative disease. *Current Opinion in Neurology*. 16: 443-449.

Experience MDS's Expanding Education Program

Join your colleagues in attending one of MDS's upcoming educational workshops. Current offerings for 2005 include:

Advanced Treatment of Dystonia and Spasticity: Workshop Demonstrating the Use of Botulinum Toxin
July 23, 2005 - Cleveland, OH, USA
September 17, 2005 - Rochester, NY, USA

Treatment of Dystonia: Workshop Demonstrating the Use of Botulinum Toxin
October 1, 2005 - Kansas City, MO, USA

Practical Management of Motor Complications in Parkinson's Disease
October 14, 2005 – Lisbon, Portugal

Dopamine Transporter Imaging in Neurological Practice
October 21, 2005 – Leipzig, Germany

Spasticity Management: Workshop Demonstrating the Use of Botulinum Toxin
November 5, 2005 - New Orleans, LA, USA

Design of Clinical Trials and Evidence-Based Management of Parkinson's Disease
December 2-3, 2005 – Tokyo, Japan

Botulinum Toxins in Neurological Practice: Workshop Demonstrating the Treatment of Dystonia
December 5, 2005 - Rome, Italy

For more information and to view the most current information as new courses are announced, please visit **www.movementdisorders.org**!

Dear Colleagues,

The first meeting of the 2005-6 European Section (ES) Officers and Executive Committee (ESEC) was held 41 floors above the Mississippi River, during the MDS 9th International Congress in New Orleans. We welcomed our new Officers, Giovanni Abbruzzese, Secretary-Elect, and Martin Rabey, Treasurer-Elect, and new ESEC Member, Espen Dietrichs. We were joined by a number of *ex-officio* members; Martin Horstink from EFNS, and Nir Giladi and John Rothwell, two members of the MDS International Executive Committee (IEC) who are based in Europe, and are thus automatically invited to become *ex-officio* ESEC members. With the exception of the MDS President if he/she is European, *ex-officio* members do not have voting rights, but they contribute valuable insights into current issues affecting the MDS.

MDS-ES held our first Strategic Planning session in Paris, at the September European Federation of Neurological Societies (EFNS) Congress. The key areas we discussed included organization/administration of the Section; MDS membership recruitment and retention in Europe; education in Europe; research and training; external relations/outreach; revenue sources/funding; and promotion/public relations.

We agreed the mission statement for the Section:

"The mission of The *Movement* Disorder Society-European Section (MDS-ES) is to represent and promote The *Movement* Disorder Society (MDS) and its mission in Europe."

To carry this mission forward, we determined that the most important action item was to review the Society's role in providing education in Europe. Over the coming weeks, a panel of volunteers from the European Section Executive Committee will compile a report on educational needs specific to our geographical area. This report will be presented to the MDS Education Committee when it holds its own Strategic Planning session in August 2005. Please remember that the views and suggestions of *all* MDS members in Europe are critical to our success as a Section – if you would like to comment on your own educational needs, or the gaps you see in Movement Disorders Education in Europe, please share your visions and ideas with us.

The ESEC agreed that our deliberations about European issues, including education and membership, would be greatly enhanced by co-opting a member from one of the least economically developed Eastern European countries. We approved the proposal to co-opt a non-voting member from this region onto the ESEC for 2005-6, and I will propose to the ESEC that the European Section Nomination Committee should ring-fence one full ESEC position for a representative from one of these countries at the next election.

The MDS Officers and International Executive Committee have approved the proposal to set up an Asian and Oceanic Section of MDS, which will be modelled on the European Section. The Sections are not separate organizations, but are an integral part of the Society. Our mission aims to promote the Society's work, using our unique understanding of local needs and issues to help develop the specialty of Movement Disorders to flourish.

Another new development comes with the change to an annual MDS Congress. We will hold our next Section Annual General Meeting at the EFNS Congress in Athens, and look forward to seeing you there. Then, from 2006, our Section AGM will be held at the MDS International Congress each year.

Niall Quinn, MD
Chairman, MDS-ES

From left to right: Cristina Sampaio, Anette Schrag, François Tison, Carlo Colosimo, Werner Poewe, Niall Quinn, Petr Kanovsky, Günther Deuschl, Eduardo Tolosa, Murat Emre, Wolfgang Oertel, Karen Henley, Thomas Gasser, Ivan Rektor, Martin Horstink, Andrew Lees, Paul Krack

Are Animal Models Required for Therapeutic Research? Yes

– Erwan Bézard, PhD, Laboratoire de Physiologie et Physiopathologie de la Signalisation Cellulaire, Bordeaux Cedex, France

Asking such a question implies a possible negative answer, a situation that would be in complete contradiction with the history of Movement Disorders treatments, especially for Parkinson's disease (PD), and that would ignore the tremendous progress in understanding pathophysiologies made using these models. While the development of a therapeutic strategy might involve animal models to assess its behavioral/pathological effects, the primary interest of animal models is to help generate hypotheses by identifying targets of therapeutic interest. Nobody can refute the fact that the current knowledge of PD pathophysiology comes mainly from animal models since post-mortem studies are so scarce. In the past ten years, however, genetic analyses have provided important clues on understanding PD pathogenesis[1, 2]. Still, while these studies identified mutations, understanding the role of the mutated protein in PD pathogenesis requires creating genetically-modified animals identifying mutations causing PD[3].

> *"... the current knowledge of PD pathophysiology comes mainly from animal models since post-mortem studies are so scarce."*

The Michael J. Fox Foundation for Parkinson Research recently organized a workshop on animal models and their use in therapeutic research (March 2005, New York). Consensus rapidly emerged for accepting that current animal models of PD allow assessment with a reasonable predictive value of the efficacy of drugs that exert symptomatic effects on PD symptoms and on drug-induced dyskinesia. However, their use for validating neurorestorative or neuroprotective strategies was heatedly debated. It became apparent that no existing cellular or animal model currently available recapitulates the criteria for a reliable PD model: presenting most, if not all, features of sporadic PD, including its progressiveness and its pathological landmark, i.e., the replication of Lewy body-like inclusions; reproducing the full symptomatology including non-motor manifestations and of its progressiveness similar to that described in human PD. Cell death in PD being multifactorial, it is likely that different models should be used to test the proposed therapeutics. The combination of models would help in defining the patient populations most likely to benefit from the proposed therapeutics on the basis of the understanding of the cell death mechanisms. In addition, I personally consider[4] that administration of the drug candidate should begin once neurodegeneration has started, or from a pre-defined level of neuronal loss, in order to mimic the clinical setting and that the final proof of efficacy should be obtained from non-human primate models and not limited to rodents, because it is likely that complex cell death mechanisms differ in rodents and primates.

The temptation is high today to skip the preclinical phase or some of the experimental steps before entering into a clinical trial for neuroprotection since several drug candidates have been used in humans for other purposes[5]. Although this is in agreement with the concept of clinical equipoise[6], the risk exists that such candidates are actually harmful to the diseased neurons[7]. The fact that we currently face key issues in developing neuroprotective drugs should not lead us to answer negatively to the title question. On the contrary, more efforts should be made to develop reliable chronic models as well as behavioral investigation methodologies addressing both motor and non-motor features of neurodegenerative conditions.

References:

1. von Bohlen und Halbach O, Schober A, Krieglstein K. Genes, proteins, and neurotoxins involved in Parkinson's disease. Prog Neurobiol 2004;73(3):151-177.
2. Petrucelli L, Dawson TM. Mechanism of neurodegenerative disease: role of the ubiquitin proteasome system. Ann Med 2004;36(4):315-320.
3. Dawson TM, Dawson VL. Neuroprotective and neurorestorative strategies for Parkinson's disease. Nat Neurosci 2002;Suppl.:1058-1061.
4. Meissner W, Hill MP, Tison F, Gross CE, Bezard E. Neuroprotective strategies for Parkinson's disease: Conceptual limits of clinical trials and animal models. Trends Pharmacol Sci 2004;25:249-253.
5. Ravina BM, Fagan SC, Hart RG, et al. Neuroprotective agents for clinical trials in Parkinson's disease: A systematic assessment. Neurology 2003;60(8):1234-1240.
6. Freedman B. Equipoise and the ethics of clinical research. N Engl J Med 1987;317:141-145.
7. Diguet E, Fernagut PO, Wei X, et al. Deleterious effects of minocycline in animal models of Parkinson's disease and Huntington's disease. Eur J Neurosci 2004;19(12):3266-3276.

Are Animal Models Required for Therapeutic Research? No

– Richard Mailman, PhD, University of North Carolina School of Medicine, Chapel Hill, NC, USA
– William Koller, MD, PhD, University of North Carolina Medical Center, Chapel Hill, NC, USA

Animal models are an essential aspect of biomedical research for both studying the cause and progress of a disease, and for testing new therapeutic interventions. The overriding issue is how well an animal model will subserve these goals.

The first question with respect to Movement Disorders is whether a model can mimic the phenotype of the clinical disorder. Why is it that the MPTP monkey model is reminiscent of the signs of Parkinson's disease (PD), whereas the MPTP-mouse model is quite dissimilar in its effects on motor systems?

"The effective use of animal models requires a careful and skeptical view of the model and its proposed use."

The next question is whether an animal model can reproduce the etiology, pathophysiology, and/or course of the human disorder. For some Movement Disorders (e.g., essential tremor, dystonic disorders, etc.) there is minimal knowledge of underlying pathology. Even in the rare cases when the molecular mechanism of the human disease is known, creating a model in mice (the only mammalian species routinely amenable to molecular genetic studies) can be difficult, or result in a phenotype quite distinct from that in humans. In cases where a convincing model exists (e.g., MPTP-induced parkinsonism in primates), it is often forgotten that similar signs do not necessarily mean a similar progression.

The effective use of animal models requires a careful and skeptical view of the model and its proposed use. The MPTP model of parkinsonism reproduces the nigral cell damage, dopamine deficiency, and motor signs of Parkinson's disease. Drugs that improve clinical features in monkeys generally have similar effectiveness in Parkinson's disease, and drugs that are ineffective in the model tend to be ineffective in PD.

On the other hand, the MPTP model is not a progressive neurodegenerative condition like Parkinson's. Thus, it is not surprising that agents that protect against acute MPTP toxicity have failed to affect the course of Parkinson's disease. There is no current model for disease progression for Parkinson's disease, and until one exists, this aspect of the disease is difficult to study preclinically.

There are other important uses of animal models in developing new therapies. Despite advances in many fields, animal testing is still essential (and required) in drug development and safety testing. Issues are numerous, ranging from the ethical, to the question of whether high dose testing in relatively few animals will predict side effects from lower doses in a bigger and heterogeneous population. It would be desirable if animal testing was not needed, but our understanding of the biology of complex organisms is still too primitive to allow elimination of such tests in the foreseeable future.

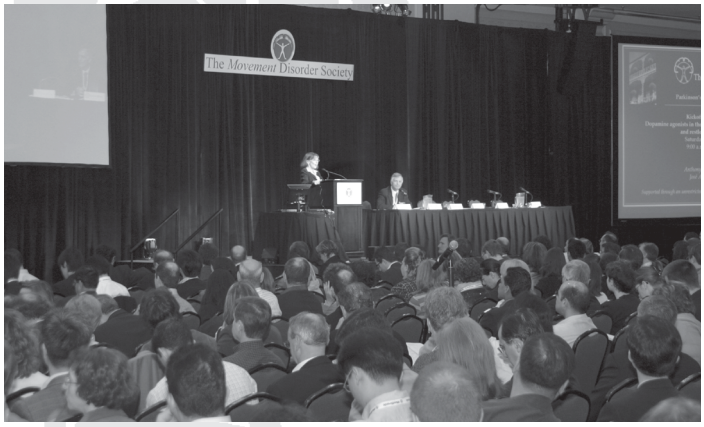
There are no computational or laboratory methods that adequately and accurately predict complex events (from cancer to emotion). Until this day arrives, animal models are critical to both advancing our understanding of disease, and of testing new therapeutic interventions. It is clear that investigators must consider carefully reliability, etiology, pathophysiology, relation to clinical phenotypic, and validity towards a desired goal (e.g., testing of symptomatic relief vs. arresting course of disease), but one must remember that animal models sometimes produce heuristic information of great importance to diseases distinct from the original focus. Such models are yet likely to be valuable for many years to come.

MDS Celebrates Success of First Annual International Congress

New Orleans, LA, USA, was the site for The *Movement* Disorder Society's (MDS) International Congress, held March 5-8 at the New Orleans Marriott and the Sheraton New Orleans hotels. Just steps away from the world-famous French Quarter, these two venues proved to be an extremely desirable location for delegates during their free time.

Due to the increased popularity of the International Congress, and the growth of the Society, 2005 marked the first year for an annual International Congress, shifting away from its traditional biennial Congress.

Similar to the last two International Congresses, Kickoff Seminars started off the week on Saturday, March 5. That evening, delegates gathered for the traditional Opening Ceremony at the New Orleans Marriott hotel. During the Welcome Reception that followed, delegates were entertained by the sounds of Preservation Hall, a popular and traditional jazz band local to the city, while sampling New Orleans cuisine and viewing the exhibit hall prior to the official opening.



9th International Congress delegates attend a Kickoff Seminar

The Scientific Program continued throughout the week with 221 faculty participating in a broad array of Plenary Sessions, Parallel Sessions, Skills Workshops and Video Sessions. Session highlights included the Hot Topics and Controversies session on Monday, March 7, and the Closing Session on Tuesday, March 8.

The Hot Topics Plenary Session included an update on basal ganglia organization and physiology, surgical interventions and protein dysfunction and neurodegeneration. The Controversies Plenary Session, designed to provide both pro and con sides to several topics, was extremely well received. And finally, the Closing Session, titled "Lessons my patients taught me" provided valuable insight as to what physicians can learn from their patients.

New for this year's International Congress were Parallel Sessions and Skills Workshops. These sessions were designed to meet the need for smaller, more focused sessions attracting between 50-200 delegates for each session. Smaller audience size resulted in greater in-depth coverage of a specific topic and encouraged audience participation.

A local jazz band leads 9th International Congress attendees to the Welcome Reception

Several awards were also announced at the International Congress. Alim Benabid received the C. David Marsden lectureship award for his work with DBS in Parkinson's disease and Heiko Braak received the Stanley Fahn lectureship award for his work relating to brain pathology in sporadic Parkinson's disease. Other award recipients included Peter Novak, who received the Junior Award in the clinical category and Nutan Sharma, who received the Junior Award in the basic science category. Peter Jenner and Thomas Chase received the Honorary Membership and Career Awards, and Stanley Fahn received the President's Distinguished Service Award.

Throughout the week, delegates were also able to view a spectacular history exhibit, organized by Christopher Goetz, MD, which honored the 250th anniversary of James Parkinson's birth,

Delegates review cutting-edge research during a Poster Session

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MDS Celebrates Success of First Annual International Congress

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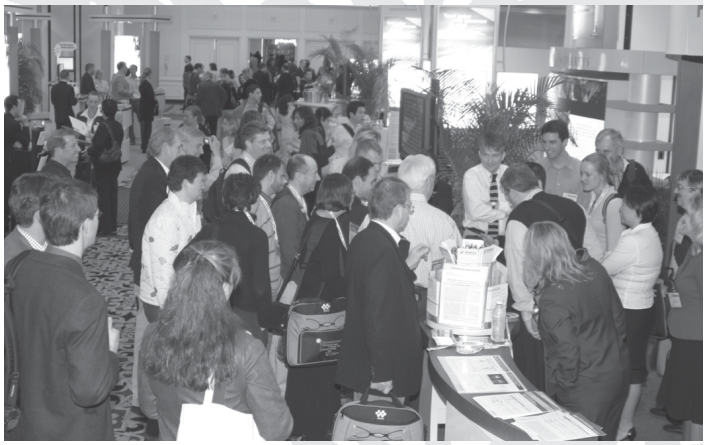
focusing on Parkinson himself and the early history of Parkinson's disease.

9th International Congress attendees participate in a Skills Workshop

Thirty-three companies exhibited at this year's International Congress, including pharmaceutical companies, patient organizations, medical publishers and medical services/equipment companies. Supporters of the 9th International Congress, who greatly contributed to the success of this event, also exhibited.

The *Movement* Disorder Society would like to extend their appreciation to faculty, supporters, exhibitors and delegates for their contributions in making the 9th International Congress a resounding success.

Mark your calendars! MDS is already planning for the 10th International Congress in Kyoto, Japan from October 29-November 2, 2006. If you have any questions about the 2006 International Congress, please contact the MDS International Secretariat by e-mail at congress@movementdisorders.org or visit the MDS Web site at www.movementdisorders.org.



Delegates network in the International Congress exhibit hall

The Second International Neuroacanthocytosis Symposium: Expanding the Spectrum of Choreatic Syndromes, Montreal Neurological Hospital and Institute

– Ruth H. Walker, MB, ChB, PhD, Neurology, Veterans Affairs Medical Center, Bronx, NY, and Mount Sinai School of Medicine, New York, NY, USA
– Adrian Danek, MD, Neurologische Klinik und Poliklinik, Ludwig-Maximilians-Universität München, Germany
– Eva Andermann, MD, PhD, FCCMG, Neurogenetics Unit, Montreal Neurological Hospital and Institute, and Departments of Neurology & Neurosurgery and Human Genetics, McGill University, Montreal, Quebec, Canada

The Second International Neuroacanthocytosis Symposium took place at the Montreal Neurological Hospital and Institute, April 17-19, 2005. The members of the Organizing and Program Committees were: Eva Andermann, Canada; Adrian Danek, Germany; Glenn Irvine, UK; Hans Jung, Switzerland; Luca Rampoldi, Italy; François Tison, France; and Ruth Walker, USA.

The meeting was organized locally by Dr. Eva Andermann, and supported by The *Movement* Disorder Society, Montreal Neurological Hospital and Institute, McGill University, The Advocacy for Neuroacanthocytosis Patients, the High Q Foundation, Inc., and John Grooms. As with the previous symposium, the support and participation of the Irvine family was invaluable.

This meeting was a follow-up to the first-ever scientific meeting devoted to neuroacanthocytosis, which took place in May 2002, the proceedings of which are now available as a book (Neuroacanthocytosis Syndromes; Springer, 2004). A smaller interim session was held as a satellite of the International Con-

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The Second International Neuroacanthocytosis Symposium: Expanding the Spectrum of Choreatic Syndromes, Montreal Neurological Hospital and Institute

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gress on Vascular Dementia, 2003, the summary of which was also recently published (J Neurol Sci 2005; 229-230:171-186).

The keynote address on mechanisms of neurodegeneration was given by Joseph B. Martin, Dean of Harvard Medical School. The symposium brought together a diverse group of researchers from ten countries on four continents, including almost all researchers in this field – Movement Disorder neurologists, neurosurgeons, molecular biologists, hematologists, neurogeneticists and others – and many who were new to the area, to focus on this rare group of neurodegenerative disorders. These include chorea-acanthocytosis (ChAc), McLeod syndrome (MLS), Huntington's disease-like 2 and pantothenate kinase-associated neurodegeneration. Further information may be found in recent reviews (www.geneclinics.org).

ChAc appears to be significantly more common in Japanese and French-Canadian populations. The first animal model (mouse) has now been generated by Dr. Sano's group from Kagoshima, and others are likely to follow. We therefore propose that the Third International Neuroacanthocytosis Symposium should be entitled "Understanding the Mechanisms". To encourage participation in neuroacanthocytosis research and care, we anticipate that a neuroacanthocytosis meeting will be held in conjunction with the 10th International Congress of Parkinson's Disease and Movement Disorders, to be held October 29-November 2, 2006 in Kyoto, Japan.

We continue to document cases of ChAc, MLS, and other Movement Disorders in which acanthocytes are present, and to share clinical data and tissue. Brains from patients with these conditions are particularly valuable. We welcome the contributions of other clinicians and researchers to this project.

Support for families and patients can be found through the Advocacy for Neuroacanthocytosis Patients at www.geocities.com/nanews2003/ and http://health.groups.yahoo.com/group/neuroacanthocytosis/.

Back row, left to right: A. Sano, MD, PhD; M. Avoli, MD, PhD; F. Tison. MD, PhD; M. Nakamura, MD, PhD; A. Sadikot, MD, PhD; C. M. Redman, PhD; G. J.C.G..M. Bosman, PhD; G.W. Stewart, MD, PhD; R.L. Margolis, MD; S.M. Holland, MD; K. Gale, PhD; K.P. Bhatia, MD, FRCP; J. B. Martin, MD, PhD; A. Danek, MD; A. Velayos-Baeza, PhD; C. Dobson-Stone, MBiochem, DPhil; R. Guerrini, MD; F. Andermann, MD, FRCP(C); R.A. Hegele, MD, FRCP(C), FACP; J. Phelan, PhD; R.A.Hardie, MD; G. Irvine; J. Botas, PhD

Front row, left to right: P. Burbaud, MD; J. McIntosh, MA, MRCSLT; H.H. Jung, MD; M. Ichiba, MD; R.H. Walker, MB, ChB, PhD; E. Andermann, MD, PhD, FCCGM; C. Levecque, PhD; S. Lee, PhD; M.-F. Chesselet, MD, PhD; M. Hayden, MB, ChB, PhD, FRCP(C), FRSC; D. Rosenblatt, MD; K. Leenders, MD.

Neurological Gait Disorders Meeting, Barcelona, Spain

– Francisco Grandas, MD, PhD, Hospital Gregorio Maranon, Madrid, Spain

The Spanish Movement Disorders Study Group sponsored a meeting on Neurological Gait Disorders, which was held in Barcelona, Spain on November 24, 2004, as a part of the annual meeting of the Spanish Society of Neurology. The meeting was also endorsed by The *Movement* Disorder Society.

The program covered most aspects of the neurological control of gait and reviewed many neurological diseases which may impair locomotion. Olga Barceló presented the biomechanical basis of human locomotion, describing the different phases of the gait cycle, and analyzed the forces that generate the necessary movements to perform an energetically effective gait. Francisco Grandas reviewed the neurophysiology of gait, especially the mechanisms of postural control and stepping generators. José Félix Martí Massó summarized published articles on prevalence, morbidity and mortality of gait disorders. He emphasized that one third of people over the age of 65 fall at least once a year and stressed the relevance of the consequences of falls (fractures, immobility, etc.) in impairing the quality of life of the elderly. The role of depression, cognitive decline, drugs and other risk factors for gait disorders and falls were also noticed.

Esther Cubo reviewed gait disorders induced by polyneuropathies, muscle diseases and sensorial deficits and José Berciano showed disrupted gaits by different types of spino-cerebellar atrophies. The impact of spasticity on gait was discussed by Pedro García Ruiz and José Obeso gave a talk on how some Movement Disorders, particularly orthostatic tremor, can interfere with gait. Several cases illustrating different types of postural and gait disorders induced by vascular lesions were shown by José Masdeu.

Nir Giladi lectured on the phenomenon of freezing of gait in Parkinson´s disease, an episodic phenomenon that lasts seconds and usually occurs during off-periods with variable response to levodopa. It is related to disease progression and depression, mental loading and treatment with dopamine agonists may increase the risk for its appearance. It was suggested that MAO-B inhibitors could be a treatment for freezing. John Nutt reviewed his classification of the higher level gait disorders and suggested a new approach based on the existence of disequilibrium or abnormal stepping as the main groups of gait disorders.

The Spanish Society of Neurology

Marco Knaflitz presented a comprehensive review of the technical background and available systems of gait analysis. Finally, Pablo Martínez-Martín talked on the available tests for functional evaluation of gait disorders, and Enrique Enríquez summarized the different techniques for rehabilitation of neurological gait disorders.

More than 200 neurologists attended the meeting, which was chaired by Francisco Grandas and José Masdeu.

World Parkinson Congress Announces Call for Abstracts

The World Parkinson Congress is looking for original abstracts for its inaugural Congress to be held in Washington, DC, USA, February 22-26, 2006. The submission period is open from Monday, August 1, 2005 to Wednesday, September 21, 2005 with submissions closing at 11:59 pm (CST).

Abstract submission will be open to anyone doing research related to Parkinson's disease in the areas of basic and clinical science as well as quality-of-life and best-care practices. Abstracts are encouraged from people who are engaged in cutting-edge scientific research and/or who are researching ways to improve quality-of-life for people living with Parkinson's disease. Professionals working in the fields of physical and occupational therapy, speech pathology, nutrition and neuroscience nursing as well as social work and mental health to are also strongly encouraged to submit an abstract of their research.

All accepted abstracts will be printed in a supplement of The *Movement* Disorder Society's journal, *Movement* Disorders, to be disseminated during the World Parkinson Congress in February 2006.

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World Parkinson Congress Announces Call for Abstracts

Continued from page 11...

To review the eligibility requirements and guidelines for submitting an abstract and to learn more about the World Parkinson Congress, please visit www.worldpdcongress.org.

About The World Parkinson Congress

The World Parkinson Congress, Inc. is a nonprofit organization dedicated to providing an international forum for the best scientific discoveries, medical practices and caregiver initiatives related to Parkinson's disease.

By bringing physicians, scientists, allied health professionals, caregivers and people with Parkinson's disease together, they hope to create a worldwide dialogue that will help expedite the discovery of a cure and best treatment practices for this devastating disease.

Contact: Kerry Granwehr: (202) 367-2406, kgranwehr@worldpdcongress.org

PROFESSIONAL NOTICES

Professional Development

Levodopa-Continuous Dopaminergic Stimulation in the Treatment of Parkinson's Disease: The Role of COMT Inhibitors

The *Movement* Disorder Society (MDS) announces a free internet-based CME activity sponsored by MDS and Medscape entitled Levodopa-Continuous Dopaminergic Stimulation in the Treatment of Parkinson's Disease: The Role of COMT Inhibitors. This activity is supported by an unrestricted educational grant from Novartis and Orion Corporations.

This CME activity is based on transcripts and slide presentations as delivered by the faculty at the "Levodopa-CDS in the Treatment of Parkinson's Disease: The Role of COMT Inhibitors" symposium held at The *Movement* Disorder Society's 8th International Congress of Parkinson's Disease and Movement Disorders, June 13, 2004 in Rome, Italy.

The faculty for this course consists of Co-Chairs Yves Agid, MD from Paris, France and C. Warren Olanow, MD from New York, NY, USA plus presenters Robert A. Hauser, MD, MBA, Tampa, FL, USA, Peter Jenner, BPharm, PhD, DSc, London, UK, Eldad Melamed, MD, Tel Aviv, Israel and Fabrizio Stocchi, MD, PhD, Rome, Italy.

To access this free CME activity, members of Medscape can go to www.medscape.com/cmecircle/parkinsonsdisease or first-time visitors can register for free at www.medscape.com.

Managing Parkinson's Disease: Turning Off to On - An Internet-Based CME Activity

The *Movement* Disorder Society (MDS) announces an Internet-based CME activity co-sponsored by MDS and Scienta Healthcare Education® entitled "Managing Parkinson's Disease: Turning Off to On". This activity is supported by an unrestricted educational grant from Mylan Bertek Pharmaceuticals, Inc.

This online CME activity is based on presentations delivered by faculty at the Kickoff Seminar entitled "Managing Parkinson's Disease: Turning Off to On" held during MDS's 8th International Congress of Parkinson's Disease and Movement Disorders in Rome, Italy.

The faculty for this course consists of Co-Chairs William C. Koller, MD, PhD from New York, NY, USA and Fabrizio Stocchi, MD, PhD from Rome, Italy plus presenters Andrew J. Lees, MD, London, UK and Mark A. Stacy, MD, Durham, NC, USA.

This program will be archived online through February 2006. You may participate at any time by visiting www.conferenceseek.com/parkinsons.

Announcements

The 3rd Singapore International Parkinson's Disease and Movement Disorders Symposium

The 3rd Singapore International Parkinson's Disease and Movement Disorders Symposium will be held in Singapore, September 9-10, 2005. The program consists of lectures and workshops focusing on genetics and pathogenesis of Parkinson's disease, clinical management of various Movement Disorders and video teaching sessions.

The American Parkinson Disease Association (APDA) Launches www.youngparkinsons.org

The American Parkinson Disease Association (APDA) has launched a new website specifically targeted to the issues and

CONTINUED ON PAGE 13

concerns of the younger patient population (ages 21-50). In addition to a wealth of information and resources for living well with PD, the site also includes a photo gallery of young people with Parkinson's and their inspirational stories, the opportunity to be connected one-on-one to other young people with PD and a library of downloadable APDA educational materials.

Please visit us at www.youngparkinsons.org.

Job Openings

Assistant/Associate Professor of Clinical Neurology

The Southern Illinois University School of Medicine, Department of Neurology is seeking an Assistant/Associate Professor of Clinical Neurology. The department has eight full-time adult neurologists and one full-time child neurologist with research programs in Movement Disorders, epilepsy, dementia, stroke, clinical neuropharmacology, and neuroimmunology. Our two teaching hospitals have more than 1000 beds plus a 30-bed neurorehabilitation inpatient unit. Applicants must be board-certified/eligible in clinical neurology. Expertise in Movement Disorders is desired. Interested applicants should send their CV by mail or email to Dr. Rodger Elble, Chairman of Neurology, SIU School of Medicine, P.O. Box 19643, Springfield, IL 62794-9643 USA; relble@siumed.edu. SIU is an EO/AA employer. This position is subject to a pre-employment background investigation.

Department of Neurology Faculty Position

The Johns Hopkins University School of Medicine

The Department of Neurology at The Johns Hopkins University School of Medicine is seeking neurologists with particular interests in Parkinson's disease and Movement Disorders for full time, tenure track faculty positions. Academic rank and salary will be commensurate with qualifications and experience. Applicants should be board eligible or certified Neurologists with appropriate subspecialty training. Faculty members are expected to have or to establish active, clinical research programs and participate in teaching residents and medical students.

Interested individuals please send a letter describing current and future interests, a current curriculum vitae, and three letters of recommendation to:
Dr. Ted M. Dawson, MD, PhD
Department of Neurology
Johns Hopkins University School of Medicine
733 North Broadway, Suite 731
Baltimore, MD 21205 USA

The Johns Hopkins Medical Institutions is an Affirmative Action/Equal Opportunity Employer.

Movement Disorders Program Medical Director

Movement Disorders Program Medical Director wanted to establish a comprehensive multidisciplinary program with Carolinas Medical Center. Located in Charlotte, NC, USA, the area hosts a strong medical and professional community. Work closely with an exceptional, well-established neurosurgery staff interested in functional neurosurgery. This is an exciting and unique opportunity to create and direct a well-respected tertiary referral program. Physicians should be BC or BE in Neurology with fellowship training.

For more information or to submit a CV for consideration contact Amy Cunanan via telephone at CMC + 1 800-847-5084 or +1 704-355-5023 or via e-mail at amy.cunanan@carolinashealthcare.org.

Assistant/Associate Professor

Department of Speech-Language-Hearing Sciences, College of Liberal Arts, University of Minnesota.

We are seeking a scholar to complement our research expertise. The successful applicant also will teach undergraduate/graduate coursework and provide service to the department, college, and university. Required qualifications: PhD in Speech-Language-Hearing Sciences, Speech-Language Pathology, or related discipline by start-date of appointment. Expertise in any aspect of speech sciences, speech disorders, experimental phonetics, neural mechanisms of speech, or motor control. For a tenured position at the rank of associate professor position, a scholarly publication record, evidence of ability to secure external funding, and evidence of teaching effectiveness are required.

The appointment conditions are a nine-month, tenured or tenure-track, full-time appointment. Starting salary will commensurate with qualifications and experience. The starting date is Fall Semester 2005 (08/29/05).

Applications will be considered until position is filled. Send a cover letter that includes clear statements of research and teaching interests, curriculum vitae, three letters of recommendation, graduate transcript(s), copies of published and unpublished works, and, if available, evidence of effectiveness in teaching to:
Peter Watson, PhD, CCC
Search Committee Chair
Department of Speech-Language-Hearing Sciences
115 Shevlin Hall
164 Pillsbury Drive SE
Minneapolis, MN 55455 USA

The University of Minnesota is committed to the policy that all persons have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

Neurologist

A position for a neurologist with specialty training in Movement Disorders and administration of botulinum toxin is available at The Parkinson's Institute in Sunnyvale, CA, USA. Responsibilities include the management of patients with a variety of Movement Disorders. The position provides the opportunity to participate as a PI or co-PI in clinical trials, patient and physician education, on-going clinical research projects and development of independent clinical research projects. Please email your CV to careers@thepi.org.

Welcome Waived Dues Members!

Waived Dues is a reduced dues program specifically designed to enable those on a lower income to join the Society. If you know of someone who may be interested in applying for Waived Dues Membership, or if you would like to renew your Waived Dues Membership, please visit the MDS Web site at: www.movementdisorders.org and apply or renew today!

Exciting Faculty Opportunity

An exciting faculty opportunity is available at the Parkinson's Disease Center and Movement Disorders Clinic, Baylor College of Medicine for an energetic individual who has completed a Movement Disorders fellowship and is interested in clinical and/or basic science research. The interested individual should contact Joseph Jankovic, MD, the Director of the Center, at 713-798-5998 or by e-mail: josephj@bcm.tmc.edu.

Movement Disorders Position Available

The Department of Neurology at the University of Colorado Health Sciences Center (UCHSC) is recruiting clinician-educators and clinician-scientists with expertise in Movement Disorders. The Department of Neurology currently has an active research and clinical Movement Disorders program which will provide the successful applicant with ample opportunities for academic development, and to direct clinical and research programs, as well as to train fellows and residents. Movement Disorders neurologists at any career level are welcome to apply. Collaborations and joint appointment available in corresponding academic departments. Send CV to: Donald H. Gilden, M.D., Professor and Chairman, Department of Neurology, Box B182, UCHSC, 4200 East 9th Ave., Denver, CO 80262 USA. UCHSC is an equal opportunity/affirmative action employer.

UPCOMING MEETINGS

2005

***July 29-August 1, 2005**

A Comprehensive Review of Movement Disorders for the Clinical Practitioner. Hotel Jerome, Aspen, Colorado, USA. Contact: Center for Continuing Medical Education, Columbia University College of Physicians and Surgeons, 630 West 168th Street, Unit 39, New York, NY 10032 USA; Tel: +1 212-305-3334; Fax: +1 212-781-6047; E-mail: cme@columbia.edu; Web site: http://columbiacme.org/

September 1-3, 2005

1st Congress of International Society of Reconstructive Neurosurgery, 4th Scientific Meeting of the WFNS Neurorehabilitation Committee. Seoul, Korea. Contact: Tel: + 82-2-364-6224; Fax: +82-2-6748-0616; E-mail: isrn@yumc.yonsei.ac.kr; Web site: www.isrn.or.kr

September 9-10, 2005

The 3rd Singapore International Parkinson's Disease and Movement Disorders Symposium. Tan Tock Seng Hospital Theatrette & Conference Rooms, Singapore.

***September 10-13, 2005**

World Congress on Huntington's Disease. Manchester, UK. Contact: Cath Stanley, Huntington's Disease Association; 108 Battersea High Street, London, SW11 3HP, UK; TEL: 44 (0)20 7223 7000; FAX: 44 020 7223 9489; E-mail: congress@hda.co.uk; Web site: www.hda.co.uk/congress

***September 17, 2005**

Advanced Treatment of Dystonia and Spasticity: Workshop Demonstrating the Use of Botulinum Toxin. Rochester, NY, USA. Contact: Jennifer Schmitt, The *Movement* Disorder Society; 555 East Wells Street, Suite 1100, Milwaukee, WI, 53202 USA; TEL: +1 414-276-2145; FAX: +1 414-276-3349; E-mail: jschmitt@movementdisorders.org; Web site: www.movementdisorders.org

***September 17-21, 2005**

9th European Federation of Neurological Societies Congress. Athens, Greece. Contact: EFNS, Neurological Hospital Rosenhugel, Riedelgass 5, A-1130, Vienna, Austria; TEL: 43-1-880-00-270; FAX: 43-1-88-92-581; E-mail: headoffice@efns.org

September 25-28, 2005

130th Annual Meeting of the American Neurological Association. San Diego, CA, USA. Contact: American Neurological Association, 5841 Cedar Lake Road, Suite 204, Minneapolis, MN 55416 USA; TEL: +1-952-545-6284; FAX: +1-952-545-6073; E-mail: lorijanderson@msn.com; Web site: www.aneuroa.org

***October 1, 2005**

Treatment of Dystonia: Workshop Demonstrating the Use of Botulinum Toxin. Kansas City, MO, USA. Contact: Jennifer Schmitt, The *Movement* Disorder Society; 555 East Wells Street, Suite 1100, Milwaukee, WI 53202 USA; TEL: +1 414-276-2145; FAX: +1 414-276-3349; E-mail: jschmitt@movementdisorders.org; Web site: www.movementdisorders.org

***October 6-8, 2005**

4th Brazilian Movement Disorders Congress. Costa do Sauípe Sofitel Hotel – Bahia, Brazil. Contact: Sênor Agency; Web site: http://www.senioreventos.com.br/sauipe_distmov/

October 6-9, 2005

The 16th International Symposium on the Autonomic Nervous System. Los Cabos, Mexico. Contact: Anita Zeller, AAS Executive Secretary, American Autonomic Society, 18915 Inca Ave, Lakeville, MN 55044 USA; TEL: +1 952-469-5837, FAX: +1 952-469-8424; E-mail: zeller.anita@mayo.edu; Website: www.americanautonomicsociety.org

October 8-13, 2005

Congress of Neurological Surgeons 55th Annual Meeting. Boston, MA, USA. Contact: Congress of Neurological Surgeons, 10 North Martingale Road, Suite 190, Schaumburg, IL 60173 USA; TEL: +1-847-240-2500; FAX: +1-847+240-0804; E-mail: info@1cns.org

***October 13-15, 2005**

Alpine Basal Ganglia Club Meeting. Graz, Austria. Contact: Evelyn Muik and Paul Körner, Department of Neurology, Medical University of Graz, Auenbruggerpl. 22, 8036 Graz, Austria; TEL: 43-316-385-3136; FAX: 43-316-325520; E-mail: evelyn_muik@meduni-graz.at; Web site: www.meduni-graz.at/neurologie/ABGC.htm

***October 14, 2005**

Practical Management of Motor Complications in Parkinson's Disease. Lisbon, Portugal. Contact: Lisa Seidl, The *Movement* Disorder Society; 555 East Wells Street, Suite 1100, Milwaukee, WI 53202 USA; TEL: +1 414-276-2145; FAX: +1 414-276-3349; E-mail: lseidl@movementdisorders.org; Web site: www.movementdisorders.org

***October 21, 2005**

Dopamine Transporter Imaging in Neurological Practice. Leipzig, Germany. Contact: Lisa Seidl, The *Movement* Disorder Society; 555 East Wells Street, Suite 1100, Milwaukee, WI 53202 USA; TEL: +1 414-276-2145; FAX: +1 414-276-3349; E-mail: lseidl@movementdisorders.org; Web site: www.movementdisorders.org

***October 21-24, 2005**

5th International Symposium of the Asian & Pacific Parkinson's Disease Association. Melbourne, Victoria, Australia. Contact: Marilyn Long, CiEvents, PO Box 1503, North Sydney, NSW, Australia 2059; TEL: +61-2-9923-8545; FAX: +61-2-9957-1411; E-mail: marilyn.long@cievents.com.au; Web site: www.parkinsons-vic.org.au

***October 22, 2005**

Treatment of Dystonia: Workshop Demonstrating the Use of Botulinum Toxin. Los Angeles, CA, USA. Contact: Jennifer Schmitt, The *Movement* Disorder Society; 555 East Wells Street, Suite 1100, Milwaukee, WI 53202 USA; TEL: +1 414-276-2145; FAX: +1 414-276-3349; E-mail: jschmitt@movementdisorders.org; Web site: www.movementdisorders.org

October 29-November 3, 2005

20th Brazilian Congress of Clinical Neurophysiology and 19th Meeting of the Brazilian League on Epilepsy. Rio Grande do Sul, Brazil. Contact: VJS Assessoria de Eventos, Rua Vieira de Castro, 150 / 501, Santana, 90040-320, Porto Alegre, RS; Tel: 55-51-3330-1134; E-mail: vjs@vjs.com.br

***November 5, 2005**

Spasticity Management: Workshop Demonstrating the Use of Botulinum Toxin. New Orleans, LA, USA. Contact: Jennifer Schmitt, The *Movement* Disorder Society; 555 East Wells Street, Suite 1100, Milwaukee, WI 53202 USA; TEL: +1 414-276-2145; FAX: +1 414-276-3349; E-mail: jschmitt@movementdisorders.org; Web site: www.movementdisorders.org

November 5-11, 2005

18th World Congress of Neurology. Sydney, Australia. Web site: www.wcn2005.com

November 10-11, 2005

9th International Symposium on Parkinson Research. Washington, DC, USA. Contact: National Parkinson Foundation, 1501 NW 9th Avenue, Miami, FL 33136 USA; TEL: 1.800.327.4545; E-mail:contact@parkinson.org; Web site: www.parkinson.org

November 12-16, 2005

35th Annual Meeting of the Society for Neuroscience. Washington, DC, USA. Contact: Society for Neuroscience, 11 Dupont Circle, N.W., Suite 500, Washington, DC 20036 USA; TEL: +1-202-462-6688; E-mail: info@sfn.org

***December 2-3, 2005**

Design of Clinical Trials and Evidence-Based Management of Parkinson's Disease. Tokyo, Japan. Contact: Lisa Seidl, The *Movement* Disorder Society; 555 East Wells Street, Suite 1100, Milwaukee, WI 53202 USA; TEL: +1 414-276-2145; FAX: +1 414-276-3349; E-mail: lseidl@movementdisorders.org; Web site: www.movementdisorders.org

***December 5, 2005**

Botulinum Toxins in Neurological Practice: Workshop Demonstrating the Treatment of Dystonia. Rome, Italy. Contact: Lisa Seidl, The *Movement* Disorder Society; 555 East Wells Street, Suite 1100, Milwaukee, WI 53202 USA; TEL: +1 414-276-2145; FAX: +1 414-276-3349; E-mail: lseidl@movementdisorders.org; Web site: www.movementdisorders.org

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The *Movement* Disorder Society's

10th International Congress of Parkinson's Disease and Movement Disorders

October 29 - November 2, 2006 ~ Kyoto International Conference Hall ~ Kyoto, Japan

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. The target audience includes clinicians, researchers, post-doctoral fellows, residents and medical school students with an interest in the current research and approaches for the diagnosis and treatment of Movement Disorders.

運動障害学会

Watch for the Preliminary Program in February 2006!

Visit The *Movement* Disorder Society Web site at www.movementdisorders.org for more information or e-mail the MDS International Secretariat at congress@movementdisorders.org.