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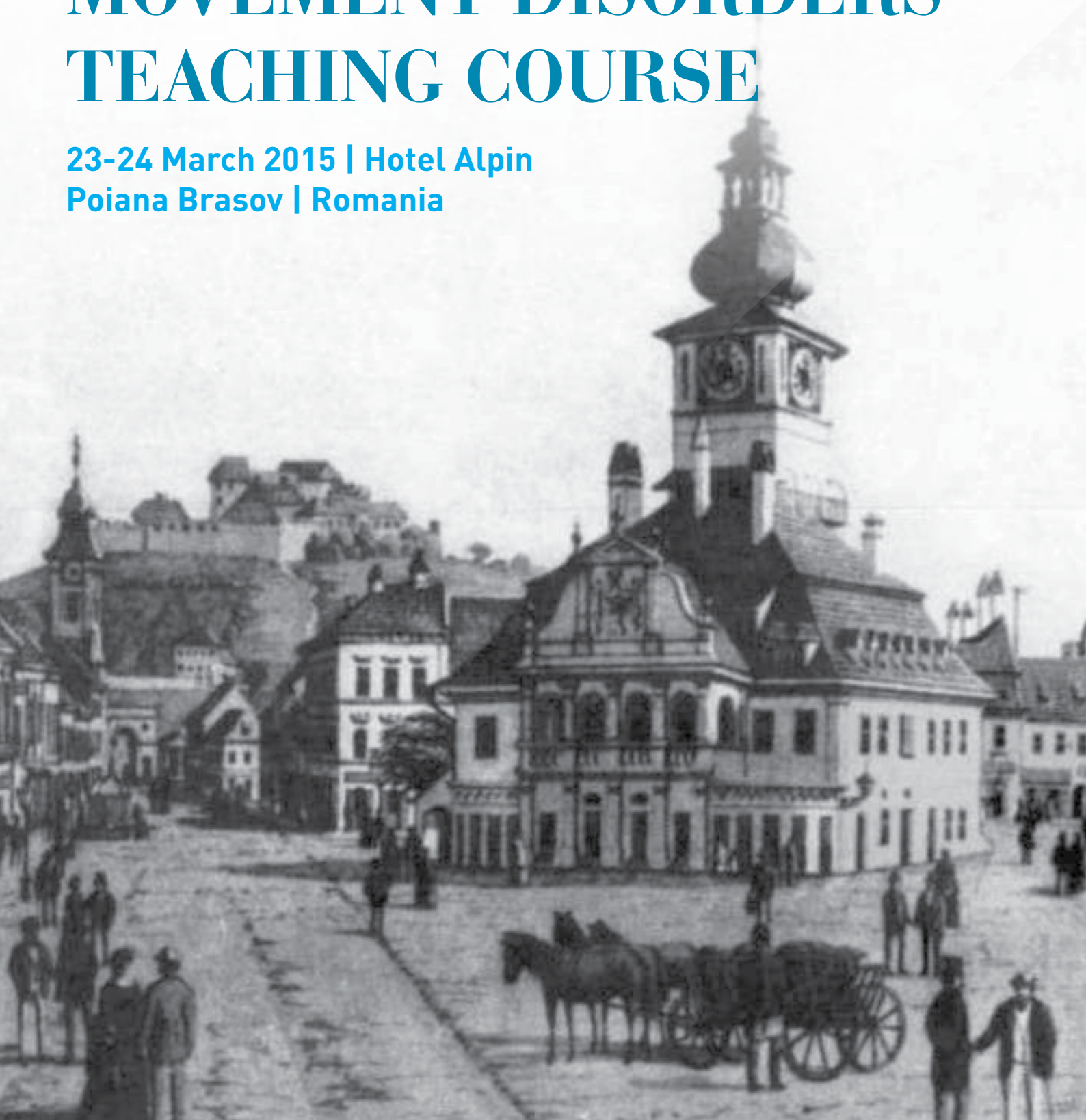
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TRANSILVANIA
University of Brașov

4th NATIONAL MOVEMENT DISORDERS TEACHING COURSE

23-24 March 2015 | Hotel Alpin
Poiana Brasov | Romania





4th NATIONAL MOVEMENT DISORDERS TEACHING COURSE

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Chairman "RoNeuro" Institute for Neurological
Research and Diagnosis



Speakers



Faculty

(in alphabetical order)

Angelo Antonini /Italy
Ovidiu Bajenaru /Romania
Sevasti Bostantjopoulou /Greece
Ray Chaudhuri /UK
Gunther Deuschl /Germany
Cristian Falup-Pecurariu /Romania
Peter Jenner /UK
Monica Kurtis /Spain
Davide Martino /UK
Dafin Muresanu /Romania
Wolfgang Oertel /Germany
Warren Olanow /USA
Lacramioara Perju-Dumbrava /Romania
Bogdan O. Popescu /Romania
Fabrizio Stocchi /Italy
Lars Timmermann /Germany
Francesc Valldeoriola /Spain



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Participants Registration Fee Includes:

Admission to all scientific sessions during the congress
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Admission to Lunches and Coffee Breaks

On-Site Registration

On-site registration will be processed on a first-come, first-served basis. Priority will be given to pre-registered delegates.
Depending on the number of on-site registered delegates, availability of congress bags may be limited.

Name Badges

Participants are kindly requested to wear their name badge at all times during the congress.
The badge allows admission to the scientific sessions, coffee breaks and lunches.

Congress Language

The congress language is English.
Simultaneous translation will not be provided.

Changes In Program

The organizers cannot assume liability for any changes in the congress program due to external or unforeseen circumstances.



Scientific Program

Scientific Program

DAY 1 – 23rd MARCH 2015

08:45 – 09:00	Welcome Address
Session 1 Chairmen:	Ovidiu Bajenaru (Romania), Wolfgang Oertel (Germany), Angelo Antonini (Italy)
09:00 – 09:30	How to diagnose a patient with Parkinson's disease Francesc Valldeoriola (Spain)
09:30 – 10:00	Profiles of the Parkinson's disease patients with different stages Ovidiu Bajenaru (Romania)
10:00 – 10:30	Clinical cases – early/advanced Parkinson's disease Angelo Antonini (Italy)
10:30 – 11:00	Tremor – phenotypes, diagnosis and treatment Gunther Deuschl (Germany)
11:00 – 11:30	Coffee break
Session 2 Chairmen:	Gunther Deuschl (Germany), Dafin Muresanu (Romania)
11:30 – 12:00	Impulse control disorders in Parkinson's disease Dafin Muresanu (Romania)
12:00 – 12:30	Sleep and pain in Parkinson's disease Cristian Falup-Pecurariu (Romania)
12:30 – 13:00	Sleep related movement disorders Wolfgang Oertel (Germany)
13:00 – 14:00	Lunch

Session 3
Chairmen:

Peter Jenner (UK), Davide Martino (UK)

14:00 – 14:30

Visual dysfunction in Parkinson's disease
Lacramioara Perju-Dumbrava (Romania)

14:30 – 15:00

Movement disorders of the face
Monica Kurtis (Spain)

15:00 – 15:30

Tourette syndrome
Davide Martino (UK)

15:30 – 16:00

Dystonia
Sevasti Bostantjopoulou (Greece)

16:00 – 16:30

Coffee break

Session 4
Chairmen:

Monica Kurtis (Spain), Lacramioara Perju-Dumbrava (Romania)

16:30 - 17:30

Video session

DAY 2 – 24th MARCH 2015

Session 1 Chairmen:

Warren Olanov (USA), Ray Chaudhuri (UK),
Cristian Falup-Pecurariu (Romania)

09:00 – 09:30

Treatment of non-motor symptoms in Parkinson's disease
Fabrizio Stocchi (Italy)

09:30 – 10:00

Non Motor Parkinson's: a new concept of a motor disorder!
Ray Chaudhuri (UK)

10:00 – 10:30

Continuous Levodopa Delivery
Warren Olanov (USA)

10:30 – 11:00

Dopamine agonists in advanced Parkinson's disease
Bogdan Popescu (Romania)

11:00 – 11:30

Coffee Break

Session 2 Chairmen:

Fabrizio Stocchi (Italy), Lars Timmermann (Germany)

11:30 – 12:00

Current strategies in the treatment of Parkinson's disease –
importance of a personalized approach
Lars Timmerman (Germany)

12:00 – 12:30

Novel pharmacological approaches to the
treatment of Parkinson's disease
Peter Jenner (UK)

12:30 – 13:30

Lunch

Session 3 Chairman:

Sevasti Bostantjopoulou (Greece), Francesc Valldeoriola (Spain),
Bogdan Popescu (Romania)

13:30 – 15:30

Interactive video cases

15:30 – 16:00

Coffee break

16:00 – 16:30

Video session

16:30 – 17:00

Closing remarks



Abstracts



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CLINICAL CASES – EARLY/ADVANCED PARKINSON'S DISEASE



**ANGELO
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In recent years it has become increasingly evident that in Parkinson disease together with the classic motor disability patients complain about a number of non-motor symptoms (NMS). While knowledge of NMS associated with PD is not new – James Parkinson described such symptoms almost 200 years ago – it is the increasing recognition of their diversity, prevalence and impact on patients' health-related quality of life that has led to a significant shift in diagnostic and therapeutic approaches to the disease.

Almost all patients with PD suffer from NMS. NMS have a greater detrimental impact on health related quality of life than motor symptoms and are frequently under-reported by patients and under-recognised by physicians. Furthermore, little is known about their progression, their response to dopaminergic medication and their occurrence in the context of nonmotor fluctuations. The development of instruments for screening and evaluation of NMS, notably the NMS questionnaire (NMSQuest) and NMS scale (NMSS), represents an important step forward in the recognition of these disturbances, but they do not clearly establish the relationship with disease and the response to treatment. The response of individual NMS to dopaminergic treatment depends on the mechanism underlying its development. Indeed NMS may originate from multiple causative processes, underpinned by predominant involvement of non-dopaminergic circuits or even secondary to medications. Moreover concomitant conditions could produce clinical features mimicking PD-related NMS, which will likely be refractory to dopaminergic treatment.

Rotigotine transdermal system, a non-ergoline dopamine receptor agonist, is administered transdermally via a patch, resulting in stable plasma levels over 24 hours. RECOVER (Randomized Evaluation of the 24-Hour Coverage: Efficacy of Rotigotine), a double-blind, placebo-controlled trial in patients with PD and unsatisfactory control of early morning motor function, demonstrated significant improvements in early morning motor impairment and nocturnal sleep disturbances with rotigotine. RECOVER was also the first large-scale trial to extensively investigate non-motor symptoms of PD using the Non-Motor Symptoms Scale (NMSS) and demonstrating significant benefit not only on NMSS total score but also on "Sleep/fatigue" and "Mood/apathy" domains.

References:

- Chaudhuri KR, Sauerbier A, Rojo JM, Sethi K, Schapira AH, Brown RG, Antonini A, Stocchi F, Odin P, Bhattacharya K, Tsuboi Y, Abe K, Rizos A, Rodriguez-Blazquez C, Martinez-Martin P. The burden of non-motor symptoms in Parkinson's disease using a self-completed non-motor questionnaire: A simple grading system. *Parkinsonism Relat Disord.* 2015 Mar;21(3):287-91.
- Antonini A, Yegin A, Preda C, Bergmann L, Poewe W; GLORIA study investigators and coordinators. Global long-term study on motor and non-motor symptoms and safety of levodopa-carbidopa intestinal gel in routine care of advanced Parkinson's disease patients; 12-month interim outcomes. *Parkinsonism Relat Disord.* 2015 Mar;21(3):231-5.
- Antonini A, Calandrella D, Merello M, Koutsikos K, Pilleri M. Effects of rotigotine on Parkinson's disease-related sleep disturbances. *Expert Opin Pharmacother.* 2013 Dec;14(18):2571-80.
- Ray Chaudhuri K, Martinez-Martin P, Antonini A, Brown RG, Friedman JH, Onofrij M, Surmann E, Ghys L, Trenkwalder C. Rotigotine and specific non-motor symptoms of Parkinson's disease: post hoc analysis of RECOVER. *Parkinsonism Relat Disord.* 2013 Jul;19(7):660-5.



PROFILES OF THE PARKINSON'S DISEASE PATIENTS WITH DIFFERENT STAGES

The actual understanding of the clinical complexity of Parkinson's disease is based on the recognition that this disease is due to a multifocal neurodegenerative complex pathology, manifesting as both motor and non-motor signs and symptoms. In more advanced stages of the disease, the variability of clinical manifestations becomes even more complex due to the progressive clinical deterioration, but also to more complications related to the extension of the specific pathologic lesions, to treatment complications (also both motor and non-motor) and to association of different co-morbidities aggravating the basic clinical picture, the quality of life and often becoming the main causes of death. In this context, for the clinician is important to identify the main clinico-pathologic features defining different subtype profile of these patients, in particular with the aim to improve their medical management in a personalized manner.



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DYSTONIA



**SEVASTI
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Dystonia, according to the new definition proposed in 2013 by an international panel of experts, is a movement disorder characterized by sustained or intermittent muscle contractions causing abnormal, often repetitive, movements, postures or both. Dystonia is classified clinically by age at onset, body distribution, temporal pattern, and associated features. In isolated dystonia the only motor feature is tremor, while in combined dystonia there is a combination of dystonia with other movement disorders. Etiologically dystonia is classified by whether nervous system pathology is present or not and whether it is acquired or inherited. During recent years several gene mutations causing isolated or combined dystonia have been discovered. Diagnostic work up for dystonia is challenging and time consuming. The clinical evaluation of a patient with dystonia is a stepwise process. The first steps of the clinical assessment will help us to establish the presence of dystonia, to identify other associated movement or neurological symptoms and to establish a syndromic pattern. Assessment should be performed using a validated scale for dystonia. Afterwards the appropriate diagnostic tests (routine blood investigation, imaging, neurophysiological studies, genetic tests) will help us to reach the final diagnosis. If a treatable cause is identified specific-etiology treatment should be given. Treatment options for dystonia include pharma-cological treatment (anticholinergics, dopaminergics and antidopaminergic drugs, baclofen etc.), botulinum toxin injections and several surgical procedures (peripheral and central).



TREMOR: PHENOTYPES, DIAGNOSIS AND TREATMENT



**GUNTHER
DEUSCHL**

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Tremor is the most common movement disorder but in quantitative terms enhanced physiologic, essential and Parkinsonian tremor cover most of the tremor patients in routine diagnostic settings. Particularly essential tremor is now increasingly studied and new epidemiologic and clinical studies are showing that the condition is more complex than has been thought in the past. Still the separation from enhanced physiologic tremor and early PD is an unmet need. New therapies are now available to better treat essential tremor.

The remaining few tremor syndromes have been more clearly described. Orthostatic tremor manifesting during stance and rarely during gait but absent during sitting and lying has been delineated. Dystonic tremor has often been mentioned but different clinical features have so far left us with a still incomplete concept about the underlying mechanisms. Holmes tremor (or rubral/midbrain tremor) is described since the 19th century and has been described and understood much better in the last years. Meanwhile the syndrome of thalamic tremor and associated movement disorders is much better described. Neuropathic tremors and tardive tremors are other recently well-defined conditions.

The concepts underlying these different tremors and old and new therapies will be discussed.



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SLEEP AND PAIN IN PARKINSON'S DISEASE



**CRISTIAN
FALUP-
PECURARIU**

Sleep disturbances and pain are two major non-motor symptoms in PD.

Sleep disturbances in Parkinson's disease (PD) are: insomnia, restless legs syndrome, excessive daytime sleepiness, REM sleep behavior disorder. The prevalence rates of these vary in the studies according to the definitions. Around 60% of the PD patients had insomnia. Night-time motor problems are often a cause of insomnia. The frequencies of insomnia increases with advanced motor stages of PD and a need for a higher daily dose of dopaminergic therapy. Despite the frequency, treatments of this condition have been poorly studied. Excessive daytime sleepiness is frequently encountered in PD patients compared to controls. Multiple factors are involved, some intrinsic to PD, others being effects of drugs and nocturnal sleep disorders. "Sleep attack" is a sudden, irresistible, overwhelming, without prodromal drowsiness. Sleep apnea is more frequent encountered in PD patients compared with control group. REM sleep behavior disorder with dream-enacting behaviors, abnormal dreams could be a premotor feature or could appear during the evolution of PD.

Pain is one of most frequent and disabling symptom in PD. The pathophysiology involves basal ganglia in nociceptive pathways, the cortical-basal ganglia-thalamic circuit in modulation of pain. The major categories of pain are: musculoskeletal, dystonic, neuropathic, central. Treatment involves a complex approach with pharmacological treatment, physical therapy, injections of botulinum toxin.

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NOVEL PHARMACOLOGICAL APPROACHES TO THE TREATMENT OF PARKINSON'S DISEASE



PETER JENNER

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The drug treatment of Parkinson's disease (PD) has been based around dopamine replacement therapy for many decades. This improves motor function in early PD but many problems remain that relate the long term complications of dopaminergic therapy, the progression of the disease process and the occurrence of non-motor symptoms of PD. In essence the changes that are occurring in drug therapy can be divided in those that affect the early stages of PD, those which are to be employed in the later more complicated stages of the illness and those which might affect non-motor symptoms. In early treatment, there has been a return to the use of L-dopa based on the results of PD-MED and STRIDE-PD trials which shows that careful early use has the best clinical efficacy and no long term disadvantage with respect to the appearance and severity of motor complications and motor fluctuations in later disease. As a consequence novel delivery forms of L-dopa are being developed along with new formulations of existing dopamine agonists. In addition, there is particular interest in developing new forms of apomorphine to allow it to be used less invasively and to benefit from its proven clinical efficacy.

Longer acting forms of L-dopa and dopamine agonists are also being developed for the treatment of 'wearing off' along with novel COMT inhibitors and reversible MAO-B inhibitors. Interesting new formulations of amantadine are being studied for suppressing dyskinesia and other classes of glutamate antagonists are under investigation. However, it is the potential use of non-dopaminergic approaches to the treatment of 'wearing off' and dyskinesia where most effort has gone but so far with little clinical translation. One exception is the introduction of the adenosine A2a antagonist Istradefylline in to the treatment of PD for the control of 'wearing off'.

Lastly, the treatment of non-motor symptoms of PD has become a priority with an 'as needs' symptomatic approach being used currently as the neuronal basis of many non-motor symptoms is not clear. However, preclinical studies on cognition, sleep and autonomic change are starting to develop animal models in which novel pharmacological approaches can be tested.



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MOVEMENT DISORDERS OF THE FACE

Movement disorders of the face are frequent, they can be hypokinetic or hyperkinetic, and be manifestations of an isolated condition or part of a generalized disorder. Hypokinetic movements are characteristic of parkinsonian syndromes while facial hyperkinetic movements are very common in certain forms of dystonia, dyskinesias, chorea, myoclonus, tremor, tics and psychogenic disorders. The particular clinical characteristics of each of these movement disorders when they affect the facial muscles are reviewed, with the aid of patient videos. The development of hemihypomimia or hypomimia is discussed as a feature of Parkinson's disease and other atypical parkinsonisms, with emphasis on differentiating clinical features. Facial hyperkinetic movements such as dystonia affecting the eyes and mouth/jaw, drug induced dyskinesias (levodopa and tardive), choreas (Huntington's disease and neuroacantocytosis), tics, myoclonus, tremors and psychogenic movement disorders are also presented. Emphasis is made on phenomenology, with careful description of clinical signs and distinguishing symptoms that may provide clues to etiology and diagnosis.



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TOURETTE SYNDROME AND TIC DISORDERS: CLINICAL AND PATHOPHYSIOLOGICAL UPDATE



**DAVIDE
MARTINO**

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The estimated prevalence of Tourette syndrome (TS) is approximately 0.9% between ages 6 and 18 years. TS is complicated by psychiatric comorbidities (ADHD, obsessive-compulsive disorder, anxiety/depressive disorders, autism spectrum disorders) in about 90% of cases. Secondary tic disorders are less frequent than primary tic disorders, and should be suspected in older onset (> 20 years) and associated neurological abnormalities. TS is associated with abnormal trajectories of maturation of cortico-subcortical and cortico-cortical circuits regulating motor output control. The most consistent structural changes reported in TS are the decreased volume of the caudate nucleus and fronto-parietal cortical thinning. Management of TS rests first on psychoeducational intervention. Alpha-2-agonists (clonidine and guanfacine) are first-line medications for the treatment of tics in the USA and Canada, and may be more effective in patients with TS+ADHD compared to TS-only. Antipsychotic medications (mostly risperidone, haloperidol, pimozide, fluphenazine, aripiprazole) are also effective, but with less favourable side effect profile. Behavioral treatment, particularly Habit Reversal Training and the Comprehensive Behavioral Intervention for Tics, is more effective than supportive psychotherapy in reducing tic severity in both children and adults. Deep brain stimulation (mainly of the centromedian/parafascicularis thalamic nuclei and globus pallidus internus) should be restricted to adult drug-refractory TS patients who are significantly disabled by their tics. More evidence of efficacy and harmonization of patient selection criteria is required.



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IMPULSE CONTROL DISORDERS IN PARKINSON'S DISEASE

Impulse Control Disorders (ICDs) are a group of heterogeneous disorders characterized by the "failure to resist" impulses to engage in harmful, disturbing or distressing behaviours. Multiple brain regions and neurotransmitter systems contribute to impulsive behaviours. Understanding these networks in the level of cellular and molecular mechanism of neural and synaptic plasticity, can bring a better light regarding how various conditions favor habits formation and further on, compulsivity in different neurological disorders. The crucial neural network seems to be the cortico-striato-thalamo-cortical pathway. In ICDs, predominant influence over behavioral drive transitions from associative cortico-basal ganglia network involving the PFC and ventral striatum to dorsomedial striatum /caudate and then to a more sensorimotor corticobasal ganglia network involving the dorsolateral striatum/putamen. Dopamine (DA) is involved early in the addiction process as well as in later aspects. DA involvement in ICDs has been suggested in studies of individuals with Parkinson's disease (especially associated with DA agonists). ICDs reported in PD may be related to the degradation of dopaminergic pathways.



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SLEEP RELATED MOVEMENT DISORDERS



We focus on 4 sleep disorder-related movement disorders 1) Restless Legs Syndrome (RLS), the most common movement disorder, 2) narcolepsy, 3) REM sleep behaviour disorder (RBD), 4) sleep disorders or disturbed sleep in Parkinson's disease (PD).

Content: RLS is – with a prevalence of ca. 10% and of 3% of people needing therapy - the most common neurological sleep disorder. It is clinically diagnosed according to 4 questions defined by the International RLS Study Group. Therapy relies on dopaminergics, opioids and anti-neuropathic pain compounds. The topic augmentation will be discussed. Iron therapy is effective in iron deficiency related RLS. New data show a possible relation of PLM-induced arousal and blood pressure control. Narcolepsy: an overview is given.

RBD is characterized by loss of physiological atonia during REM-phase leading to enacting out (aggressive) dreams. Epidemiological studies are limited and report a prevalence of 0.5 % with marked predominance of the male gender. RBD represents a prodromal phase (BRAAK stage 2) of PD and is a specific risk factor with a chance of >80 % in 15-20 years to convert into manifest alpha-synucleinopathy (PD, multiple system atrophy (MSA) or dementia with Lewy bodies (DLB)). New data on screening questionnaires, risk factors or imaging will be presented. Sleep problems in Parkinson Disease are either part of PD or associated with therapy such as excessive day time sleepiness (EDS), pain at night, nocturnal akinesia (lack of therapeutic efficacy), nocturia or hallucinations. Examples will be presented. These PD sleep problems need careful diagnostic and therapeutic attention.

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CONTINUOUS LEVODOPA DELIVERY

The majority of levodopa-treated PD patients experience motor complications. These can be disabling and necessitate a surgical intervention. A body of data suggests that motor complications result from non-physiologic replacement of brain dopamine with intermittent doses of oral levodopa. Striatal dopamine is normally maintained at a relatively constant level. However, in the dopamine depleted state, intermittent levodopa doses cause pathologically high and low striatal levels with pulsatile stimulation of DA receptors. This leads to molecular changes in striatal neurons, neurophysiologic alterations in pallidal neurons, and the development of motor complications. These observations led to the concept that more continuous delivery of levodopa might provide the benefits of the drug without motor complications. Multiple open label studies have demonstrated that continuous levodopa infusion reduces both "off" time and "dyskinesia". More recently, we performed a prospective double-blind, double-dummy, double-titration study which demonstrated that continuous intra-intestinal infusion of levodopa/carbidopa intestinal gel (LCIG) was associated with a significant and robust improvement in "off" time with no increase in dyskinesia in comparison to optimized treatment with oral levodopa. These studies confirm the benefit of continuous levodopa delivery. However, LCIG treatment is associated with potentially serious side effects. Current studies are examining the effect of continuous subcutaneous levodopa delivery and long-acting formulations of levodopa in an attempt to obtain similar benefits without the need for a surgical procedure.



**WARREN
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VISUAL DISTURBANCES IN PARKINSON'S DISEASE PATIENTS



**LACRAMIOARA
PERJU-
DUMBRAVA**

Along with the motor symptoms, Parkinson's disease (PD) patients experience a wide range of non-motor problems including visual disturbances. These are multifaceted, but often under-reported as such. In a visual survey questionnaire, 78% PD patients reported at least one problem related to vision or visuospatial functioning [Kesler A, Kozcyn AD. Visual disturbances in Parkinson's disease. Practical neurology 2006; 6:28-33]

The most frequent encountered problems are impaired contrast sensitivity, color discrimination, visuospatial processing, ocular or eyelid movements and diplopia followed by visual misperceptions and hallucinations. Some patients report dry eyes, ocular pain or photophobia.

The pathophysiological basis of the visual disturbances is not completely understood. Changes in the visual cortex were detected with functional MRI before the visual symptoms were clinically evident. Further studies are necessary to determine how these changes will contribute to development of visual symptoms in PD patients. [Cardoso EF et al. Abnormal visual activation in Parkinson's disease patients. Movement Disorders 2010; 25(11): 1590–1596.] Other authors consider a dopaminergic deficit in the retina to be responsible for some of these symptoms, being known that dopamine is the major neurotransmitter in the amacrine and interplexiform cells in the retina. [Brandies R, Yehuda S. The possible role of retinal dopaminergic system in visual performance. Neurosci Biobehav Rev 2008; 32:611–656.] Visual hallucinations are likely to be a result of disruption across related yet diverse neural circuitry.

The therapy is only symptomatic and not always satisfactory. It includes ophthalmological treatment, botulinum toxin for blepharospasm and specific treatment for hallucinations. This work shows how complex the visual problems in PD patients can be and the importance of a thorough and multidisciplinary approach.

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DOPAMINE AGONIST IN ADVANCED PARKINSON'S DISEASE

Dopamine agonists (DAs) such as pramipexol, ropinirole or rotigotine are an important therapeutic option mainly in early Parkinson's disease (PD). However, once initiated DAs are not eliminated from the treatment formula unless complications such as hallucinations, impulse control disorder, or orthostatic hypotension are apparent and disturbing for the patient. Apomorphine is a different, non-selective DA with a short half-life, which is administered by pens or pump not to early, but to advanced PD patients with motor fluctuations. Pen administration is useful for the fast relief of the 'off' symptomatology and end-of-dose biphasic dyskinesia. The pump continuous infusion is usually used over daytime period, being one therapeutic choice to address the continuous dopaminergic stimulation principle. Numerous clinical studies showed the efficacy of apomorphine in both pen or pump delivery and compared it to other interventions for advanced PD, such as deep brain stimulation. The most frequent side effects associated with long-term treatment with apomorphine are orthostatic hypotension, nausea and fibrotic nodules at the injection sites. In the current presentation I will review the most important clinical data regarding different DAs in advanced PD.



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TREATMENT OF NON-MOTOR SYMPTOMS IN PARKINSON'S DISEASE



**FABRIZIO
STOCCHI**

IRCCS San Raffaele,
Rome, Italy

While the classical dopaminergic motor features continue to define PD, it is clear that we are entering a new era in which the non-motor features are being identified with increasing frequency and are an important source of disability for many individuals. The frequency with which non-motor features occur in PD is illustrated by recent studies. They illustrate that these symptoms occur far more frequently in PD patients than in age-matched controls, are present at the earliest stages of the illness, and gradually increase in number and severity over time in concert with the progression of the classical motor features of the illness. Despite their importance as determinant of quality of life of PD patients very few trials have been conducted to demonstrate efficacy of a certain drug on non motor symptoms. Fatigue is a very common problem in PD patients. A double blind study conducted with rasagiline showed a significant improvement of fatigue in the patients treated with the active compound versus placebo. Pramipexole showed to be efficacious in improving depression in PD patients. Rotigotine improved nocturnal problems and macrogol improved constipation in a small study. However many non motor symptoms respond to levodopa and they can appear during wearing OFF. Optimize levodopa treatment can improve these symptoms. Rescue therapy such as apomorphine injection can solve severe problems such as pain, depression and anxiety. Continuous infusion of levodopa proved to be efficacious in improving non motor symptoms. Unfortunately other NMS such as nocturia, swallowing, sweating, voice etc remain difficult to treat.



4th NATIONAL MOVEMENT DISORDERS TEACHING COURSE

23-24 March 2015 | Poiana Brasov | Romania

CURRENT STRATEGIES IN THE TREATMENT OF PARKINSON'S DISEASE – IMPORTANCE OF A PERSONALIZED APPROACH



**LARS
TIMMERMANN**

Klinik und Poliklinik für
Neurologie
Uniklinik Köln
Germany

Parkinson's disease (PD) treatment has been applied for decades based on clinical experience and a growing body of evidence with respect to clinical studies. However, the clinical spectrum of patients with PD is rather impressive ranging from young patients with a tremor dominant PD and extremely slow disease progression up to elderly akinetic-rigid patients with faster decline. Specifically in our large studies and guidelines this variability has not been taken too much into account: However, it bears significant chances to unravel mechanisms of disease progression as well as a targeted approach with respect to treatment approaches. The currently probably mostly "personalized approach" has been realized in Deep Brain Stimulation, where the individual course of the disease, the specific combination of symptoms as well as the individual wishes, plans and expectations of patients are taken into account. Furthermore, a new generation of stimulation devices allows a highly individualized adjustment of stimulation parameters to maximize the effect or to minimize individually burdensome side-effects. This individualization of therapy is one of the major challenges for future therapeutic approaches, but, even more for studies proving this concept to be true.



HOW TO DIAGNOSE A PATIENT WITH PARKINSON'S DISEASE



**FRANCESC
VALLDEORIOLA**

Parkinson's disease is a progressively disabling neurodegenerative disorder that is manifested clinically by bradykinesia, tremor, rigidity, flexed posture, postural instability, and freezing of gait. It is characterized pathologically by the loss of pigmented dopaminergic neurons in the substantia nigra. When a full blown syndrome appears it is relatively easy to diagnose. However, in some cases, patients present only minor signs and confounding symptoms that may challenge the neurologist for an early and appropriate diagnosis.

One of the objectives of the talk is to define the best way to examine the typical signs presenting in Parkinson's disease but also, there will be a review of specific non-motor symptoms such as depression, hyposmia, REM sleep behavior disorder or constipation, often present in the earlier stages of the disease, which may help to the diagnosis of PD. It will also be commented on the unusual presentations and illustrative atypical cases. The bases for the differential diagnoses with other diseases coursing with parkinsonism will be re-appraised.

The role of several techniques such as RM, DAT-SPECT, MIBG scintigraphy, sonography and olfaction testing will also be commented; the need for genetic testing in specific patients with early and late onset of the disease will be discussed.

Apart from these theoretical aspects, some videos will illustrate the presentation in order to help for comprehension.

Parkinson's Disease
and Movement
Disorders Unit, Service
of Neurology

Institut Clínic de
Neurociències, Hospital
Clínic i Provincial,
Barcelona, Spain



Biographies



ANGELO ANTONINI

/Italy

Angelo Antonini, MD, PhD is director of the Parkinson Unit at the Institute of Neurology, IRCCS San Camillo Hospital in Venice and Professor at the University of Padua.

He earned his medical degree from the Università degli Studi di Roma 'La Sapienza', Rome. In November 1990 he completed his neurology training with honors and then undertook a visiting fellowship at the PET Department Paul Scherrer Institute, Villigen, Switzerland before starting his PhD in neuroradiology under the supervision of Professor Klaus Leenders. In February 1995 he was promoted to Associate Professor of Neurology at the New York University and worked at the Neuroimaging laboratory of the North Shore University Hospital, NY directed by David Eidelberg. In November 1997 he moved to the Parkinson Institute in Milan where coordinated Clinical Research at the Department of Neuroscience until March 2009.

His research focuses on pharmacology of dopaminergic medications, neuroimaging as well as cognitive and behavioral aspects of Parkinson's disease, multiple system atrophy, PSP and other movement disorders. In addition he is actively involved in the use of continuous infusion of levodopa and apomorphine as well as subthalamic nucleus deep brain stimulus (STN-DBS) for the treatment of motor complications in advanced Parkinson and dystonia patients.

During his academic career he has received several awards, published more than 250 peer-reviewed manuscripts and several book chapters. He serves as reviewer for the main neurology journals. He is the Chair of the European Education Committee of the Movement Disorders Society, Treasurer of the Association of Parkinsonism and Related Disorders and Secretary of the Italian Parkinson and Movement Disorders Association LIMPE.



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OVIDIU BAJENARU
/Romania

1983 : M.D. at the Faculty of Medicine of University of Medicine and Pharmacy
"Carol Davila" Bucharest

1983-1985 : post graduate hospital stagium in University Hospital of Emergency Bucharest

1985- 1989 : resident of neurology

1985 : assistant professor – University of Medicine and Pharmacy "Carol Davila"
Bucharest- Department of Neurology of the University Hospital of Emergency Bucharest

1989 : specialist in neurology, confirmed by the Ministry of Health of Romania

1993 : Ph.D. at the University of Medicine and Pharmacy "Carol Davila" Bucharest
- senior lecturer of neurology
- Head of Department and Medical Chief (University Hospital of Emergency, Bucharest)

1994 - 1999 : Associate Professor of Neurology

1999 (since) : Professor of Neurology at the University of Medicine and Pharmacy
"Carol Davila" Bucharest and Chairman of the Neurology Department of the
University Hospital of Emergency Bucharest

2006: : Doctor Honoris Causa - University „Ovidius” – Constanta (Romania)

2011 : Director of Department of Clinical Neurosciences - University of Medicine and
Pharmacy " Carol Davila" Bucharest

2013 (since) : Corresponding member of the Romanian Academy of Medical Sciences

Other professional activities :

2000-2004 : Vice-Dean of the Faculty of Medicine - University of Medicine and Pharmacy
"Carol Davila" Bucharest

2001-2013 : President(founder) of the Romanian Society of Neurology

2013(since) : Honorary President ad vitam of the Romanian Society of Neurology

2003-2009 : member of the Scientific Committee of ECTRIMS

2005-2009 : member of the Executive Committee of the European Society of Neurology

2011 (since) : member of the National Committee of Habilitation of the Romanian Ministry
of Education for PhD accreditation and high academic degrees

Post graduate training :

1992 - 1994 : post graduate training in clinical neurology and functional investigations of the
nervous system at University " Rene Descartes"(Paris) : C.H.U. Sainte-Anne
(Neurology) and C.H.U. Cochin – Port Royal (Functional Investigations of the
Nervous System) and training in neuroendocrinology

1996 : second medical competence (confirmed by the Ministry of Health of Romania)
in "Diagnosis in Neurological Diseases by MRI".

1997 : assistant of clinical research in pharmaco-clinical trials (Paris)

2009, 2011 : International training for methodology in clinical research

Fields of interest for the scientific research

- dementia and neurodegenerative diseases (in particular Parkinson's disease)
- multiple sclerosis

- stroke
- experimental and clinical study of sleep disturbances in the neurological and neuroendocrinologic diseases
- more than 450 scientific papers published and reported in different national and international scientific meetings
 - ISI Web of Science: h-index : 8
- 5 medical books and monographies (published in Romania)
- co-author (1 chapter) to the "International Neurology - A Clinical Approach" (eds. ROBERT P. LISAK, DANIEL D. TRUONG, WILLIAM CARROLL, ROONGROJ BHIDAYASIRI), Wiley-Blackwell , 2009
- Country Principal Investigator – in more than 20 international, multicentric clinical trials
- Principal Investigator of the research site – in more than 30 international and national multicentric trials
- Member of the Steering Committee of PRECISE trial

Other activities:

- coordinator of the Continuous Medical Education (EMC) national program of the Romanian Society of Neurology for neurologists in Romania
- coordinator and author of the Guidelines for diagnosis and treatment of neurological diseases (agreed by the College of Medecins of Romania) main author of the national guidelines for Parkinson's disease, Multiple Sclerosis and Dementia
- coordinator of the National Program of the National House of Insurance and Ministry of Health, for treatment of patients with neurological diseases (2000 - 2015)
- coordinator of the first medical team in Romania for DBS in Parkinson's disease.
- chief-editor of Romanian Journal of Neurology (the official journal of the Romanian Society of Neurology)

Scientific affiliation :

- Romanian Society of Neurology (Honorary President ad vitam)
- UEMS – European Board of Neurology (Secretary General – elected in 2010)
- European Neurological Society (ENS) – member of the Executive Committee between 2005 – 2009
- European Stroke Organization
- European Federation of Neurological Societies (EFNS) and European Academy of Neurology (since 2014)
- American Academy of Neurology (coresponding member)
- Danube Neurological Association (Vice-Secretary General – elected in 2011)
- ECTRIMS (member of the Scientific Council 2003-2009)
- New York Academy of Sciences
- American Academy for Advancement in Science
- Movement Disorders Society
- Romanian Association for the Study of Pain
- Romanian Society for the Study of Neuroplasticity (founder president of honour)

2005, 2006, 2010, 2011: awarded by the Prize of Excellence in Neurology for the scientific activity in Romania (decided by a National Jury organized by the Health Chamber of the Romanian Parliament)

2008: awarded by the Romanian Society of Internal Medicine for the best scientific activity in a related medical speciality

2014: awarded by the International Brain Foundation and Romanian Academy of Medical Sciences, for excellency in the development of management of patients with multiple sclerosis in Romania

Investigator in an International Program of Research for genetic factors in stroke patients; Country Principal Investigator – in more than 30 international, multicentric clinical trials;

Principal Investigator of the research site – in more than 30 international and national multicentric trials



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SEVASTI BOSTANTJOPOULOU

/Greece

Sevasti Bostantjopoulou – Kambouroglou, M.D, PhD, is Professor of Neurology and Head of the 3rd University Department of Neurology of the Aristotle University of Thessaloniki, Greece. She received her medical degree from the Aristotle University of Thessaloniki, Greece. After completing her training in Neurology she undertook a fellowship for movement disorders at the Center for Parkinson's Disease and other Movement Disorders at Columbia Presbyterian Medical Center, New York, USA.

She is Chief of the Outpatient Unit for Parkinson's Disease and other movement disorders of the 3rd University Department of Neurology of the Aristotle University of Thessaloniki. She is a member of the Greek movement disorders section of the Hellenic Neurological Society and the Greek representative in the EFNS/MDS-ES Panel on Movement Disorders since 2003. She is a member of several International Neurological Societies. Her main fields of interest are Parkinson's disease, atypical parkinsonism and dystonia. She is the author of more than 150 papers in peer-reviewed scientific journals and reviewer in several Greek and international medical journals.



RAY CHAUDHURI

/U.K.

- Clinical Director, National Parkinson Foundation International Centre of Excellence, Kings College London
- Director, Kings Neuroscience Research and Development
- Kings College Hospital and KCL
- Chairman, Movement Disorders Society Non Motor Study Group, Denmark Hill Campus

K Ray Chaudhuri is a Professor in Neurology/Movement Disorders, Consultant Neurologist at Kings College Hospital and Kings College, London, an Academic Health Sciences Centre, and also principal investigator at the MRC Centre for Neurodegeneration research at Kings College, London. He is the Medical Director of the National Parkinson Foundation International Centre of Excellence at Kings College, London. He sits on the Nervous Systems Committee of UK Department of Health, National Institute of Health Research, and serves as co-chairman of the appointments/liaison committee of the Movement Disorders Society and is currently serving as member of the Scientific Programme Committee (2013-2015). He is the Chairman of the newly-formed MDS non motor study group. He is also a member of the WFN organizational committee, the task force of practice parameter group for PD and RLS and, more recently, Non Motor Symptoms of Parkinson's, American Academy Neurology. Dr. Chaudhuri is the European Editor of Basal Ganglia and is on the editorial board of Parkinsonism and Related Disorders and Journal of Parkinson's Disease. He also represents UK research and development in the National Institute of Health Research (NIHR) as well as at a local level for London South CLRN neurosciences. He serves in the clinical advisory group of Parkinson's UK and is an advisor to the European Parkinson's Disease Association. He is also the lead for London South CLRN neurosciences sub-specialty group.

Dr. Ray Chaudhuri is the author of 270 papers including reviews, book chapters, co-editor of four books on Parkinson's disease and Restless Legs Syndrome, and over 300 published peer-reviewed abstracts. He is the chief editor of the first comprehensive textbook on non-motor aspects of Parkinson's, published by Oxford University Press and recipient of British Medical Association book commendation prize. He has contributed extensively to educational radio and television interviews including BBC and CNN, newspaper articles and videos. Dr. Ray Chaudhuri has also lectured extensively on PD and restless legs syndrome at international meetings in the USA, Japan, continental Europe, South America, South Africa, India and Australia. His major research interests are continuous drug delivery treatment of PD and restless legs syndrome, Parkinsonism in minority ethnic groups and sleep problems in Parkinson's disease. In 2005, he was awarded the DSc degree by the University of London and received his Kings College Chair in neurology in 2007.



4th NATIONAL MOVEMENT DISORDERS TEACHING COURSE

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GUNTHER DEUSCHL

/Germany

Günther Deuschl received his MD at the University of Munich. Between 1981-1982 he trained at the Department of Neurology of the Universities in Munich and subsequently in Freiburg where he was promoted to assistant professor in 1988. In 1991 he spent a sabbatical the National Institutes of Health, Bethesda/USA with Prof. M. Hallett. In 1995 he was elected as full Professor of Neurology at the Christian-Albrechts-University in Kiel and chairman of the Department of Neurology and is keeping this position since then.

His research interests are focused on Deep Brain Stimulation for Movement Disorders, Parkinson's disease, essential and other tremors. A special interest covers clinical deep brain stimulation studies for Parkinson's disease and the pathophysiology of movement disorders.

He received grants from the German Research Council, the German Ministry of Research, different foundations and industry. He published more than 500 listed papers. Publications see: <http://www.researcherid.com/rid/A-7986-201>. He has served as the president of the German Society of Neurology, the International Movement Disorder Society and is currently president of the European Academy of Neurology.



CRISTIAN FALUP-PECURARIU

/Romania

Cristian Falup-Pecurariu received his medical degree from the University of Medicine and Pharmacy “Iuliu Hațieganu” from Cluj-Napoca. He hold a 1 year fellowship of the European Neurological Society in movement disorders and sleep medicine at Hospital Clinic, University of Barcelona, Spain.

He is Head of the Department of Neurology, County Emergency Clinic Hospital from Brasov, and is Lecturer of Neurology at the Transilvania University from Braşov.

During his career Cristian Falup-Pecurariu was President of the European Association of Young Neurologists and Trainees (EAYNT), EAYNT Liasion Officer with World Federation of Neurological Society, co-representative of Europe on the International Working Group for Young Neurologists and Trainees (World Federation of Neurology), Secretary of the EFNS/MDS-ES Panel on Movement Disorders and currently is member of the Educational Committee of MDS-ES and MDS Leadership Task Force.

His research focuses on non-motor aspects of Parkinson’s diseases and restless legs syndrome.



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PETER JENNER
/UK

Date of Birth: 6th July 1946

Place of Birth: Gravesend, Kent

Education:

1956-1964 Gravesend Grammar School
1964-1972 Chelsea College, University of London

Degrees and Diplomas:

1964-1967: B. Pharm(Hons) 2:1, Chelsea College, University of London
1967-1970: Ph.D., Chelsea College, University of London
1972: Membership of the Royal Pharmaceutical Society of Great Britain
1987: D.Sc., University of London
1994: Fellow of the Royal Pharmaceutical Society of Great Britain
2005: Fellow of the British Pharmacological Society
2006: Fellow of King's College London
2008: Emeritus Professor of Pharmacology, King's College London
2011: Fellow of the Royal Society of Medicine

Honours and Achievements:

- Elected Fellow of the British Pharmacological Society
- Elected Fellow of King's College London
- ISI Most Cited Author in Neuroscience – Ranked in top 0.5% of all neuroscience authors in the world
- Scientific Impact – Hirsch Index 72 (Admission to National Academy of Sciences USA average 52)
- Winner THES Spinout of the Year 2005 – National Award for the most successful company formed in academia
- Rated in Top Ten Entrepreneurial Academics in the UK – THES/Independent
- National Parkinson's Foundation Centre of Excellence for 'gold standard' research excellence in Parkinson's disease 2005
- International Movement Disorder Society – Extraordinary Contribution to Movement Disorders (Honorary Membership)

Appointments:

1970-1972 Postdoctoral Fellow in the Department of Pharmacy, Chelsea College, University of London
1972-1978 Lecturer in Biochemistry, University Department of Neurology, Institute of Psychiatry
1978-1985 Senior Lecturer in the above Department
1983-1985 Honorary Senior Lecturer, King's College Hospital Medical School
1985-1989 Reader in Neurochemical Pharmacology, University Department of Neurology, Institute of Psychiatry and King's College Hospital



Medical School

1988-2000	Honorary Senior Lecturer, Institute of Neurology
1989-1998	Professor of Pharmacology and Head of Department, King's College London
1993-	Director, Neurodegenerative Diseases Research Centre, King's College London
1998-2004	Head of Division of Pharmacology and Therapeutics, Guy's, King's and St. Thomas' School of Biomedical Sciences, King's College London
2005	Professor of Pharmacology, Guy's, King's and St. Thomas' School of Biomedical Sciences, King's College London
2005-2010	Director of Proximagen Ltd
2008	Emeritus Professor of Pharmacology, King's College London

Editorial Boards:

Journal of Pharmacy and Pharmacology
Polish Journal of Pharmacology
Journal of Neural Transmission (Handling Editor)
Neuropharmacology (Handling Editor 2002 -)
Synapse (European Editor 1990 -)
International Review of Neurobiology (Series Editor)

Past Activities:

Director, Parkinson's Disease Society Experimental Research Laboratories (1988-1999)
Elected Member of Council, Parkinson's Disease Society (1993-1999)
Member of Medical Advisory Panel, Parkinson's Disease Society (1993-1999)
Member of Biochemical Society - Molecular and Cellular Pharmacology Group Committee (until 2000)
President of Watford Branch of Parkinson's Disease Society 2000
Secretary of Basal Ganglia Club
Member of Board of Management, Institute of Epileptology, King's College London
Member of Medical Advisory Board of Bachman-Strauss Foundation, New York 2000-2005
Journal of Neurochemistry (Handling Editor 1998-2008)
Vice-President of European Society for Clinical Pharmacology 2001-2008

Current Activities:

Consultant to the Pharmaceutical Industry

Referee for research grant applications from:

Royal Pharmaceutical Society
Medical Research Council
Wellcome Trust
Parkinson's Disease Society
INSERM, France



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MONICA KURTIS

/Spain

Mónica M. Kurtis studied biology at Princeton University (USA) and biochemistry at the University of Edinburgh (Scotland) where she received her BSc. She completed her medical degree at the University of Navarre (Spain) and trained in neurology at the Hospital Clínico San Carlos in Madrid (Spain). She undertook a clinical fellowship in Movement Disorders and Clinical Motor Physiology at Columbia Presbyterian Medical Center (USA).

She is currently a clinical neurologist and directs the Movement Disorders Unit of the Neurology Division of the Hospital Ruber Internacional located in Madrid, Spain. She has published extensively in peer-reviewed international journals and is the author of various book chapters. She is a reviewer for Movement Disorders among other journals. She collaborates with national patient associations involved with Parkinson disease, dystonia and Tourette as a medical advisor. Her main fields of interest include Parkinson's disease (particularly non motor symptoms and quality of life), atypical parkinsonisms, tremor, dystonia and patient/care giver education.



DAVIDE MARTINO

/UK

Professional qualifications

2008	PhD	Clinical Neuroscience	University Bari (Italy)
2004	Specqual	Neurology	University Bari (Italy)
1999	MD	Medicine	University Bari (Italy)

Current post:

Consultant Neurologist and Honorary Clinical Lecturer
Kings College Hospital NHS Foundation Trust and Kings College and Kings Health Partners

Last three posts held

June 2011 – May 2012	Consultant Neurologist, South London NHS Trust
June 2008 – May 2011	Post-clinical research assistant, University of Bari (Italy)
April 2003 – June 2006	Clinical Research Fellow, Institute of Neurology, Queen Square

Publications summary:

Books edited: 2; Book chapters: 3; Guest editor of Special Issue of peer reviewed journal: 1 (for Neuroscience and Biobehavioural Reviews). Peer reviewed articles: 100

Publications – most recent

1. Martino D, Lagravinese G, Pelosin E, Ray-Chaudhuri K, Vicario CM, Abbruzzese G, Avanzino L. Temporal expectation of perceived body movement in cervical dystonia. *Mov Disord* 2015 in press.
2. Vicario CM, Gulisano M, Martino D, Rizzo R. Timing recalibration in childhood Tourette syndrome is associated with pimozide treatment. *J Neuropsychol* 2015 in press.
3. Ganos C, Bongert J, Asmuss L, Martino D, Munchau A, Haggard P. The somatotopy of tic inhibition: where and how much? *Mov Disord* 2015 in press.
4. Avanzino L, Bove M, Pelosin E, Ogliastro C, Lagravinese G, Martino D. The cerebellum predicts the temporal consequences of observed motor acts. *PLoS One* 2015 in press.
5. Klingelhofer L, Martino D, Martinez-Martin P, Sauerbier A, Rizo A, Jost W, Warner TT, Ray Chaudhuri K. Non motor symptoms and focal cervical dystonia: observations from 102 patients. *Basal Ganglia* 2014 in press.
6. Ganos C, Martino D. Tics and Tourette syndrome. *Neurol Clin* 2015 in press.
7. Martino D, Zis P, Buttiglione M. The role of immune mechanisms in Tourette syndrome. *Brain Res* 2014 May 15 [E-pub ahead of print].
8. Ling H, Kara E, Revesz T, Lees AJ, Plant GT, Martino D, Houlden H, Hardy J, Holton JL. Concomitant progressive supranuclear palsy and chronic traumatic encephalopathy in a boxer. *Acta Neuropathol Comm* 2014 in press.
9. Erro R, Martino D, Ganos C, Damasio J, Batla A, Bhatia KP. Adult-onset primary dystonic tics: a different entity? *Mov Disord Clin Pract* 2014 in press.
10. Cavanna AE, Martino D. How many Gilles de la Tourette syndrome? *Eur J Neurol* 2014 in press.
11. Vicario CM, Gulisano M, Martino D, Rizzo R. The perception of time in childhood migraine. *Cephalalgia* 2014 E-pub ahead of print.
12. Martino D, Cavanna AE. Preface: the metamorphoses of Gilles de la Tourette syndrome. *Int Rev Neurobiol* 2013; 112:xv-xx.
13. Martino D, Macerollo A, Leckman JF. Neuroendocrine aspects of Tourette syndrome. *Int Rev Neurobiol* 2013; 112:239-279.
14. Martino D, Madhusudan N, Zis P, Cavanna AE. An introduction to the clinical phenomenology of Tourette syndrome. *Int Rev Neurobiol* 2013; 112:1-33.
15. Martino D, Mink JW. Tic disorders. *Continuum (Minneapolis)* 2013; 19(5, Movement Disorders): 1287-1311.



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Selected research grants held


- 2014 PI for Lewisham and Greenwich NHS Trust for the project “A novel diagnostic screening procedure for antipsychotic-induced movement disorders” (CI: prof. K. P. Bhatia), sponsored by NIHR, Research for Patient Benefit programme.
- 2013 PI for Lewisham and Greenwich NHS Trust for the project “Clinical Validation for a Specific Pain Scale for Parkinson’s Disease” (CI: prof. R.K. Chaudhuri), sponsored by EUROPAR, EPDA and Parkinson’s UK.
- 2011 Co-coordinator and Patient Identification Centre to the project “European Multicentre Tics in Children Studies (EMTICS)”, FP7 small-medium scale project programme (euros 6,000,000).
- 2006-2008 Co-author and study manager of the project entitled “The role of streptococcal infection and autoimmunity in Tourette’s syndrome”, selected and funded (euros 130,000) by the Italian Ministry for University and Research (MIUR) as Project of Relevant National Interest (PRIN) [Coordinator: prof. Renata Rizzo, University of Catania].

Other appointments and affiliations

- 2002-today Membership of the Italian Society for Neurology
- 2005-2007 Appointed President of the Italian Section of the Young Neurologists and Trainees Association of Europe
- 2004-today Membership of the Movement Disorders Society and Member of the Italian Association for Movement Disorders (DISMOV-SIN)
- 2007-2011 Membership of the Executive Committee of the Italian Association for Movement Disorders (DISMOV-SIN)
- 2005-today Membership of the Movement Disorders Society
- 2008-today Membership and co-founder of the European Society for the Study of Tourette’s syndrome (ES-STS) and membership of the EU-funded COST ACTION network for multi-centre collaborative research on Tourette’s syndrome

Congress invitations (selected)

- Between 2003 and 2010, invitations to all the yearly Congresses of the Italian Society for Neurology as Invited Speaker or Chairman.
- Between 2006 and 2011, invitations to all the yearly Congresses of the Italian Association for Movement Disorders (DISMOV-SIN) as Invited Speaker or Chairperson. In 2008, organization of the yearly meeting of the Italian Association for Movement Disorders (DISMOV-SIN), which included the organization of the International Symposium, endorsed by the Movement Disorders Society, entitled “Multidisciplinary advances in Tourette’s syndrome and implications for clinical practice”.
- February 2010: invitation as faculty to the International Symposium sponsored by the Movement Disorders Society “Knowledge gaps in Movement Disorders”, held in Taormina (Italy)
- In May 2010, invitation as Lecturer to the EFNS (European Federation of Neurological Societies) Academy held in Stare Splàvy (Czech Republic).
- In June 2010, invitation to the Movement Disorders Society World Congress in Buenos Aires as Invited Speaker (Pathobiology of Tourette syndrome).
- July 2010: invited as keynote speaker at the “M. Trimble Neuropsychiatry Meeting” held at the University of Birmingham.
- 2011 invitation as keynote speaker at the University of Paris – Salpêtrière at the Yearly Meeting on Gilles de la Tourette syndrome, Paris October 2011
- 2012: invitation to the British Neuropsychiatry Association (BNPA) in London, February 2012 (Huntington’s disease-look alike); invitation to the 2012 Movement Disorders Society World Congress Dublin, June 2012 as Invited Speaker (Post-streptococcal movement disorders);



Teaching course COST action EU on Tourette syndrome, Catania, June 2012 (Immunopathogenic aspects of Tourette syndrome); Swiss Movement Disorders Association, Lucerne, August 2012 (Tourette syndrome: clinic and pathobiology)

- 2013: invitation as Speaker to the European Society for the Study of Tourette Syndrome (Immunobiology of Tourette syndrome), to be held in Athens, 24-27 April;

invitation as Speaker and Co-chair to Teaching Course on Tourette syndrome at the European Neurological Society (ENS) congress, Barcelona, June 2013 (Management of Tourette syndrome)

- 2014: invitation to the 2014 Movement Disorders Society World Congress Stockholm, June 2014 as Invited Speaker (Skills Workshop on Treatment of Tourette syndrome).
- 2015: invitation to the 2015 Movement Disorders Society World Congress San Diego, CA, June 2015 as Invited Speaker Plenary Session (An update on pathogenesis and treatment of Tourette syndrome) // Invitation as Speaker in the teaching courses "Imaging in clinical decision making – Level 1" (Tremor, tics and dystonia) and "Movement disorders associated with auto-antibodies – Level 2" (PANDAS, antiphospholipid and others) at the first European Academy of Neurology conference planned in Berlin, June 2015.



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DAFIN F. MURESANU

/Romania

Professor of Neurology, Senior Neurologist, Chairman of the Neurosciences Department, Faculty of Medicine, University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca, President of the Romanian Society of Neurology, President of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), member of the Academy of Medical Sciences, Romania, secretary of its Cluj Branch. He is also member of 13 scientific international societies (being member of the American Neurological Association (ANA) - Fellow of ANA (FANA) since 2012) and 7 national ones, being part of the executive board of most. Professor Dăfin F. Muresanu is a specialist in Leadership and Management of Research and Health Care Systems (specialization in Management and Leadership, Arthur Anderson Institute, Illinois, USA, 1998 and several international courses and training stages in Neurology, research, management and leadership). Professor Dăfin F. Muresanu is coordinator in international educational programs of European Master (i.e. European Master in Stroke Medicine, University of Krems), organizer and co-organizer of many educational projects: European and international schools and courses (International School of Neurology, European Stroke Organisation summer School, Danubian Neurological Society Teaching Courses, Seminars - Department of Neurosciences, European Teaching Courses on Neurorehabilitation) and scientific events: congresses, conferences, symposia (International Congresses of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), International Association of Neurorestoratology (IANR) & Global College for Neuroprotection and Neuroregeneration (GCNN) Conferences, Vascular Dementia Congresses (VaD), World Congresses on Controversies in Neurology (CONy), Danube Society Neurology Congresses, World Academy for Multidisciplinary Neurotraumatology (AMN) Congresses, Congresses of European Society for Clinical Neuropharmacology, European Congresses of Neurorehabilitation). His activity includes involvement in many national and international clinical studies and research projects, over 200 scientific participations in the last 7 years as "invited speaker" in national and international scientific events, a significant portfolio of scientific articles (113 papers indexed on Web of Science-ISI, H-index: 14) as well as contributions in monographs and books published by prestigious international publishing houses. Prof. Dr. Dăfin F. Muresanu has been honoured with: the Academy of Romanian Scientists, "Carol Davila Award for Medical Sciences / 2011", for the contribution to the Neurosurgery book "Tratat de Neurochirurgie" (vol.2), Editura Medicală, București, 2011; the Faculty of Medicine, University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca "Octavian Fodor Award" for the best scientific activity of the year 2010 and the 2009 Romanian Academy of Medical Sciences "Gheorghe Marinescu Award" for advanced contributions in Neuroprotection and Neuroplasticity.



WOLFGANG OERTEL

/Germany

Academic and professional degrees

- 2004 Doctor honoris causa - 1. Medical University Moskau, Russland
- 1986 Habilitation in neurology, Technische Universität München, Germany
- 1978 MD-thesis, Freie Universität Berlin, Germany
- 1977 License to practice medicine, Berlin, Germany
- 1976 State examination in medicine, Freie Universität Berlin, Germany

Employment History and Honorary Positions

- 2015-2018 Member - Scientific Panel for Health, DGXII, European Commission
- 2014-2019 Hertie-Senior Research Professorship and Professor of Neurology
- since 2014 Chair - European Affairs Sub-Committee - European Academy of Neurology
- 2013-2015 President - International REM-Sleep Behaviour Disorder Society
- 2013-2014 Past President - German Society for Neurology
- 2011-2012 President - German Society for Neurology (2009-10 Vice-President)
- 2007-2009 Chair - International Movement Disorder Society- European Section
- 2007-2011 President of the German Parkinson Society (DPG)
(2004-07 Vice-President)
- 2001-2005 Speaker EuroPa – European Network for Research, Diagnosis & Therapy of Parkinson-Syndromes – 5th Framework Program
- since 2003 Speaker of the German Parkinson's Study Group (GPS) –
Network for clinical multicenter trials: „Parkinson Syndromes“
- 2003-2008 Member of the board: GeneMove
- 2002-2008 Member of the board: Telematic Platform for Medical Research
- since 1999 Deputy Speaker of all Medical Competence Networks in Germany
- since 1999 Speaker of the „Competence Network Parkinson“
- 1996-2014 Professor of Neurology and Director of the Department of Neurology, Philipps-University Marburg
- 1987-2010 Scientific advisory board: German Parkinson-Vereinigung e.V.
- 1987 Visiting Professor, National Institute of Neurology, London, UK (Prof. Dr. C.D. Marsden)
(carrier award “Heisenberg Professor” of the Deutsche Forschungsgemeinschaft)

Research interests

Parkinson's disease and atypical Parkinson syndromes: neurodegeneration, diagnosis, imaging, disease modification, pharmacotherapy, functional neurosurgery, stemcell research, animal models for neurodegenerative diseases; Wilson's disease; neurological sleep disorders: REM-sleep-behaviour disorder, restless legs syndrome, Alzheimer's disease, Lewy-body dementia: diagnosis, pharmacotherapy.



4th NATIONAL MOVEMENT DISORDERS TEACHING COURSE

23-24 March 2015 | Poiana Brasov | Romania

WARREN OLANOW
/USA

C. Warren Olanow, M.D., FRCPC is the Henry P. and Georgette Goldschmidt Professor and Chairman Emeritus of the Department of Neurology, and Professor in the Department of Neuroscience at the Mount Sinai School of Medicine in New York City.

He received his medical degree from the University of Toronto, performed his neurology training at the New York Neurological Institute at Columbia Presbyterian Medical Center at Columbia University, and did post-graduate studies in neuroanatomy at Columbia University. He served on the faculties of McGill University, Duke University, and the University of South Florida prior to joining Mount Sinai.

He is Past President of the Movement Disorder Society, Past President of the International Society of Motor Disturbances and Past Treasurer of the American Neurological Association. He has been named an Honorary Professor at the University of London (Royal Free Hospital), an Honorary Member of the French Neurological Society, an honorary fellow of the Royal College of Physicians of the United Kingdom (FRCP (hon)), was the recipient of the Presidential Award from the Movement Disorder Society, and was the recipient of the 2013 Movement Disorder Research Award from the American Academy of Neurology. He serves on the Board of Directors of the National Space Biomedical Research Institute, is a member of the executive committee of the Michael J Fox Foundation Scientific Advisory Board, is the past Chairman of the Scientific Advisory Board of the Bachmann-Strauss Parkinson and Dystonia Research Foundation and has served on numerous additional medical and scientific advisory boards. He has served on several editorial boards, and was most recently Editor-in-Chief of the journal Movement Disorders.

His clinical and basic science research efforts are directed toward defining more effective therapies for Parkinson's disease and other neurodegenerative disorders. Dr. Olanow has authored more than 350 publications, and was ranked #1 in the United States in citations for Parkinson's disease during the past quarter century. He has lectured on movement disorders at Universities and Conferences throughout the world.

Over the past 4 years, he has joined with Dr. Karl Kieburtz to form Clintrex LLC, a pharmaceutical advisory firm devoted to facilitating research, clinical and regulatory aspects of drug development for neurodegenerative disorders.



LACRAMIOARA PERJU-DUMBRAVA

/Romania

Lăcrămioara Perju-Dumbravă, MD, PhD is Professor of Neurology within the Neurosciences Department, Faculty of Medicine, University of Medicine and Pharmacy “Iuliu Hatieganu” Cluj-Napoca, Chairman of the First Neurology University Clinic, Cluj-Napoca, Romania. Her academic status includes her position as member of the Board of the Faculty of Medicine and of the University’s Senate, as well as Doctorate coordinator in the field of MEDICINE. Her prestigious activity includes: publishing of 3 monographs, co-authorship in other 7 speciality books, 168 scientific papers published in medical journals, chairman and speaker at annual national congresses and conferences, international conferences and membership in editing committees and professional societies, involvement in several clinical studies, her expertise being sought by national medical councils and committees.



4th NATIONAL MOVEMENT DISORDERS TEACHING COURSE

23-24 March 2015 | Poiana Brasov | Romania

BOGDAN O. POPESCU

/Romania

Bogdan O. Popescu graduated the School of Medicine at 'Carol Davila' University of Medicine and Pharmacy, Bucharest, in 1996. From 1997 to 2012, he worked as neurologist at the University Hospital Bucharest. Since 2012 he was first Associated Professor and then full Professor of Neurology at 'Carol Davila' University, School of Medicine, Colentina Clinical Hospital. Since 2004 Bogdan O. Popescu is the Head of Molecular Medicine Laboratory at 'Victor Babes' National Institute of Pathology in Bucharest. He graduated two PhDs, at Bucharest, in 2001, and at Stockholm, Sweden (Karolinska Institute) in 2004, with theses regarding apoptosis and cell signaling in neurodegeneration, respectively. His scientific contribution refers mainly to mechanisms of neurodegenerative diseases (Alzheimer's and Parkinson's). He authored over 40 papers in ISI high impact factor journals, being cited more than 1000 times in international publications and having a Hirsch index of 16. He is member of EAN, MDS, ESO, Romanian Society of Neurology, Society for the Study of Neuroprotection and Neuroplasticity and National Society of Neuroscience. He was honored with the 'Victor Babeș' award for medical research by the Romanian Academy in 2007. During 2001-2013 period he served as General Secretary of the Romanian Society of Neurology and starting with 2001 is the Executive Editor of the Romanian Journal of Neurology. He is the Elected President of Romanian Society of Neurology, starting with 2017.



FRANCESC VALLDEORIOLA

/Spain

Consultant in Neurology
Coordinator of the Deep Brain Stimulation Program
Parkinson's Disease and Movement Disorders Unit
Service of Neurology

Research Coordinator
Institut Clínic de Neurociències
Hospital Clínic i Provincial, Barcelona.

Professional background

About 200 publications in indexed journals and books.
About 220 presentations to Meetings and Congresses.
30 book chapters
220 invited conferences
Organization of International Courses on Deep Brain Stimulation
Participation in expert committees in several fields of movement disorders
Participation in more than 40 clinical trials as associated or principal investigator



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FABRIZIO STOCCHI

/Italy

Fabrizio Stocchi, MD, PhD, is Professor of Neurology, Consultant in Neurology and Director of the Parkinson's disease and Movement disorders research centre and director of the drug development research centre the Institute for Research and Medical Care IRCCS San Raffaele Rome and University "La Sapienza" Rome. He is also Scientific advisor of the Institute for Parkinson's Disease Research in Vicenza. Professor Stocchi was awarded his MD from the University of L'Aquila and his PhD from the University of Catania.

Professor Stocchi's research activities have centred on neuropharmacology in the field of movement disorders and neurodegenerative diseases. He has published many books and papers on the genetics, clinical diagnosis, characterisation and treatment of Parkinson's disease, as well as in preclinical research into the disease. He is an active member of 11 societies, including the Movement Disorders Society, the WFN society where is member of the extrapyramidal committee, the European Clinical Neuropharmacology Society and the European Federation Neurological Society.



LARS TIMMERMANN

/Germany

Academic education

1992 – 1999 Studies of Medicine, University of Kiel

Scientific degree

2000 Medical Degree, magna cum laude
2007 Habilitation

Professional experience

1999-2001 Research postdoc in the MEG-Laboratory (Prof. Dr. A. Schnitzler), Department of Neurology, University Hospital Düsseldorf
2001-2006 Registrar, specialization in Movement Disorders, Dept. of Neurology, University Hospital Düsseldorf
2002 „Clinical Attachment“ in the „Movement Disorders“ group of Prof. Dr. Andrew J. Lees, Institute of Neurology, Queens Square, University College London, UK
2004-2005 Psychiatric Rotation: Department of Psychiatry of the Heinrich-Heine-University (Director: Prof. Dr. W. Gaebel), Düsseldorf,
2004-2006 Leader of the “Young investigator group”: Pathophysiology of Movement Disorders, Department of Neurology, University of Düsseldorf
Since 2007 Consultant Neurologist, Head of the “Movement Disorders and Deep Brain Stimulation Neurology Program”, Head of the research group “Deep Brain Stimulation and Movement Disorders”, Department of Neurology, University of Cologne
2008-2010 W2 Professor (Movement Disorders), Department of Neurology, University of Cologne
2010-2013 W2 Professor funded by the German Research Foundation (DFG) as the leader of the Clinical Research Group 219 (KFO 219): Basal-ganglia-cortex-loops: Pathological interactions and therapeutic implications
2013-2016 Leader of the second funding period (DFG) of the Clinical Research Group 219 (KFO219)
2013 Permanent W2 Professor (Movement Disorders), Department of Neurology, University of Cologne
2013 Permanent W3 Professor (Movement Disorders), Department of Neurology, University of Cologne

Honours and awards

2003 DPV-Förderpreis 2003 (German Parkinson Foundation)
2003 Young Investigator Award of the BIOMAG 2004, USA
2004 Young Investigator Award („Neuro-Visionen 2004), Academy of Science, Northern Westfalia
2004 Communication Award („Neuro-Visionen 2004) Academy of Science, Northern Westfalia
2007 Klüh-Preis for Research in Rare Diseases 2007
2011 Teaching Award of Cologne Medical Students Association
2011 Teaching Award of the Medical Faculty
2011 High-Five Award 2011 in Deep Brain Stimulation Research, Movement Disorders Congress, Toronto, Canada



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Selected publications (Top 5)

Gross J, Timmermann L, Kujala J, Dirks M, Schmitz F, Salmelin R, Schnitzler A (2002) The neural basis of intermittent motor control in humans. *Proceedings of the National Academy of Sciences USA*, Vol. 99 (4): 2299-2302.

Timmermann L, Gross J, Dirks M, Volkmann J, Freund H-J, Schnitzler A (2003) The cerebral oscillatory network of parkinsonian resting tremor. *Brain*, Vol. 126 (1): 199-212.

Deuschl G, Schade-Brittinger C, Krack P, Volkmann J, Schäfer H, Bötzel K, Daniels C, Deutschlander A, Dillmann U, Eisner W, Gruber D, Hamel W, Herzog J, Hilker R, Klebe S, Klotz M, Koy J, Krause M, Kupsch A, Lorenz D, Lorenzl S, Mehdorn HM, Moringlane JR, Oertel W, Pinsker MO, Reichmann H, Reuss A, Schneider GH, Schnitzler A, Steude U, Sturm V, Timmermann L, Tronnier V, Trottenberg T, Wojtecki L, Wolf E, Poewe W, Voges J (2006) Deep brain stimulation for Parkinson's disease – a 6-month randomized, controlled trial. *The New England Journal of Medicine*, 355 (9): 896-908.

Timmermann L, Pauls KA, Wieland K, Jech R, Kurlmann G, Sharma N, Gill SS, Haenggeli CA, Hayflick SJ, Hogarth P, Leenders KL, Limousin P, Malanga CJ, Moro E, Ostrem JL, Revilla FJ, Santens P, Schnitzler A, Tisch S, Valldeoriola F, Vesper J, Volkmann J, Woitalla D, Paker S (2010) Dystonia in neurodegeneration with brain iron accumulation: outcome of bilateral pallidal stimulation. *Brain* ;133(Pt 3):701-12.

Schuepbach WMM, Rau J, Knudsen K, Volkmann J, Krack P, Timmermann L, Hälbig TH, Hesekamp H, Navarro SM, Meier N, Falk D, Mehdorn M, Paschen S, Maarouf M, Barbe MT, Fink GR, Kupsch A, Gruber D, Schneider GH, Seigneuret E, Kistner A, Chaynes P, Ory-Magne F, Brefel-Courbon C, Vesper J, Schnitzler A, Wojtecki L, Houeto JL, Bataille B, Maltête D, Damier P, Raoul S, Sixel-Doering F, Hellwig D, Gharabaghi A, Krüger R, Pinsker MO, Amtege F, Régis JM, Witjas T, Thobois S, Mertens P, Kloss M, Hartmann A, Oertel WH, Post B, Speelman H, Agid Y, Schade-Brittinger C, Deuschl G (2012) Neurostimulation for Parkinson's disease at an early disease stage? A randomized controlled trial (EARLYSTIM study). *The New England Journal of Medicine*, (2013) 368(7):610-22

International collaborators

Elena Moro, Grenoble, France

Matteusz Zurowski, Toronto, Canada

Hartwig Siebner, Copenhagen, Denmark

French-German DBS-Study Group

German DBS Study Group

German Parkinson Study Group

International Study Group in NBIA Dystonia (PI)

European VANTAGE Study Group (Co-PI)

Non-motor-Symptoms – DBS Intervention Study Group of the international Movement Disorders Society (PI)

European IMPACT-Study Group (FP7-EU Grant, Clinical PI)



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