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ANA Hotels – Eforie Nord
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Registration Desk

All materials and documentation will be available at the registration desk located at SSNN booth.
The staff will be pleased to help you with all enquiries regarding registration, materials and program. Please do not hesitate to contact the staff members if there is something they can do to make your stay more enjoyable.

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LANGUAGE

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

CHANGES IN PROGRAM

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

NAME BADGES

Participants are kindly requested to wear their name badge at all times. The badge enables admission to the scientific sessions and dinners.

FINAL PROGRAM & ABSTRACT BOOK

The participants documents include the program and abstract book which will be handed out at the registration counter.

COFFEE BREAKS

Coffee, tea and water are served during morning coffee breaks and are free of charge to all registered participants.

MOBILE PHONES

Participants are kindly requested to keep their mobile phones turned off while attending the scientific sessions in the meeting rooms.

CURRENCY

The official currency in Romania is RON.

ELECTRICITY

Electrical power is 220 volts, 50 Hz. Two-prong plugs are standard.

TIME

The time in Romania is Eastern European Time (GMT+2).

SCIENTIFIC PROGRAM

12TH SUMMER SCHOOL OF NEUROLOGY

2-6 JULY, 2017 | EUROPA HOTEL | EFORIE NORD | ROMANIA

SUNDAY, JULY 2ND, 2017

MODULE COORDINATORS: Hari Shanker Sharma (Sweden), Stephen Skaper (Italy), Shiv Tripathi (India)

17:00 – 17:30	Hari Shanker Sharma, Sweden Blood-brain barrier in Alzheimer's disease induced brain pathology. Neuroprotection by nanodelivery of Cerebrolysin
17:30 – 18:00	Stephen Skaper, Italy Low grade non-resolving inflammation and its impact on the central nervous system: why age matters
18:00 – 18:30	László Csiba, Hungary Recent advances in stroke
18:30 – 19:00	László Csiba, Hungary Interesting clinical cases
19:00 – 19:30	Tudor Lupescu, Romania Diabetic Neuropathy – Diagnosis
19:30 – 20:00	Docu Axelerad Any, Romania Diabetic Neuropathy Treatment and Management
20:00	***DINNER***

MONDAY, JULY 3RD, 2017

MODULE COORDINATORS: Volker Hömberg (Germany),
Dafin F. Mureșanu (Romania)

08:50 – 09:00	***WELCOME ADDRESS*** Natan Bornstein (Israel) Dafin F. Mureșanu (Romania) Ovidiu Băjenaru (Romania) Volker Hömberg (Germany) Hari Shanker Sharma (Sweden)
09:00 – 09:30	Dafin F. Mureșanu, Romania Brain plasticity and neurorehabilitation in Parkinson's disease
09:30 – 10:00	Kristina Müller, Germany Pediatric arterial stroke
10:00 – 10:30	Andreas Winkler, Austria NIBS – boosting the natural capacities of brain plasticity and recovery after stroke
10:30 – 11:00	***COFFEE BREAK***
11:00 – 11:30	Wolfgang Grisold, Austria Late neuromuscular effects of cancer therapy
11:30 – 12:00	Ovidiu Băjenaru, Romania Specific aspects of epilepsy in patients with tuberous sclerosis (Bourneville disease)
12:00 – 13:30	Johannes Vester, Germany How to interpret meta-analyses - methodological challenges and advances within the framework of evidence-based medicine
13:30	***LUNCH***

MONDAY, JULY 3RD, 2017

18:00 – 18:30	Dana Boering, Germany The craftsmanship of neurorehabilitation: goal setting and ICF
18:30 – 20:00	Volker Hömberg, Germany Dana Boering, Germany Clinical cases presentations
20:00	***DINNER***

TUESDAY, JULY 4TH, 2017

MODULE COORDINATORS: Natan Bornstein (Israel);
Dafin F. Mureșanu (Romania)

09:00 – 09:45	Natan Bornstein, Israel Time is Brain, TIA as an Emergency
09:45 – 10:45	Natan Bornstein, Israel Secondary stroke prevention
10:45 – 11:30	Natan Bornstein, Israel Management of ICH
11:30 – 12:00	***COFFEE BREAK***
12:00 – 12:30	Dafin F. Mureșanu, Romania From protection to recovery in stroke treatment. Still trying to freeze the penumbra...
12:30 – 13:00	Dafin F. Mureșanu, Romania Challenges and opportunities in stroke recovery
13:00	***LUNCH***

TUESDAY, JULY 4TH, 2017

18:00 – 19:00	Natan Bornstein, Israel Case presentations
19:00 – 19:30	Ioana Stănescu, Romania Case presentations
19:30 – 20:00	Adina Stan, Romania Case presentations
20:00 – 20:30	Alex Yeh, USA Building an Efficient Stroke-care Network using smartphone apps for Pre-hospital assessment Fast-ED and communication tool JOIN
20:30	***DINNER***

WEDNESDAY, JULY 5TH, 2017

MODULE COORDINATORS: Michael Brainin (Austria), Antonio Federico (Italy)

09:00 – 09:30	Antonio Federico, Italy What is new on neurometabolic extrapyramidal diseases?
09:30 – 10:00	Antonio Federico, Italy Pompe Disease (acid alpha glucosidase deficiency): diagnosis, management and pathogenesis
10:00 – 10:30	Max Hilz, Germany Neurological complications in Fabry disease
10:30 – 11:00	Max Hilz, Germany Autonomic dysfunction after stroke
11:00 – 11:30	***COFFEE BREAK***
11:30 – 12:00	Michael Brainin, Austria Principles of measuring the effects of therapy
12:00 – 12:30	Michael Brainin, Austria Endovascular trombectomy treatment in acute stroke – Update
12:30 – 13:00	Ovidiu Băjenaru, Romania Sleep neurobiology and cognitive functions interrelation
13:00 – 13:30	László Vécsei, Hungary Biomarkers of multiple sclerosis
13:30 – 14:00	Ovidiu Băjenaru, Romania New targets of multiple sclerosis therapy
14:00	***LUNCH***

WEDNESDAY, JULY 5TH, 2017

18:00 – 18:30	Bogdan O. Popescu, Romania Glymphatic system of the brain and its relevance to neurodegeneration
18:30 – 19:00	Bogdan O. Popescu, Romania Clinical cases of advanced Parkinson's disease – treatment option and patient management
19:00 – 19:30	Lucia Muntean, Germany Restless Legs Syndrome (RLS): insights into diagnosis and treatment
19:30 – 20:00	Cristian Falup-Pecurariu, Romania Assessment of movement disorders - the video-case based approach
20:00 – 20:30	Mihaela Simu, Romania Evaluation of Parkinson's disease – Features of advanced stages
20:30	***DINNER***

THURSDAY, JULY 6TH, 2017

MODULE COORDINATORS: Ovidiu Băjenaru (Romania), Amos Korczyn (Israel)

08:30 – 09:00	Stefan Golaszewski, Austria Brain function of patients with severe chronic disorders of consciousness
09:00 – 09:30	Amos Korczyn, Israel Disease course modification in Parkinson's disease
09:30 – 10:00	Fabrizio Stocchi, Italy Practical consideration for an effective treatment of Parkinson's disease
10:00 – 10:30	Cristian Falup-Pecurariu, Romania Gait disturbances and falls in Parkinson's disease
10:30 – 11:00	***COFFEE BREAK***
11:00 – 11:30	Ovidiu Băjenaru, Romania Advanced Parkinson's Disease - Concept and motor complications
11:30 – 12:00	Jozsef Szasz, Romania Management of Advanced Parkinson's Disease: CDS therapies - limitations and unanswered questions (how early CDS therapies should be initiated?)
12:00 – 12:30	Axel Kohlmetz, Austria Stroke Registries - An essential instrument for quality improvement programs and research in Stroke Medicine

THURSDAY, JULY 6TH, 2017

12:30 – 13:00	Natan Bornstein, Israel National stroke registries: what can we learn from them
13:00 – 13:30	Cristina Tiu, Romania Romanian stroke registry: current status and future developments
13:30 – 14:30	***LUNCH***
15:00 – 16:00	***FINAL EXAMINATION***
16:00	***CONCLUDING REMARKS***

ABSTRACTS

DIABETIC NEUROPATHY TREATMENT AND MANAGEMENT

DOCU AXELERAD ANY
"Ovidius" University of Constanta, Romania
Clinical Hospital Emergency „Sfantul Apostol Andrei", Constanta, Romania

Causal treatment combined with symptomatic agents appears to be the optimal treatment in Diabetic Neuropathy, however advanced neuropathy justifies two causal treatments concomitantly. Purely symptomatic therapy may lead to the subclinical progression of the neuropathic damage.

Benfotiamine and Alpha Lipoic Acid are considered causal treatments, with a documented analgesic action in addition. The two causal agents interfere through different mechanisms in the pathogenesis of Diabetic Neuropathy.

Benfotiamine is a lipid-soluble thiamine precursor having much higher bioavailability than genuine thiamine. Growing body of evidence revealed that benfotiamine alleviates the severity of diabetic complications such as neuropathy, nephropathy and retinopathy by inhibiting the formation of advanced glycation end products (AGEs). Benfotiamine prevents the progression of diabetic complications by increasing tissue levels of thiamine diphosphate, which enhances the transketolase activity that directs the precursors of AGEs to pentose phosphate pathway, resulting in the reduction of tissue levels of AGEs.

ALA is an ideal antioxidant which acts as a scavenger for reactive oxygen species, regenerator for other antioxidants (vitamin C, glutathione, and alpha-tocopherol) and chelator of free metal ions.

ALA is both water and fat soluble and therefore cross biological membranes easily, thus reaching all the compartments of the cell. By neutralizing mitochondrial ROS, alternative pathways of glucose metabolism are being blocked with an early intervention in the chain responsible for complications of Diabetes mellitus.

Beneficial effects are achieved with low micromolar levels of ALA, suggesting that some of its therapeutic potential extends beyond the strict definition of an antioxidant.

THE CRAFTMANSHIP OF NEUROREHABILITATION: GOAL SETTING AND ICF

DANA BOERING
Medical Director, Gesundheitszentrum, Bad Wimpfen, Germany

Goal Setting is a key component of the rehabilitation process and, over the recent years, the evidence base for goal setting in rehabilitation has grown; in rehabilitation, goal setting is used by health care professionals to focus the intervention, improve rehabilitation outcomes, evaluate rehabilitation outcomes, meet funders' requirements and enhance patient autonomy. There are short term goals/low level goals, which are the steps along the way to long term goals or higher level goals.

To promote patient participation in this process and encourage collaboration, the use of formal goal- setting procedures in health care has been recommended. The ICF gives the general frame necessary for the goal setting process .

The talk will discuss the theoretical background of the goal setting process focusing on both goal setting theory and social cognitive theory of self-regulation, present different formal goal setting procedures, position goal setting in the context of the rehabilitation process and highlight benefits and difficulties of increased participation (collaborative) goal setting as well as the necessity of feedback, markers and milestones for performance increase by increased commitment and motivation.

ENDOVASCULAR TROMBECTOMY TREATMENT IN ACUTE STROKE – UPDATE

MICHAEL BRAININ
Danube University Krems, Austria

Up to 2013 experiences with endovascular thrombectomy were disappointing. The key results of trials published showed no difference in mortality and rates of intracerebral hemorrhage, however also no difference in outcome. In retrospect, this was due to long time windows used, the use of old devices, underestimate of rtPA repsonse and treatment of patients without proof of vessel occlusion. The consequences for new trials were the use of new devices (stent retriever), early treatment, severe strokes with proven M1 or Carotid T occlusion, and treatment not against but on top of rtPA use.

In October 2014 the Dutch Mr. CLEAN study was presented and showed an overwhelming success of endovascular thrombectomy adhering to the new criteria and by now a total of 7 thrombectomy trials are reported. The details of ESCAPE, EXTEND IA, SWIFT PRIME, THRACE, RECASCAT and THERAPY will be presented. All these trials showed a favourable outcome and had several features in common: NIHSS around 17 at the time of inclusion, proven occlusion or high likelihood of occlusion, high rate of rtPA use, and inclusion up to 6 hours post stroke onset.

Most studies used plain CT or contrast perfusion CT applying the ASPECT score fore inclusion. Only one study used the MRI mismatch concept.

The HERMES Metananalyis reported an individual patient data analysis from 5 published trials and showed that the mRS shift analysis outcome to mRS score 0-1 at day 90 was highly significant in favour of thrombectomy (26.9% vs 12.9%, odds ratio 2.49 (1.67-3.06) and also the shift to the mRS score 0-2 (46.0% vs 26.5%, odds ratio 2.35 (1.85-2.98). The rates of symptomatic intracranial hemorrhage, parenchymal hematoma type 1, and mortality were not different.

The results were favourable for all prespecified subgroups including all age groups including age over 80, gender, and time to randomisation. Also the prevalence of tandem lesions, or ICA or M1 location did not show a difference of outcome.

In sum, with a difference of response rates in mRS 0-2 between 15% and 30% this therapy becomes one of the most effective interventions in medicine. When comparing differences of treatment effects between studies, the largest positive difference was found for earlier interventions.

Discussions about number of centers needed and training requirements for neurointerventionalists are ongoing and it seems that the use of stroke units for these patients garantees best outcome.

In Austria, 11 comprehensive centers currently serve a population of 8.5 millions and an ongoing registry will accompany the quality provided. The overall prevalence of 200-250 cases per million inhabitants will determine the future and cost effectiveness of this network.

The ESO Karolinska Stroke Update recommends mechanical thrombectomy in addition to intravenous thrombolysis within 4.5 hours in patients with large artery occlusions in the anterior circulation up to 6 hours after symptom onset (Grade A level 1).

PRINCIPLES OF MEASURING THE EFFECTS OF THERAPY

MICHAEL BRAININ
Danube University Krems, Austria

This lecture comprises principles and examples from outcome measures for stroke research. The choice of outcomes is an allimportant measure of clinical research. Firstly, it must relate to the research question that is being investigated. It must be validated, specific, sensitive enough to demonstrate group differences, accepted as outcome, and clinically relevant. If more than one rater or institution is involved, there should be data on interrater reliability. Mostly, it is necessary to train the raters before the trial starts. Moreover, it is important that the principle investigators have a clear outline on what kind of differences they are seeking and which stakeholders shall be convinced of the results once the trial is finished. At all stages it is necessary to include the patients' perspective and any endpoint chosen must be ethical.

On the other hand it is necessary to limit any choice of endpoint to primary issues investigated. Restriction of costs, and other restraints such as limitation of sample size and shortened follow up times make it necessary to prefer only one single, primary endpoint. Combined endpoints or multiple primary endpoints afford higher sample sizes. In an ‚ideal' trial estimates of group allocation can be performed among trialists to ensure ongoing blinding. Secondary endpoints are necessary to corroborate the results of the primary endpoint. If no additional data are collected, then a result based on one single p-value might be considered a result by chance and acceptance of the results might depend on a further, confirmatory trial.

Working examples include overall outcomes such as the Rankin scale which can be used as an ordinal scale but also for shift-analysis, Barthel Index, outcomes of rehabilitation and outcomes for complex interventions and also some measures used in trials for reduction of spasticity.

MANAGEMENT OF SYMPTOMATIC CAROTID STENOSIS CEA VS. STENT

NATAN M. BORNSTEIN
Tel-Aviv University, Sackler Faculty of Medicine, Israel
Stroke Unit at Tel-Aviv Medical Center, Israel

Symptomatic severe carotid stenosis (>70%) carries a high risk of subsequent stroke of about ~ 30% over 2 years.

Carotid endarterectomy (CEA) was proved to reduce the risk of stroke significantly, with Relative Risk Reduction (RRR) = 65% and Number Needed to Treat (NNT) = 6 if performed safely (perioperative

S&D =5.8%) and should be executed within 2 weeks of TIA or minor stroke (NASCET & ECST).

For carotid stenting to replace CEA we need to know the comparative safety, durability and efficacy of the procedure. Only a few randomized, controlled studies comparing CEA and stenting were conducted (CAVATAS, SAPPHIRE, EVA-3 and SPACE) with inconclusive results. There are still several ongoing studies (CREST in the USA and ICSS in Europe and Australia). Until more data will be available carotid stenting should be performed only in a selected group of patients with specific indications like: re-stenosis of the CEA, post neck radiation, inaccessible lesion for CEA and contra-indications for CEA.

NATIONAL STROKE REGISTRIES: WHAT CAN WE LEARN FROM THEM

NATAN M. BORNSTEIN
Tel-Aviv University, Sackler Faculty of Medicine, Israel
Stroke Unit at Tel-Aviv Medical Center, Israel

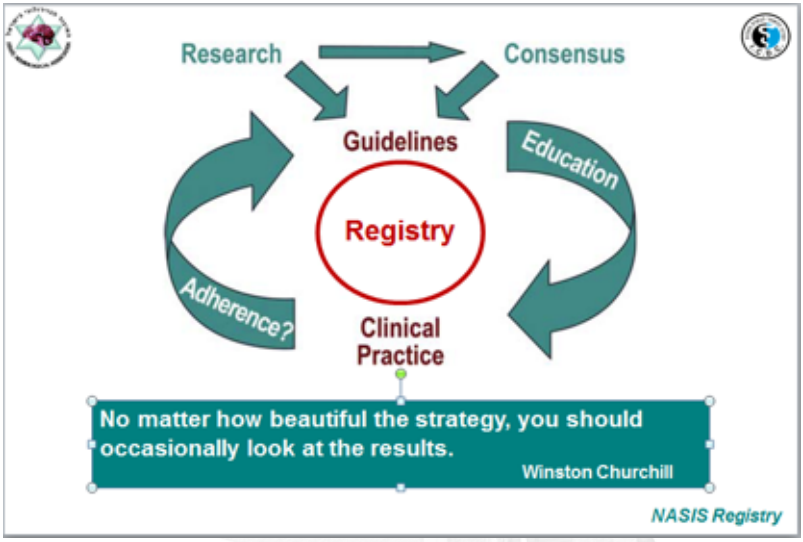
Clinical registries play an important role in measuring healthcare delivery and supporting quality improvement for individuals with cardiovascular disease and

stroke. Well-designed clinical registry programs provide important mechanisms to monitor patterns of care, evaluate healthcare effectiveness and safety, and improve clinical outcomes. The use of clinical registries is likely to grow given the increasing focus on measuring and improving healthcare delivery and patient outcomes by stakeholders in both the private and public sectors.

The focus of clinical registries is to capture data that reflect "real-world" clinical practice in large patient populations. The data from clinical registries do not replace the need for traditional randomized controlled trials. Rather, registries and trials are complementary approaches, each with unique advantages and imperfections.2 Such clinical registries do not solely contain claims or administrative data yet may be linked to such data sources.

Clinical registries also provide the opportunity to identify and evaluate healthcare disparities within a broad patient population in community practice outside of the structured research protocol setting. This promotes the ability to examine important issues involving patient access and outcomes in subpopulations, including racial and ethnic minorities, women, the elderly, individuals with multiple comorbidities, and individuals with congenital heart conditions.

National Acute Stroke Israeli Survey (NASIS) ia a tri-annual prospective national registry conducted over a period of two consecutive months in order to assess trends in incidence, characteristics, management, and outcome of hospitalized patients with acute stroke and TIA. Includes all stroke patients admitted to hospitals nationwide, thus avoiding institution and patient selection bias. NASIS registry in-total over 8,000 patients (2004-2013)



Message to take home:

- Surveys provide data and allow future planning
- Surveys indicate deficiencies in ongoing therapy
- Surveys allow comparisons between hospitals and encourage improvement
- Education benefit
- Results can direct national health policies

SECONDARY STROKE PREVENTION

NATAN M. BORNSTEIN
Tel-Aviv University, Sackler Faculty of Medicine, Israel
Stroke Unit at Tel-Aviv Medical Center, Israel

Patients with TIA or ischemic stroke carry a risk of recurrent stroke between 5 and 20% per year. In patients with TIA or ischemic stroke of noncardiac origin antiplatelet drugs are able to decrease the risk of stroke by 11-15% and the risk of stroke, MI and vascular death by 15-22%. Aspirin is the most widely used drug. It is affordable and effective. Low doses of 50-325 mg aspirin are as effective as high doses and cause less gastrointestinal side effects. Severe bleeding complications are dose-dependent. The combination of aspirin with slow release dipyridamole is superior to aspirin alone for stroke prevention (ESPS-2 and ESPRIT1). Both studies have shown approximately 20%-24% relative risk reduction (RRR) of stroke and death. Clopidgrel is superior to aspirin in patients at high risk of recurrence by about 8.7% RRR (CAPRIE2). The combination of aspirin plus clopidogrel is not more effective than clopidogrel alone but carries a higher bleeding risk (MATCH3 and CHARISMA4). None of the antiplatelet agents is able to significantly reduce mortality. The recent results of the PRoFESS trial 5,6 showed no difference between clopidogrel and aspirin with slow release dipyridamole in secondary stroke prevention.

References

1. Lancet 2006;367:1665-73
2. Lancet 1996;348:1392-1339
3. Lancet 2004;364:331-337
4. N Eng J Med 2006;354(16):1744-6
5. Cerebrovasc Dis 2007;23:368-380
6. N Engl J Med 2008;359:1238-51

TIME IS BRAIN, TIA AS AN EMERGENCY

NATAN M. BORNSTEIN
Tel-Aviv University, Sackler Faculty of Medicine, Israel
Stroke Unit at Tel-Aviv Medical Center, Israel

Transient Ischemic Attack (TIA) should be considered as an emergency and work-up has to be done within 24 hours like acute unstable angina pectoris. It is known that about 23% of stroke are preceded by TIA.Several studies have shown that the risk of subsequent stroke in the first 2 weeks after a TIA is about 1% per day. In 2 published well conducted studies, EXPRESS (P. Rothwell) and SOS_TIA (P. Amarenco) it was shown that very early management in a TIA clinic will reduce the risk of subsequent stroke by 80% at 3 months. Therefore, work-up evaluation has to be performed with in 24 hours in a dedicated organized structure.

Several stroke registries reported that carotid stenosis is the cause of embolic stroke in about 25%-30% of all ischemic strokes. Current guidelines recommend immediate intervention either by carotid endarterectomy (CEA) or stenting (CAS) in patients with symptomatic carotid stenosis greater than 50%.

Carotid duplex is a reliable, non-invasive, accessible tool for evaluation of carotid stenosis with very high level of accuracy. Therefore, carotid duplex should be the first line tool for rapid evaluation of every patient with TIA in order to detect a potential treatable carotid stenosis for stroke prevention. It is recommended to establish an "Acute TIA clinic" equipped with immediate accessible Duplex device to enable rapid evaluation of the carotid system in order to detect potential treatable carotid stenosis.

RECENT ADVANCES IN STROKE

LÁSZLÓ CSIBA
Department of Neurology, Debrecen University, Hungary

1. NEW OBSERVATIONS: ACUTE STROKE

The Dawn study
The patients were randomized between six to 24 hours after time last known well (TLKW). The DAWN study sought to answer whether advanced imaging methods with MRI DWI and CT-perfusion can be used to successfully select patients for endovascular therapy, even though they present late or have an uncertain onset of symptoms. They included patients in whom brain imaging demonstrated a

significant area of potentially salvageable brain tissue. Endovascular treatment significantly reduced disability compared to medically managed patients. There was a significant relative risk reduction (73%) in disability in 107 patients receiving mechanical thrombectomy compared to 99 with medical management (OR 2.1, 95% 1.20 – 3.12, p<0.001), with a number needed to treat of 2.8 to reduce disability. There was a 35% increase good functional outcome defined as mRS score of 0-2. There was no significant difference in safety outcomes between groups. This study shows that for every 100 patients treated with endovascular therapy, 49 will have a less disabled outcome as a result of treatment, including 36 who will be functionally independent. The treatment effect size in DAWN is the highest out of any stroke trials to date and suggests that the presence of Clinical-Core Mismatch is a critical predictor of treatment effect independent of time to presentation. Treatment effect persisted throughout 24 hours from TLKW; however, earlier treated patients do better.

The ASTER trial
ASTER trial showed no statistical difference between aspiration and stent retriever as a frontline thrombectomy approach with similar efficacy and safety endpoints. There was no significant difference in safety or efficacy with contact aspiration compared to the standard method of mechanical stent retriever for clot retrieval after acute stroke. There was no significant difference between groups for the primary outcome of 3 month mRS or for 1 point improvement (0.76, p=0.15). Rates of reperfusion were similar in the intervention group (TICI 2b/3 85.4% vs 83.1%). The ASTER trial demonstrated no significant difference between the current accepted method of clot retrieval in acute stroke and the new method of contact aspiration. Further research will be required to help us decide which approach to use. The ASTER trial opened the door to add a new tool to remove the clot.

The AnStroke trial randomized patients to general anesthesia versus conscious sedation: no differences in primary or secondary endpoints. The AnStroke trials did not support the hypothesis that general anesthesia leads to worse neurological outcome compared with conscious sedation during endovascular treatment of severe acute ischemic stroke

The To Act trial: thrombolysis or anticoagulation for cerebral venous thrombosis
Research question: does endovascular treatment improve the clinical outcome of patients with severe CVT? Endovascular treatment did not improve clinical outcome in patients with severe cerebral venous thrombosis

PROBE trial
Prospective randomized open label blinded endpoint to investigate if the efficacy of tenecteplase 0.4 mg/kg better or equal to alteplase 0.9 mg/kg, Both tenecteplase

and alteplase had similar efficacy, similar risk of sICH. The trialists concluded that the tenecteplase 0.4 mg/kg is safe and simple to use.

2. NEW OBSERVATIONS:SECONDARY STROKE PREVENTION

CLOSE trial
PFO closure plus long-term antiplatelet therapy reduced the risk of stroke recurrence in patients 16 to 60 years old with cryptogenic stroke and PFO with atrial septal aneurysm or PFO with large shunt, compared with antiplatelet therapy alone. PFO closure was associated with an increased risk of new onset atrial fibrillation. Oral anticoagulants did not reduce significantly the risk of stroke recurrence compared with antiplatelet therapy. However, there was a trend in favor of oral anticoagulants. The risk of cryptogenic stroke recurrence on antiplatelet therapy was higher in patients with PFO + atrial septal aneurysm than in those with PFO with large shunt.

The Gore-REDUCE Study
In patients with cryptogenic stroke, PFO closure with the Gore Septal Occluder devices significantly reduced the risk of recurrent stroke and brain infarct compared to antiplatelet therapy alone with 77% relative reduction in clinical stroke hazard. The NNT was 28 at 2 years, with 49% relative reduction in new brain infarction. The study achieved statistical significance in both co-primary endpoints in the intention-to-treat analyses, even after adjustment for multiple tests. It had low risk of device- or procedure-related complications.

These results are likely to change clinical practice and REDUCE the risk of stroke for this population.

The Prastro study
This study did not demonstrate non-inferiority of prasugrel over clopidogrel in Japanese

patients with non-cardioembolic ischemic stroke, though the rates of efficacy and safety outcomes were similar between groups.

The PICASSO trial
The lipid-lowering and anti-oxidant drug probucol significantly reduced recurrent cardiovascular events in patients with ischaemic stroke and a high risk of cerebral haemorrhage. The PICASSO trial was a 2 by 2 factorial randomised trial of cilostazol or probucol compared to placebo in 1512 patients with a non-cardioembolic ischaemic stroke or TIA at an increased risk of intracerebral haemorrhage due to previous haemorrhage or multiple microhaemorrhages on brain imaging. The

primary efficacy endpoint of stroke, myocardial infarction or cardiovascular death was significantly reduced by probucol (HR 0.69 (95% CI, 0.50–0.97) p = 0.031).There was no significant difference in the primary safety endpoint of recurrent cerebral haemorrhage. In this population, probucol significantly reduced the risk of recurrent cardiovascular events, offering a potential new treatment for secondary prevention of ischaemic stroke in patients at an increased risk of cerebral haemorrhage.

ASSESSMENT OF MOVEMENT DISORDERS - THE VIDEO-CASE BASED APPROACH

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Phenomenology of movement disorders is very important in the correct assessment of patients.

Pathophysiology of movement disorders is very complex. Clinical assessment of these patients needs to take into account two main categories: a.) too little movement (hypokinesia) or b.) an excess of movement (hyperkinesia). The assessment of all types of movements needs to take into account the rhythmicity, frequency and amplitude. Hypokinesia, bradykinesia and akinesia are terms that define the paucity of movement - decreased amplitude, slowness or loss of movement – and are generally associated with rigidity, being the main features of parkinsonian syndromes. There are different types of hyperkinetic movements: tremor (which is a rhythmical movement, regular), myoclonus (sudden, brief shock-like), chorea (non-rhythmic movement, irregular, rapid), tics (jerky, repetitive) and dystonia (prolonged contraction of both agonist and antagonist muscles), which could be focal or generalized.

By using the video-case based approach we will show the main characteristics of each type of movement disorders.

GAIT DISTURBANCES AND FALLS IN PARKINSON'S DISEASE

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Gait is a complex automatic motor act which is under the control of various cerebral structures, for instance frontal lobe, basal ganglia, cerebellum, mesencephalic tegmentum, etc. There are several key elements that should be taken into account when assessing gait, including muscular strength, double limb support, stride length, cadence, and velocity.

In Parkinson's disease (PD), several components of gait may be affected: initiation, standing capacity, stride length, speed, turning, dual-tasking performance.

Freezing of gait, festination, akinesia are some of the specific abnormalities encountered in PD patients.

There are various provoking factors for freezing of gait, for instance initiation of locomotion, turning, approaching to narrow spaces/ destinations, or stressful situations. Freezing of gait is generally associated with the duration and severity of the disease, the akinetic-rigid phenotype, cognitive impairment, and insufficient levodopa response.

Falls are common findings in PD patients, with an estimated prevalence of 38-68%. The main causes for falls are postural instability, freezing of gait, autonomic disturbances, and medication.

There were designed several scales for the assessment of walking and falls (Freezing of Gait Questionnaire, Parkinson Activity Scale, Berg Balance Scale, The Timed Up and Go Test).

Regarding pharmacological treatment, following options are recommended: L-dopa, amantadine, MAO inhibitors, and methylphenidate.

Rehabilitation of gait disorders includes physiotherapy, cueing, cognitive therapy, walking programs to reduce the risk of cognitive deterioration.

Gait impairments and falls represent important sources of disability in PD patients, therefore early recognition and proper management of these disturbances are mandatory.

WHAT IS NEW ON NEUROMETABOLIC EXTRAPYRAMIDAL DISEASES?

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We will report the more recent data on the metabolic basis of several disorders mainly involving basal ganglia, with particular regards to the different forms of Parkinsonism, dystonia, etc, with particular emphasis of the mitochondrial hypothesis of oxidative stress on the basis of the different forms of genetic Parkinson's forms, related to different mutations.

Within the metal related basal ganglia deposits, we will report our experience in Wilson diseases, in the recently described by our group Manganese Trasport Protein Deficiency, in Calcium deposition in the basal ganglia, etc.

In summary we will discuss on extrapyramidal diseases related to:

- Disorders of Heavy Metal Metabolism
- Disorders of Neurotransmitter Metabolism
- Disorders of energy metabolism
- Lysosomal Diseases
- Disorders of intermediary metabolism
- Disorders of mechanism of DNA Damage and Repair

For all of them we will describe clinical signs, diagnostic work-up and possible therapeutic strategies.

POMPE DISEASE (ACID ALPHA GLUCOSIDASE DEFICIENCY): DIAGNOSIS, MANAGEMENT AND PATHOGENESIS

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Pompe disease (OMIM606800) is a lysosomal storage disease characterized by deficiency of the enzyme acid alpha-glucosidase leading to myopathy, respiratory weakness, physical disability and premature death. The symptoms manifest as a continuum from birth through to adulthood, with a recognized severe infantile-onset form that is associated with cardiomyopathy and high mortality, to late-onset forms that are primarily characterized as weakness of limb-girdle and respiratory muscles but usually without cardiomyopathy. Although the overall understanding of the disease has progressed, the pathophysiology of muscle damage remains

poorly understood. Lysosomal enlargement/rupture has long been considered a mechanism of relentless muscle damage in Pompe disease. In past years, it became clear that this simple view of the pathology is inadequate; the pathological cascade involves dysfunctional autophagy, a major lysosome-dependent intracellular degradative pathway. The autophagic process in Pompe skeletal muscle is affected at the termination stage-impaired autophagosomal-lysosomal fusion. Yet another abnormality in the diseased muscle is the accelerated production of large, unrelated to ageing, lipofuscin deposits-a marker of cellular oxidative damage and a sign of mitochondrial dysfunction. The massive autophagic buildup and lipofuscin inclusions appear to cause a greater effect on muscle architecture than the enlarged lysosomes outside the autophagic regions. Furthermore, the dysfunctional autophagy affects the trafficking of the replacement enzyme and interferes with its delivery to the lysosomes.

Here we will describe the different clinical forms , with particular interest to the late onset forms, the diagnostic tools and the therapeutic approach including diet, physiotherapy and enzyme replacement therapy.

We will also report the data of a recently published guideline on the diagnosis and management (Tarnopolsky et al, 2016).

BRAIN FUNCTION OF PATIENTS WITH SEVERE CHRONIC DISORDERS OF CONSCIOUSNESS

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Background and aims

Accurate diagnosis of patients following severe brain damage is essential for clinical and rehabilitative care as well as decision-making and a rate of 43% of misdiagnosis is evident. Neurobehavioral tests relying on the patients' intellectual and motor ability to communicate are the most widely used diagnostic tools, since their advantage over clinical assessment has been validated. However, with the emergence of modern neuroimaging methods, especially fMRI, objective physiological markers for assessing the state of consciousness are available but the benefits still have to be determined.

Methods

21 patients clinically and neurobehaviorally diagnosed as "Apallic-Syndrome (AS)" and 6 patients as "Minimally Conscious State (MCS)" after severe brain damage of different etiologies were examined with different fMRI paradigms testing

fundamental functional networks of the brain (proprioceptive, pain, motor, emotion, self-awareness, language, resting state). The findings were compared with the clinical and neurobehavioral diagnosis and it was analyzed whether additional information from fMRI confirmed or questioned the clinical and neurobehavioral diagnosis.

Results

16 of the 21 AS- and 5 of the 6 MCS-patients show specific brain activation in a special diagnostic battery of fMRI-paradigms suggesting that the AS-patients are in MCS or even better.

Conclusion

Misdiagnosis in patients following severe brain damage is still a big problem even with well-established diagnostic assessment scales. As long as internationally accepted guidelines for assessing these patients do not exist, we propose a special diagnostic battery of fMRI-paradigms to minimize diagnostic errors in these patients and to find systematically perceptive channels to approach the patients in neurorehabilitation programs.

Biography

Stefan Golaszewski was born 1964 in Vienna where he studied Technical Physics and Medicine. From 1995 to 2001 he worked as Neurologist at the University Innsbruck where he focused on clinical applications of functional Magnetic Resonance Imaging (fMRI). From 2001 to 2002 he worked at the Medical University Graz. Since 2005 he works as associate Professor at the Department of Neurology at the Paracelsus Medical University (PMU) Salzburg in Austria and focuses on the investigation of cortical reorganization after stroke. Since 2010 he is medical head of the Neuroscience-Institute of the PMU. He published 130 papers in international peer-reviewed journals.

LATE NEUROMUSCULAR EFFECTS OF CANCER THERAPY

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Cancer is a frequent and increasing. Therapies consist of surgery, radiotherapy, chemotherapy, hormonal therapy and an increasing number of new therapeutic strategies, increasing the spectrum of side effects to the peripheral nervous system

Malignancies are frequent and the incidence is still rising. Therapies consist of surgery, radiotherapy, chemotherapy, hormonal therapy and an increasing number of new therapeutic strategies increasing the spectrum of side effect to the peripheral nervous system.

Myopathies are encountered in steroid treatment and can leave permanent weakness and atrophy. Several drugs can produce muscle symptoms as myalgia and also proximal weakness. The new spectrum of immune therapies may induce inflammatory immune myopathies.

The neuromuscular transmission is usually not involved in therapy, however it seems that some of the new immune therapies can also induce myasthenia, similar as inflammatory myopathies.

Chemotherapy-induced neuropathies are increasingly important, mainly for their cumulative effect, but also as acute effects and increasingly as late term effects in long term survivors in several types of cancer. With new spectrum of immune therapies also inflammatory neuropathies and vasculitis have been observed. Also cranial nerves can be permanently affected, mainly by hearing loss and dysgeusia.

Neuropathic pain can is often an issue and be caused by cancer, surgery or infections (eg Herpes) and also as late effects of chemotherapy induced neuropathy and needs neurological expertise in diagnosis and treatment concepts.

NEUROLOGICAL COMPLICATIONS IN FABRY DISEASE

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In Fabry disease, deficiency of α-galactosidase A results in the accumulation of glycosphingolipids in body fluids and tissues including corneas, blood vessels, kidneys and also structures of the central and peripheral nervous system. Many patients show cardiovascular and cerebrovascular dysfunction. Cerebrovascular dysfunction is particularly associated with a high risk of strokes and of mortality even at a young age. The prevalence and severity of cerebrovascular complications increase with patient age.

Although ischemic strokes and transient ischemic attacks are the most prevalent types of overt cerebrovascular events in FD, cases of intracerebral hemorrhages, subarachnoid hemorrhage, microbleeds, cerebral venous thrombosis, and cervical carotid dissection have also been reported. To our knowledge, no cases of vertebral dissection or spinal cord infarction have been documented in the literature to date. Although silent infarcts are common events, also among young patients with stroke, there are no reports on the frequency of silent brain infarcts in FD. Aseptic meningitis can occur concomitantly in Fabry patients who have had cerebrovascular complications. One case of prolonged transient global amnesia has been reported in a Fabry patient. Dementia, cognitive impairment, and depression occur in patients with FD although additional studies are needed to establish a direct link to FD.

Clinical data as well as histologic and neurophysiologic studies showed predominantly small fiber dysfunction in patients with Fabry disease. Patients with Fabry disease (FD) characteristically develop peripheral neuropathy at an early age, with pain being a crucial symptom of underlying pathology. From our findings, we concluded that small fiber dysfunction is more prominent than large fiber dysfunction in Fabry patients. Clinically, small fiber dysfunction contributes to recurrent episodes of burning and lancinating pain and paraesthesias in the distal extremities. Such episodes can be typically triggered by changes of the environmental temperature, particularly by warming. Moreover, small nerve fiber dysfunction accounts for altered sympathetic and parasympathetic modulation. Sympathetic dysfunction explains the hypohidrosis and a subsequent poor exercise and heat tolerance. However, the diagnosis of pain is challenging due to the heterogeneous and nonspecific symptoms. Practical guidance on the diagnosis and management of pain in FD is needed. To improve treatment outcomes, pain should be diagnosed early in unrecognized or newly identified FD patients. Treatment should include: (a) enzyme replacement therapy controlling the progression of underlying pathology; (b) adjunctive, symptomatic pain management with analgesics for chronic neuropathic and acute nociceptive, and inflammatory or mixed pain; and (c) lifestyle modifications.

AUTONOMIC DYSFUNCTION AFTER STROKE

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After stroke, autonomic nervous system dysfunction is quite common. Autonomic dysfunction is induced by lesions involving the central autonomic network. Increasing severity of the stroke correlates with the severity of the cardiovascular

autonomic dysfunction (Hilz MJ, Moeller S, Akhundova A, Marthol H, Pauli E, De Fina P, Schwab S. Stroke. 2011 Jun;42(6):1528-33. High NIHSS values predict impairment of cardiovascular autonomic control.). There is an inverse correlation between acute stroke severity and the amount of the overall autonomic cardiovascular modulation, of parasympathetic modulation, and baroreflex sensitivity. Moreover, there is a shift towards more sympathetic than parasympathetic activity with increasing stroke severity. These changes have a negative effect on the acute and long-term prognosis of stroke patients and are associated with an increased risk of mortality (Sörös P, Hachinski V. Lancet Neurol. 2012 Feb;11(2):179-88. Cardiovascular and neurological causes of sudden death after ischaemic stroke.). In addition to cardiovascular autonomic dysregulation, stroke also accounts for other autonomic dysregulations including thermoregulatory dysfunction, gastrointestinal dysfunction, bladder and bowel dysfunction, as well as sexual dysfunction. In men, stroke quite often results in erectile dysfunction or in a deterioration of preexisting erectile dysfunction. There are associations between the site of stroke related lesions and autonomic dysfunction, including urogenital dysfunction (Koehn J, Crodel C, Deutsch M, Kolominsky-Rabas PL, Hösl KM, Köhrmann M, Schwab S, Hilz MJ. Clinical Autonomic Research. 2015 Dec;25(6):357-65. Erectile Dysfunction (ED) after ischemic stroke – association between prevalence and site of lesion.).

STROKE REGISTRIES - AN ESSENTIAL INSTRUMENT FOR QUALITY IMPROVEMENT PROGRAMS AND RESEARCH IN STROKE MEDICINE

AXEL KOHLMETZ
Austria

One of the largest quality improvement programs ever undertaken in stroke medicine – the ESO-EAST Project - aims to improve stroke services in Eastern Europe by implementing a variety of instruments. Stroke registries, already developed about 15 years ago in Western Europe have been regarded as the most essential tool to measure the quality of care. It is also the reason why the first milestone of ESO-EAST has been the development of a simple registry focusing on the most relevant aspects of stroke care. This registry called RES-Q will be introduced in this lecture while examples from other registries and registry studies will highlight achievements and changes in best practice due to research using stroke registries.

New registry trial methodologies and tools to eliminate bias such as propensity score matching, central rating of specific outcome scales and also trial designs using high quality, non-interventional comparative effectiveness research will be

discussed as well as new possibiities in clinical research like registry based RCTs.

DIABETIC NEUROPATHY – DIAGNOSIS

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Diabetes mellitus has a very high prevalence in the general population all over the world. Statistics show that neuropathy can be observed in almost half of the diabetic patients. The most frequent form of neuropathy is the distal symmetric sensory polyneuropathy, but other forms can also be encountered (mononeuropathies, entrapment neuropathies, autonomic neuropathy, treatment induced neuropathy). The diagnosis involves a correct clinical evaluation and the use of different paraclinic methods, like skin biopsy with determination of intraepidermal nerve fiber density, corneal confocal microscopy, Sudoscan, EMG.

PEDIATRIC ARTERIAL STROKE

KRISTINA MUELLER
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Pediatric stroke is an important cause for acquired brain injury in children. The causes vary completely from those in adult stroke. Pathophysiology of pediatric stroke is still poorly understood until today. Information on epidemiology, treatment, risk factors and outcome is more and more provided by population based national and international stroke registries. One significant risk factor for pediatric arterial stroke (AIS) are cerebral arteriopathies. Some are due to genetic defects targeting the arterial wall, others are due to (transient) vasculitis linked to infectious or other systemic disease. Hematologic or cardiologic disease or thrombophilia are other risk factors for AIS. Diagnosis is often delayed. Protocols for acute management are emerging. Neurorehabilitation is mandatory.

RESTLESS LEGS SYNDROME (RLS): INSIGHTS INTO DIAGNOSIS AND TREATMENT

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Restless Legs Syndrome (RLS), also known as Willis-Ekbom Disease (WED) is a neurological sensorimotor disorder (Allen et al. 2014). In 2012 the IRLSSG revised the diagnostic criteria through a consensus process. In order to diagnose RLS all the five essential diagnostic criteria must be met (Allen et al. 2014)

(1) An urge to move the legs usually but not always accompanied by or felt to be caused by uncomfortable and unpleasant sensations in the legs.
(2) The urge to move the legs and any accompanying unpleasant sensations begin or worsen during periods of rest or inactivity such as lying down or sitting.
(3) The urge to move the legs and any accompanying unpleasant sensations are partially or totally relieved by movement, such as walking or stretching, at least as long as the activity continues.
(4) The urge to move the legs and any accompanying unpleasant sensations during rest or inactivity only occur or are worse in the evening or night than during the day.
(5) The occurrences of the above features is not solely accounted for as symptoms primary to another medical or behavioral condition (e.g. myalgia, venous stasis, leg edema, arthritis, leg cramps, positional discomfort, habitual foot tapping).

Therefore, a detailed interview of the patient is essential in establishing the diagnosis. There are also clinical features which are not compulsory but support the diagnosis: presence of periodic limb movements, response to dopaminergic treatment, positive family history and lack of profound daytime sleepiness. (Allen et al 2014)

The recommended treatment of RLS includes dopamine agonists, levodopa, opioids, $\alpha 2\delta$ ligands and iron. Augmentation is a complication of the long term therapy for RLS, especially with levodopa and short acting dopamine agonists. (Garcia-Borreguero et al. 2016) The main criteria for defining augmentation are a four-hour time advance of symptoms, or a smaller (2- to 4-h) advance of symptoms expressed along with other required clinical indications, such as a shorter latency of symptoms at rest, a spread of symptoms to other body parts in addition to the lower limbs, or a greater intensity of symptoms. A paradoxical response to treatment – an increase in severity with increasing dose of medication, and an

improvement following decrease in medication – is considered an alternative key feature for diagnosis. (Garcia-Borreguero et al. 2007). Once augmentation has occurred a new therapy strategy is required.

Clinical cases and an algorithm for treatment will be presented in the talk.

CHALLENGES & OPPORTUNITIES IN STROKE RECOVERY

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Over the last decades, therapeutic approaches for stroke have significantly evolved and improved as a consequence of the implementation of modern stroke units, improvement of general medical care and more structured and early administered rehabilitation schemes.

Thrombolytic therapy with rt-PA (recombinant tissue plasminogen activator) has been developed and a number of clinical trials have recently confirmed the effectiveness of thrombectomy to be better than rtPA alone.

Except thrombolytic therapy and thrombectomy there is still no widely accepted therapy for acute ischemic stroke. Current data shows that even if advanced procedures can be used, 60% of stroke patients die or remain with a certain level of deficit. As it is widely accepted that immobilization-related complications cause over 50% of stroke patients' deaths, rehabilitation plays an important role in stroke care.

It is getting clearer that multimodal drugs may play an important role in pharmacological support of neurorehabilitation after stroke.

The results of recently published large and well-controlled clinical studies show a positive effect of Cerebrolysin on neurological recovery after acute ischemic stroke.

The newly published CARS study assessed the efficacy and safety of Cerebrolysin in combination with a standardized rehabilitation program. The primary study endpoint was the Action Research Arm Test (ARAT) at day 90, assessing upper-limb motor functions. Cerebrolysin was administered for 21 days, starting within 48-72 hours after ischemic stroke.

The study showed a statistically significant group difference in the upper-limb motor function (ARAT) at day 90 – primary end point. Cerebrolysin was also superior over placebo in most of the secondary endpoints like the NIHSS, Barthel Index and mRS. Also, at day 90, patients treated with Cerebrolysin showed less depressive symptoms and better quality of life. In addition, the most important measure for early benefit, the NIHSS at day 21, showed statistically significant superiority of Cerebrolysin. Analysis of the safety parameters did not show any clinically statistical significant differences between the treatment groups. The trial indicates that early combination of rehabilitation with a multimodal medication of neuroprotective and recovery properties is a valid therapeutic approach.

Furthermore, CARS 1 and CAR 2 meta-analysis provides evidence that Cerebrolysin has a beneficial effect on motor function recovery in early rehabilitation patients after stroke. All pre-planned primary meta-analytic results were statistically significant.

FROM PROTECTION TO RECOVERY IN STROKE TREATMENT. STILL TRYING TO FREEZE THE PENUMBRA...

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Nowadays, it is still difficult to find the correct therapeutic approach for brain protection and recovery in stroke, especially because we do not fully understand all of the endogenous neurobiological processes, the complete nature of the pathophysiological mechanisms and the links between these two categories. Endogenous neurobiological processes, such as neurotrophicity, neuroprotection, neuroplasticity and neurogenesis, are central to protection and recovery and represent the background of endogenous defense activity (EDA). Stroke pathological cascades contain a limited number of pathophysiological processes. It is characterized mainly by excitotoxicity, oxidative stress, inflammation, apoptotic-like processes and and important metabolic disturbances.

Pathophysiological processes share some common mechanisms with EDA (e.g. excitotoxicity and neurotrophicity together with neuroplasticity have, as a common important driver, the NMDAR activity; inflammation has an important contribution for neuroregeneration, stimulating neuroplasticity, via trophic factors). Postlesional brain regulation is currently better understood. Every lesion in the nervous system triggers in the first minute an endogenous neuroprotective reaction.

An endogenous repair process, combining neuroplasticity and neurogenesis follow this as a second answer. All these processes are initiated and regulated by endogenous biological molecules.

The biological reality of the nervous system is far more complex. This presentation briefly reviews the current and future considerations in this therapeutic strategy, focusing on new pharmacological attempts to freeze the penumbra as well as on multimodal agents, able to integrate both endogenous sequences of brain protection and recovery.

BRAIN PLASTICITY AND NEUROREHABILITATION IN PARKINSON'S DISEASE

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Neurological disorders, especially degenerative diseases, represent a leading cause of long term disability all over the world. Many advances have been done in the treatment of these pathologies. The need to identify therapeutic methods, able to limit brain damage or enhance recovery of motor and cognitive functions through neuroprotective and neurorestorative mechanisms, is desirable. There are many animal and human studies trying to elucidate the cellular and molecular mechanisms of plasticity of the nervous system. Neurorecovery is the positive outcome that produces clinically relevant results with immediate functional and late structural effects.

Neurorecovery depends on the adaptive plasticity of the undamaged nervous tissue, and of the non-affected elements of functional network. This process can be enhanced by pharmacological intervention, physical and cognitive activity, electromagnetic stimulation, psychological support, environmental stimulation or any demonstrated combinations of these factors capable of improving the patient's condition.

A better understanding of the mechanisms underlying the neuroplasticity will reflect in a more efficient and comprehensive treatment. This presentation will focus on the role these mechanisms in Parkinson's disease, and will give a brief overview on current neurorehabilitation procedures in this complex condition.

GLYMPHATIC SYSTEM OF THE BRAIN AND ITS RELEVANCE TO NEURODEGENERATION

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Recently described, the glymphatic system of the brain consists of perivascular spaces which allow cerebrospinal fluid and brain interstitial fluid exchange. The glymphatic system has an important role in clearance of metabolic waste from the brain. The neurodegenerative diseases are characterized by abnormal accumulation of altered protein molecules within neurons but also around small vessels. This progressive phenomenon does alter the flow of fluids and metabolites through the glymphatic system and generates a deficit of protein aggregates clearance, which might be the cause of different sporadic neurodegenerative diseases, such as Alzheimer's disease, Parkinson's disease or amyotrophic lateral sclerosis.

BLOOD-BRAIN BARRIER IN ALZHEIMER'S DISEASE INDUCED BRAIN PATHOLOGY. NEUROPROTECTION BY NANODELIVERY OF CEREBROLYSIN

HARI SHANKER SHARMA[1]

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Military personnel are highly vulnerable to Alzheimer's disease (AD). This is because of the fact that severe stress of trauma, sleep deprivation or combat stress causes increased deposition of amyloid beta peptide in the cerebrospinal fluid (CSF) and in brain parenchyma. Continued stress in military is one of the main causes of development of hypertension and mental abnormalities. Thus, exploration of novel therapeutic strategies are needed to reduce brain damage in military following stress and thwarting development of AD like pathology.

Previous studies show that stressful situations alone induce breakdown of the blood-brain barrier (BBB) and neuronal damages that is long lasting. Thus, a possibility arises that breakdown of the BBB in stress could play critical roles in development of AD. In present investigation we explored whether AD induced brain pathology caused by amyloid beta peptide (AβP) infusion is exacerbated in rats subjected to repeated immobilization that induces mild hypertension and opens the BBB to large molecules e.g., proetins.

AβP (1-40) was administered intraventricularly (i.c.v.) in the left lateral ventricle (250 ng/10 µl) of rats (250-300 g body weight) once daily for 4 weeks in naïve animals as well as in rats that were subjected to repeated immobilization stress 2 h daily for 1 week. Control rats received identical dose of saline instead of AβP. BBB breakdown, edema formation, neuronal, glial injuries and AβP deposits in the brain was examined in a blinded fashion.

Repeated 2 h stress for 1 week induced marked BBB breakdown to Evans blue albumin and radioiodine tracers in the cerebral cortex, hippocampus, thalamus, hypothalamus, caudate nucleus, cerebellum and brainstem from the naive rats. Infusion of AβP in these stressed rats further enhanced the BBB breakdown to protein tracers by several-folds and aggravation of neuronal damages, astrocytic activation and brain swelling. The number of AβP positive cells increased by 3- to 6- in stressed group as compared to naive rats. Co administration of TiO2 or PLGA nanoparticles (NPs) loaded cerebrolysin (2.5 ml/kg, i.v. /day from 2nd week of AβP infusion for 2 weeks) induced profound neuroprotection in stressed rats. It appears that TiO2-nanwored delivery has superior neuroprotective effects in this AD model as compared to PLGA-delivery of identical doses of cerebrolysin. Taken together our observations are the first to demonstrate that repeated stress exacerbates AD brain pathology and nanodelivery of cerebrolysin has superior neuroprotective effects.

Taken together, our results demonstrate that breakdown of the BBB is key to AD induced brain pathology and restoration of BBB function by cerebrolysin induces neuroprotection in AD.

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PRACTICAL CONSIDERATION FOR AN EFFECTIVE TREATMENT OF PARKINSON'S DISEASE

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The approach to early Parkinson's disease denotes the communication of the diagnosis and important decisions, such as when and how to start treatment. Today there is a large debate about the opportunity to start pharmacological treatment as soon as the disease manifests. The theory of an early compensatory effect of symptomatic drug with an associated better long-term symptom control is fascinating. Moreover, the long-term follow -up of two pivotal trials one with rasagiline and one with rotigotine seems to support this hypothesis. The other decision that the physician must take is about the drug to use in an untreated patient. Evidence based medicine and guidelines indicate which drugs have robust evidence of efficacy and tolerability in this specific population. However, de novo patients may show different characteristics and they may be in a different phase of their disease. MAOB-I monotherapy can be efficacious but only in the very early stage. DA agonists are efficacious in early PD the can improve motor and non-motor symptoms and delay motor complications. Certainly, DA agonists can be added to levodopa instead of increasing the levodopa dose, for reducing the risk of dyskinesia. Patients on DA should be monitored to avoid the appearance of possible side effect such as impulse control disorders even if recent studies showed that rotigotine bring less risk of ICD compared to other DA. Levodopa remain the most effective drug but it is limited by its short half-life. Slow release formulations introduced in late eighties are not very efficacious and their effect is unpredictable. Levodopa

should be used at minimal efficacious dose to reduce the risk of fluctuations and dyskinesia. The de novo population is very heterogeneous and the decision about the drug initially should take into account the general characteristics of the patient, such as age, cognitive status, comorbidities, occupation, and the most affected side (dominant or non-dominant) but also of the severity of the symptoms and the presence of non-motor symptoms. Today a combination of drugs rather than using a single drug at high dose may be considered.

EVALUATION OF PARKINSON'S DISEASE – FEATURES OF ADVANCED STAGES ABSTRACT

MIHAELA SIMU

Department of Neurology, County Clinical Emergency Hospital "Pius Brinzeu", Timisoara, Romania; University of Medicine and Pharmacy "Victor Babes" Timișoara, Romania

Parkinson's disease, an important age related neurodegenerative disease- due to its high prevalence- needs a complex approach as it harbors a large variety of phenotypes and benefits of purely symptomatic therapeutic options to date.

The early efficiency of L-dopa therapy in terms of allowing a good functional capacity -by mainly addressing the motor symptoms - fades eventually turning into an inadequate, unpredictable, fluctuating clinical control over time due to the relentless progression of the disease. This stage of the disease has been broadly termed "advanced PD " (APD). There is a need to define the features of this stage . One reason is that when "conventional" therapies are no more operational the so called "device aided therapies " or "advanced therapies" step in and provide a still satisfactory good clinical response . These therapies include deep brain stimulation (DBS) , continuous subcutaneous apomorphine infusion and the infusion of levodopa/carbidopa intestinal gel. APD definition is still controversial and attempts are made to reach a consensus in finding the most relevant features of the stage.

One of the issues that arise and is still a matter of debate is finding a way to grade the Parkinson's disease severity combining both motor and non motor assessments as the currently used Hoehn and Yahr staging (HY) relies exclusively on the motor symptoms, their worsening and the balance/gait status of the patient.

A recently published study –the CEPA study proposes on a neurologists-based Delphi study a consensus on the definition of APD . This study suggests symptoms that qualify for "definitive", "probable" and " possible" APD. Definitive symptoms for APD were " disability requiring help for the activities of daily living, presence of

motor fluctuations with limitations to perform basic activities of daily living without help, severe dysphagia, recurrent falls and dementia".

Likewise, by means of the Delphi technique ,a panel of movement disorders specialists tried to improve the understanding of patients characteristics of APD. In a three stage Delphi rounds they ranked the clinically important motor, non-motor and functional characteristics that define a APD patient and also the eligibility for one of the device –aided treatments.

According to their approach the most important motor symptoms were at least 2 hours of "off" time during the waking day, at least 1 hour of the day with troublesome dyskinesia, along with the following possible motor, non-motor, and functional indicators: "off" period postural instability, freezing of gait during "off" periods, nighttime sleep disturbances and limited ADL (activities of daily living).

All these features are presented and discussed along with the concept of "late PD" versus "advanced PD".

KEY WORDS: Advanced Parkinson's disease, late Parkinson's disease , motor symptoms, non motor symptoms, functional indicators, device aided therapies

LOW GRADE NON-RESOLVING INFLAMMATION AND ITS IMPACT ON THE NERVOUS SYSTEM: WHY AGE MATTERS

STEPHEN SKAPER
Department of Pharmaceutical and Pharmacological Sciences, University of Padua, Italy

Persistent inflammation, when manifested in the nervous system ('neuroinflammation') can be especially perilous, ranging from neuropathic pain to neurodegenerative diseases. At first glance the nervous and immune systems could hardly seem more different, with the former representing stasis and the latter motion. Yet, nothing could be more far from reality at the cellular level, where these two systems share a common denominator in their ability to communicate with each other. Indeed, without this feature it is unlikely that neuroinflammation would exist. Within this picture non-neuronal cells, in particular microglia and mast cells, represent a key bi-directional highway linking peripheral immune signaling to the brain in an inflammatory setting. The problem with inflammation is not how often it occurs, but how often it fails to subside. Few would disagree that non-resolving inflammation is one of the principal contributors to the medical burden in industrialized societies Not well-appreciated, pain in the elderly is an even more complex phenomenon than in younger adults due to a progressive breakdown in cross-talk between the nervous and immune systems. During aging mast

cells undergo a modification in their reactivity (so-called 'immunosenescence') accompanied by increased sensitivity to pro-inflammatory mediators. Inadequate control of mast cells can lead to the release of proteolytic enzymes that adversely affect integrity and functionality of primary somatosensory neurons, leading to altered peripheral sensitization. Like mast cells, microglial activation is amplified and prolonged in the aged central nervous system compared with adults (senescent or "primed" microglia). 'Aged' microglia are capable of initiating and maintaining neuroinflammatory processes at the spinal level while modifying synaptic transmission supra-spinally – especially the lateral or the median thalamus – where mast cells and their mediators are well-placed to target the sensorimotor or frontal cortex and elaborate sensation and conscious perception of pain. Within a framework of immune aging, mast cell-microglia cross-talk is positioned to create an amplification loop which interacts with peripheral and central neural structures - thereby influencing the development, persistence and intensity of neuropathic pain in the elderly. This altered mast cell / microglia reactivity may induce and maintain a state of permanent and unresolved neuroinflammation, as well. The latter is more likely to be of a lower level ('low-grade non-resolving neuroinflammation') but insidious all the same, as a low-grade inflammatory state may be encountered in chronic diseases that occur with an especially high frequency in the elderly (e.g. obesity, diabetes) are often co-morbid with chronic pain, and which can lead to the progressive disruption of neuro-cognitive and behavioral functions such as mood disorders. The identification of safe and efficacious treatments for chronic pain remains a critical public health concern, especially considering the progressive increase of the world's elderly population and the clinical challenge of the latter due to age-related pharmacokinetic and pharmacodynamic issues and polypharmacy.

MANAGEMENT OF ADVANCED PARKINSON'S DISEASE: CDS THERAPIES - LIMITATIONS AND UNANSWERED QUESTIONS (HOW EARLY CDS THERAPIES SHOULD BE INITIATED?)

JÓZSEF SZÁSZ
University of Medicine and Pharmacy Targu-Mures, Romania

Parkinson's disease (PD) is one of the most important, increasingly prevalent and progressively disabling illnesses of later life. None of the available treatments influence the progression of the disease. Since the discovery of levodopa as the mainstay of pharmacotherapy in the early 1960s, the pharmacological treatment of PD has been continuously debated and adapted, mainly as a result of the pharmacokinetic properties and changing pharmacodynamics of this drug during the disease progression, as this changes inevitably lead to predictable and unpredictable response fluctuations, both motor and non-motor. Motor fluctuations

and dyskinesias affect almost all patients with PD at some point during the disease course, with major implications in global health status. There are now several treatment options for switching from intermittent to continuous dopaminergic stimulation (CDS) therapy. Duodenal infusion of levodopa (LCIG) or apomorphine infusions offer significant benefits for selected patients and can be considered an option prior to surgery (Deep Brain Stimulation, DBS). The indications for using one of the available CDS therapies are similar and include: pronounced motor and/or non-motor fluctuations, dyskinesias, severe conventional oral dopaminergic therapy-related complications. In spite of undisputable improvements during the last years, many patients remain significantly disabled, and a fully satisfying management of motor complications is still an important unmet need of PD therapy.

ROMANIAN STROKE REGISTRY- CURRENT STATUS AND FUTURE DEVELOPMENTS

CRISTINA TIU
Department of Neurology, University Hospital Bucharest, Romania
"Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

Romania has an increased incidence of stroke, due to many reasons, on top of them being lack of proper funding of the medical system and lack of education. Since 10 years ago we have initiated some changes, such as creating the legal conditions to establish stroke units in our hospitals, but just two years ago we have achieved our first results. The Priority Actionfor Interventional treatment of Acute stroke, initiated by the Ministry of health, pactically has boosted i.v thrombolysis in 10 centers covering the main regions of the country, and in three centers, also thrombectomy. The National Registry of Treatment of Stroke was created in 2014, and now has more than 1100 registered, proving the intense activity in the first two years of the program. Romania has joined in 2015 the ESO-EAST project, a project which has the aim to increase the quality of care for stroke patients in Eastern european Countries. One of the results is the creation of RES-Q registry, a registry who collects data regarding the quality of care. The first round of data ollection took place in March 2017, and Romania has occupied the third place, with 1052 patients registered, after Czech Republic and Ukraine. The data will be annalyzed and will constitute the basis for discussion with health authorities in order to improve the standard of care all over the country and to offer equal chances to treatment fo all our patients.

BIOMARKES OF MULTIPLE SCLEROSIS

LÁSZLÓ VÉCSEI

Department of Neurology, Albert Szent-Györgyi Medical Center, Faculty of Medicine, University of Szeged, and Neuroscience Research Group of the Hungarian Academy of Sciences and University of Szeged, Hungary

Multiple sclerosis is an autoimmune / neurodegenerative disease. White and gray matter demyelination occur paralell with axonal loss. We still lack reliable biomarkers to presume the conversion from clinically isolated syndrome (CIS) to clinically definite MS, the activity or the progression of the disease.

Great effort has been done to find sera and CSF molecules to predict the disease course, to personalize the treatment and to predict severe adverse events of therapies, by meaning of finding the right timepoint for starting the right treatment for the right person or changing it, and to detect patients at risk for side effects (e.g. PML).

Besides relapse rate, MRI activity and EDSS, we would like to have reliable biomarkers for diagnosis and conversion of the disease, for monitoring treatment efficacy or disease progression or detect patients at risk for given side effects (redox distubances, kynurenines, catecholamines, peptides, JCV antibody titer etc.

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Vécsei, L., Szalárdy, L., Fülöp, F., Toldi, J.: Kynurenines in the CNS: recent advances and new questions. Nat. Rev. Drug. Disc. 12:64-82, 2013.

HOW TO INTERPRET META-ANALYSES - METHODOLOGICAL CHALLENGES AND ADVANCES WITHIN THE FRAMEWORK OF EVIDENCE-BASED MEDICINE

JOHANNES VESTER
Senior Consultant Biometry and Clinical Research
idv - Data Analysis and Study Planning, Germany

The primary goal of the teaching course is to provide non-statisticians with an basic understanding of the concept of meta-analysis and the ability to implement and apply this basic knowledge in the proper interpretation of results within the framework of evidence-based medicine.

The teaching course will address the following issues:

Meta-Analyses: Basic concept. How to read a forest-plot. Correct and false interpretation of meta-analyses through examples from the literature. Meta-analyses within the framework of evidence-based medicine. Common traps.

NIBS – BOOSTING THE NATURAL CAPACITIES OF BRAIN PLASTICITY AND RECOVERY AFTER STROKE

ANDREAS WINKLER
Head of Department, Neurological Rehabilitation Clinic Bad Pirawarth, Austria

Advances in our understanding of neural plasticity that occurs after stroke have contributed to the generation of new theories and concepts of post stroke motor recovery. Modern theories of post stroke motor-recovery arise from several neurophysiological and neuroimaging investigations performed with brain injured adult humans and animals. They have contributed to the formulation of at least two complementary theories of motor-recovery after hemiparetic stroke: the "reactivation" and "rebalancing" theory in regard to the hypothesis of functional interhemispheric imbalance between the two motor cortices. Both strategies seem to provide promising grounds for new rehabilitation strategies, especially those implementing upper limb immobilization for patients with sustaining low-functioning upper limb paresis.

Besides conventional rehabilitation interventions and the most recent neuropharmacological approaches, non-invasive brain stimulation (NIBS) has

recently been proposed as an add-on method to promote motor function recovery after stroke. Several methods can be used based either on transcranial magnetic stimulation (repetitive mode: rTMS) via a coil, or small electric current via large electrodes placed on the scalp, (transcranial direct current stimulation tDCS). Depending on the different electrophysiological parameters of stimulation used, NIBS can induce a transient modulation of the excitability of the stimulated motor cortex (facilitation or inhibition) via a probable LTP-LTD-like mechanism. Recently, the use of functional imaging and TMS allowed for a better understanding of the underlying mechanisms of motor recovery after stroke in order to develop new therapeutic strategies based on NIBS, which have demonstrated their potential relevance in motor function recovery. However, the individual response to neuromodulation varies and depends on several biological and technical factors which have not been completely mastered. The choice of the ideal NIBS still needs to be refined but demarks a promising field in stroke rehabilitation.

CURRICULUM VITAE

ANY DOCU AXELERAD
ROMANIA

DESIRED EMPLOYMENT:	Associate Proffesor
OCCUPATIONAL FIELD:	General Medicine Faculty - "Ovidius" University of Constanta CLINICAL HOSPITAL EMERGENCY CONSTANTA SFANTUL APOSTOL ANDREI CONSTANTA
WORK EXPERIENCE:	2013 - present Associate Professor
Didactic activity	Neurology Discipline - Neurology courses with students (Annex 1) - Neurology practical works with students (Annex 1) - Diploma papers coordinator (Annex 2) - Author of written materials for student or postgraduate use (Annex 4) - Member of international scientific societies (Annex 5) - National / international congresses participant (Annex 6)
Dates	General Medicine Faculty - "Ovidius" University of Constanta 2007-2013 Lecturer
Occupation or position held	Education
Main activities and responsibilities	Neurology Discipline - Neurology courses with students (Annex 1) - Neurology practical works with students (Annex 1) - Diploma papers coordinator (Annex 2) - Author of written materials for student or postgraduate use (Annex 4)
-	Member of international scientific societies (Annex 5) - National / international congresses participant (Annex 6)

Name and address of employer	General Medicine Faculty - "Ovidius" University of Constanta
Type of business or sector	Education
Dates	2002 – 2007
Occupation or position held	Assistant Proffesor
Main activities and responsibilities	Neurology Discipline - Neurology practical works with students (Annex 1) - Neurology specialization practical works (annex 1) - Diploma papers coordinator (Annex 2) - Member of international scientific societies (Annex 5) - Specialty commissions secretary (Annex 5) - National / international congresses participant (Annex 6)
Name and address of employer	General Medicine Faculty - "Ovidius" University of Constanta
Type of business or sector	Education
Dates	1998 - 2002
Occupation or position held	Graduate Assistant
Main activities and responsibilities	Internal Medicine – Neurology Discipline, II Medical clinical disciplines Chair - Neurology practical works with students (Annex 1)
-	Neurology specialization practical works (annex 1) - Diploma papers coordinator (Annex 2) - National / international congresses participant (Annex 6)
Name and address of employer	General Medicine Faculty - "Ovidius" University of Constanta CLINICAL HOSPITAL EMERGENCY CONSTANTA SFANTUL APOSTOL ANDREI
Type of business or sector	Education
Medical Activity	
Dates	1996 - present
Occupation or position held	Neurology Primary Doctor
Main activities and responsibilities	Neurology Clinic medical activity
Name and address of employer	Emergency County Clinic Hospital of Constanta
Type of business or sector	Medicine

OVIDIU BĂJENARU
ROMANIA

Corresponding Member of the Romanian Academy
Member of the Romanian Academy of Medical Sciences of Romania
Professor of Neurology and Director of the Clinical Neuroscience Department at the University of Medicine and Pharmacy "Carol Davila" Bucharest, Chairman of the Department of Neurology – University Emergency Hospital Bucharest

- Graduate of the Faculty of Medicine – University of Medicine and Pharmacy (UMF) „Carol Davila" Bucharest (1983)
- Specialist in Neurology (1989), Senior Neurologist (1994); competence in MRI diagnostic in neurologic disorders (1991)
- PhD (1993) - UMF „Carol Davila" Bucharest
- 2006: Doctor Honoris Causa –University „Ovidius" – Constanta
- Postdoctoral specialization at the University „René Descartes" (Paris) during 1993-1994, in clinical Neurology (CHU „Saint-Anne" and „Kremlin-Bicetre") and research grants in Clinical and Experimental Neurophysiology (CHU „Cochin-Port Royale" and Faculté de Medecine Paris V)
- 2001-2013: President of the Romanian Society of Neurology
- Since 2013: Honorary President ad vitam of the Romanian Society of Neurology
- Since 2001: Coordinator and Chairman of all annual National Congresses of the Romanian Society of Neurology and many other scientific events and teaching courses organized for neurologists in Romania
- Visiting Professor in Vietnam (2013) and Kazakhstan (2015), on behalf of WFN
- Member of the Executive Committee of ENS (European Society of Neurology) between 2005-2009, of the Scientific Committee of ECTRIMS (2004-2009)
- Member of European Academy of Neurology (since 2014), American Academy of Neurology, International Parkinson's Disease and Movement Disorders Society, European Stroke Organisation, Danube Neurological Association (member of the Scientific Board and Deputy Secretary General), and others
- Since 2008: official representative of Romania for UEMS - European Board of Neurology (secretary of the Executive Committee between 2010-2015) and member of the examination board for the title of European Neurologist
- Author of more than 1000 scientific papers reported and published in scientific journals, among 147 cited in ISI Web of Science (Hirsch index 16) and Pubmed. Author of chapters in 2 international books of neurology and author and co-author in more than 15 medical books published in Romania.

- Coordinator of the National Diagnostic and Treatment Guidelines in Neurological Disorders
- National Principal Investigator and Investigator in more than 50 international, multicentric, controlled clinical trials in: stroke, Parkinson's disease and movement disorders, multiple sclerosis, dementia, epilepsy, and others.
- Director of more national research grants
- 9 awards of excellency in medicine from different socio-professional national and international organizations, the Romanian Ministery of Health and the Romanian Orthodox Patriarchate
- Initiator and coordinator of the National Medical Programs of the Ministery of Health and National Health Insurance System for the treatment of: acute stroke, multiple sclerosis, rare neurological diseases, advanced Parkinson's disease (1999 – 2015)
- President of Consultative Commision of Neurology of the Ministery of Health and National Health Insurance System (2008 – 2015)

DANA BOERING
GERMANY

EDUCATION:

1. Secondary School I. Slavici Arad, Romania
2. Medical School: Facultatea de medicina si Farmacie I.M.F. Cluj-Napoca, Romania

ACADEMICAL QUALIFICATIONS:

1. Dr. medic: I.M.F. Cluj Napoca 1981
2. German acknowledgement as Dr. med. 1987
3. Specialty qualification: Neurologist 1994
4. Further specialty qualification: Neurorehabilitationist 2001, Neurophysiologist 2002

EMPLOYMENT:

St. Mauritius Therapieklinik Meerbusch 2002-2016
SRH Gesundheitszentrum Bad Wimpfen since 2016

PROFESSIONAL APPOINTMENTS, SCIENTIFICAL ACTIVITIES:

1994-2002 Collaboration with the University of Essen in the field of plasticity after stroke, with an emphasis on the role of the cerebellum in motoric learning tasks

Since 2002 Collaboration with the University of Düsseldorf in the field of plasticity after stroke

Since 2009 Collaboration with the Coma Science Group Liege Belgium
Member of the DOC special interest group of the IBIA

MICHAEL BRAININ
AUSTRIA

Professor Brainin is full Professor of Clinical Neurology at the Danube University in Krems, Austria, and Director and Chair of the Department of Clinical Neurosciences and Prevention. His research focus is on cerebrovascular diseases including acute therapy, recovery and cognition. He has published more than 251 peer-reviewed articles, 193 of them Pub med listed, mostly on stroke treatment and rehabilitation. His h-index is 37, he has >6.000 citations.

He has been an invited lecturer and chairperson to more than 1.000 international conferences. He has published and edited several books, among them the Textbook of Stroke Medicine 2015 (with WD Heiss, Cambridge Univ Press 2nd edition 2015).

From 2012-2014 he was President of the European Stroke Organization (ESQ). In 2015 he was elected President Elect of the World Stroke Organisation due to take office in 2018.
Since 2014 he is elected full Board Member of the European Academy of Neurology. He is chairman of the WSO Education Committee (2008-2017) for which he has co-directed teaching programmes in many regions of the world. He is editor-in-chief of the World Stroke Academy. He directs several postgraduate teaching programmes at his university, among them the WSO supported European Master's Programme in Stroke Medicine.

He serves as Associate Editor for the European Journal of Neurology, Senior Consulting

Editor for 'Stroke' and serves on the Editorial Boards of the International Journal of Stroke, European Stroke Journal, Neuroepidemiology, the Journal of Neurological Sciences, and Frontiers in Neurology.

Professor Brainin is an Honorary Member of the ESQ and International Fellow of the American Stroke Association. He received several awards, such as the Marinescu Award 2015 from the Romanian Society af Neurology and Honorary Doctorates from Hanoi University, Vietnam, and from the University of Cluj, Romania, an honorary professorship from Zhengzhou University, as well as honorary memberships of the French Neurological Society, Hungarian Stroke Society and Indian Stroke Society. (04/17)

NATAN BORNSTEIN
ISRAEL

EDUCATION
1970-73 University of Sienna, Medicine, Sienna, Italy
1973-79 Technion Medical School, Hifa, Medicine, MD, 1979
Date of receiving specialixation certificate: 11 September, 1984
Title of Doctoral dissertation: Dextran 40 in acute ischemic stroke
Name of Supervisor: Dr. Jacob Vardi

FURTHER EDUCATION
1978-83 Tel-Aviv University, Sackler Faculty of Medicine, neurology (residence), Israeli Board certified in Neurology, 1983
1979-83 Tel-Aviv University, Sackler Faculty of Medicine, Post graduate studies in Neurology
1984-87 Sunnybrook Medical Center, University of Toronto, M.R.C stroke, Fellowship

ACADEMIC AND PROFESSIONAL EXPERIENCE

1982-1995	Tel-Aviv University, Neurology, instructor
1991-present	European stroke Conference (ESC), Executive committee
1995-1999	Tel-Aviv University, Neurology, Senior lecturer
1995	Eliprodil CVD 715 clinical trial, Steering Committee
1995-1997	International Stroke Study (IST), Steering Committee
1995-1999	American Academy of Neurology, Member of the International Affairs Committee
1996	Asymptomatic Carotid Stenosis and Risk of Stroke(ACSRS), Advisory

	Committee
1996-present	The Mediterranean Stroke Society (MSS), President
1996-2002	EFNS, Management Committee
1997-2009	Israeli Neurological Association, Secretary
1999-present	Tel-Aviv University, Neurology, Associated Professor
2001- present	European Society Neurosonology and Cerebral Hemodynamics (ESNCH) Executive committee
2005-present	Neurosonolgy Research Group, Executive committee
2006-present	European Master in Stroke Medicine, Member of faculty
2006-2008	NEST II clinical Trial, Steering Committee
2006-present	SENTIS clinical Trial, Steering Committee
2006-present	CASTA Trial, Steering Committee
2006-present	Brainsgate clinical Trial, Steering Committee
2008- present	World Stroke Association (WSO), Vice president
2009-present	Israeli Neurological Association, Chairman
2009-present	European Stroke Organization (ESO), Member on the board of directors
2010-	NEST III clinical Trial, Steering Committee

PROFESSIONAL ACHIEVEMENTS- EDITORIAL BOARD

1991-present	Neurological Research Journal, Guest Editor
1991-present	STROKE, Member of the editorial board
1998-present	European Journal of Neurology, Member of the editorial board
1999-present	Journal of Cerebrovascular disease, Member of the editorial board
2000-present	Journal of Annals of Medical Science, Consulting Editor
2001-present	Journal of Neurological Science (Turkish), Member of the editorial board
2001-present	Acta Clinica Croatica, Member of the editorial Counsil
2003-present	Italian Heart Journal, International Scientific Board
2003-present	Journal of Neurological Sciences, Guest Editor
2004-present	Turkish Journal of Neurology, International Advisory Board
2005-present	Archives of Medical Sciences (AMS) , Member of the Editorial Board
2006-present	Journal of Cardiovascular Medicine, International Scientific Board
2006-present	International Journal of Stroke, Editorial Board
2006-present	Acta Neurologica Scandinavica, Editorial Board
2009-present	American Journal of Neuroprotection& Neurogeneration (AJNN) Member of the Editorial Board
2010	Neurosonology, International Editorial Board
2010	Frontiers in Stroke, Review Editor

PROFESSIONAL ACHIEVEMENTS- REVIEWER

1998-present	Lancet, Ad Hoc reviewer
1998-present	Diabetes and its complications, Ad Hoc reviewer
1999-present	Journal of Neuroimaging, Reviewer

1999-present	Journal of Neurology, Ad Hoc reviewer
2000-present	Neurology, Ad Hoc reviewer
2003-present	Israeli Medical Association Journal (IMAJ), Reviewer
2003-present	Acta Neurologica Scandinavica, Ad Hoc reviewer
2006-present	Journal of Neurology, Neurosurgery & Psychiatry, Reviewer
2010-	European Neurology, Ad Hoc reviewer

MEMBERSHIP IN PROFESSIONAL SOCIETIES

1977-present	Israeli Medical Association
1983-present	The Israeli Neurological Association
1985-present	Stroke Council of the American Heart Association (Fellow)
1986-present	American Academy of Neurology
1986-present	Neurosonology Research Group of the World Federation of Neurology
1987-present	Stroke Research Group of the World Federation of Neurology
1990-2008	International Stroke Society
1995-2008	European Stroke Council
1995-present	Mediterranean Stroke Society (MSS)
1998-present	European Neurosonology Society
2005-present	World Stroke Organization (WSO)
2008-present	Fellow of the European Stroke organization (FESO)

LÁSZLÓ CSIBA

HUNGARY

Professor of the Department of Neurology at the University of Debrecen, Hungary since 1992.

- visiting scientist in the Max-Planck Institute for Neurological Research in Cologne (1981-83),
- one year in Kure City, Japan (1986)
- half year in Toulouse (INSERM, France).
- He is the founder of Hungarian Neurosonological Society,
- honorary member of Austrian Stroke Society,
- visiting professor of Belgrade, Cluj/Kolozsvár, Targu Mures/Marosvásárhely, Novi Sad/Újvidék University and Israel Association of Neurology.
- Editorial board member:"International Journal of Stroke", "Neurosonology (Japan)" "Clinical Neurosciences" and associate editor of "Frontiers in Stroke"
- Past president of the Hungarian Stroke Society, Chair of board of directors (Eur.

Stroke Org.)

- Corresp. member of Deutsche Gesellschaft für Klinische Neurophysiologie und Funktionelle Bildgebung
- Between 2009 and 2013 he was the president of European Society of Neurosonology and Cerebral Hemodynamics.
- Between 2005-2010, as chair of European Cooperation Committee of the European Federation of Neurological Societies he introduced the regional teaching course system of EFNS in middle and eastern European countries (neurosonology, acute stroke and prevention).
- Since 2015 he is the president of Hungarian Neurological Society.
- Since 2016 Corresponding member of Hungarian Academy of Sciences.
- He was awarded with the prize of European Stroke Conference, Eur. Neuroson. Soc. Cer. Hemodyn., Batthyány-Strattmann Prize (Ministry of Health), Francis Crick Award, Szentgyörgy (Ministry of Health) I and Lazarevics prize (Serbian Neurol Soc) for his activity in stroke care, education and research. The President of Hungarian Republic awarded him the Knight's Cross of Republic (for outstanding educational and clinical work).
- His department hosted two times the Stroke Summer Course of the European Stroke Organisation.
- During the last 20 years he has established a frutitful educational and scientific cooperation with Japanese institutions (Kure City, Sendai). Dozens of Japanese medical students (Dr. Toyota, Dr.Matsumura, Dr. Yamane) and physicians spent months at the Department of Neurology, Debrecen
- During the last 11 years, his department performed more than 1300 iv.thrombolysis on acute stroke patients (iv. lysis rate 23%) and became an international clinical, educational and research center in eastern Europe. He has published 246 papers (IF:375, independent citations of 3587 Hirsch-index:29) on stroke, neurosonology and stroke risk diseases.

CRISTIAN FALUP-PECURARIU

ROMANIA

Cristian Falup-Pecurariu is Head of the Department of Neurology, County Emergency Clinic Hospital from Brasov, and is Lecturer of Neurology at the Transilvania University from Brașov, Romania. He received his medical degree from the University of Medicine and Pharmacy

"Iuliu Haţieganu" 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.

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). He was also Secretary of the EFNS/MDS-ES Panel on Movement Disorders, member of the Educational Committee of MDS-ES and currently is member of the MDS Leadership Task Force, European Academy of Neurology Scientific Panel Movement Disorders, MDS-ES Executive Committee, MDS Rating Scales Translation Committe. He is member of EUROPAR (European Parkinson's Group) and International Parkinson and Movement Disorders Society Non motor study group.

He is the initiator and Course Director of the Movement Disorders Teaching Course held in Brasov.

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

ANTONIO FEDERICO
ITALY

Prof. Antonio Federico, born in Polla (Sa) on the 25.08.48, from 1990 is full professor of Neurology at the University of Siena , Director of the Unit Clinical Neurology and Neurometabolic Disease.

He was Director of the Department of Neurological, Neurosurgical and Behavioural Sciences, University of Siena (2002-2008).

He received the degree in Medicine and specialization in Nervous and Mental Diseases, summa cum laude, at the University of Naples in 1972 and 1975 respectively. He received the Lepetit Award for the best degree dissertation in 1972.
His biological training was in the Institute of Biochemistry as student and after in Physiology

of the University of Naples, and in the Centre de Neurochimie of CNRS, in Strasbourg, directed by prof. Mandel where he worked in the years 1973-75. He also collaborated with many international research groups, in different countries where he spent in the past years some times: in Montreal (Prof. Andermann, Karpati and Shoudgbridge), in London (dr A. Harding and prof. Morgan-Hughes), in Toronto (dr.Robinson), in Bonn (prof. von Bergmann) , in Paris (dr.Baumann), in Baltimore (proff. Moser and Naidu), in Oxford (prof. Matthews), etc. His clinical formation was made at the Medical School of the University of Naples, in the Dept, Neurology, and after in Siena, where he moved on 1980 with his mentor, prof. G.C. Guazzi. Associated professor in Neurology in 1982, since 1990 he is full professor of Neurology, Medical School, University of Siena.
In 2013, he received honoris causa degree in Medicine at University Carol Davila, Bucharest, Rumania.

In the years 1990-96 he was Secretary of the Italian Society of Neurology. In the years 2006-08 was President of the Italian Society of Neurology.

He coordinated the Study Group on Clinical Neurogenetics of the Italian Society of Neurology.

He has been referee for projects evaluation in the area of Orphan drugs and Orphan diseases for Biomed Projects from EU, for MURST, CNR and Istituto Superiore di Sanità, and other national and international funding agencies, etc.

He is member of the Second Opinion Group of the American Leucodistrophy Association.

Associated editor of Neurological Sciences in the past 3 years. From 2012, he is Editor-in Chief.

He is author of more than 500 article quoted by Pubmed. He is author of a chapter on Cerebrotendinous Xanthomatosis, Vinken and Bruyn Edts, Handbook of Clincal Neurology, vol 49, Neurodystrophies and Neurolipidoses. On the book McKusick's Mendelian Inheritance in Man,. Ed.1992, Catalog of Autosomal Dominant and Recessive Phenotypes he is cited for 3 different diseases. He was editor of the book Late Onset Neurometabolic diseases (A.Federico, K. Suzuki and N.Baumann Edts), Karger 1991, and many other books from Italian and international Publishing Companies.
Recently he published (2015) Manuale di Neurologia Pratica and Neurologia and Assistenza infermieristica, for students.

His main field of interest is related to neurometabolic, neurodegenerative and rare diseases, investigated from a genetic, metabolic, neuroimaging and clinical point of vue.

Summary of the academic involvements:
- Director of the Section Neurological Sciences, Dept Neurological , Neurosurgical and Behavioural Sciences (2000-2012)
- Director of the Research Center for the Diagnosis, Therapy and Prevention of the

Neurohandicap and Rare Neurological Diseases, until the 2010
- Vice-Dine of the Medical School, University of Siena (2003-2006)
- Director of the Postgraduate School of Neurology, University of Siena, from 2006 up to 2014.
- Director of the PhD School in Cognitive and Neurological Sciences, University of Siena (from 2000 up to date)
- Coordinator of the Section of the Univ. Siena of the PhD Program Neurosciences, Univ. Florence.
- Research delegate for the Dept Medicine, Surgery and Neurosciences (2013-)
- Vice-Rector of the University of Siena, from 1st april 2016.

Medical Involvements
- Director of the OU Clinical Neurology and Neurometabolic Diseases, University Hospital of Siena Medical School.
- Director of the Regional Reference Center for Rare Diseases
- Regional Coordinator of the Network for Rare Neurological Diseases, Tuscany Region.
- Member of several Ministry of Health and Regional Committees
National and International Commitments
- President of the Italian Society of Neurology (2009-11)
- Italian delegate to the World Federation of Neurology
- Italian Delegate to the European Union of Medical Specialists (Section Neurology)
- Italian Delegate and Chairman of the Neuromediterraneum Forum and President
- Consultive Member of the European Brain Council
- Editor – in – Chief of Neurological Sciences, Springer Verlag Editor. He is in the Editorial Board of many national and international journals.
- Member of the American Panel United Leucodystrophies.
- Member of the Scientific Committee of AISM
(Associazione Italiana Sclerosi Multipla)
- Chairman of the Scientific Committee of the European Academy of Neurology
- Chairman of Neuromediterraneum Forum
- Co-Chairman of Research group of WFN Migration Neurology

Member of the Scientific Societies:
- Società Italiana di Neurologia (Past Secretary, President, Past-President and Member of the Committee)
- Society for the Inborn Errors of Metabolism
- Italian Association of Neuropathology
- SINDEM (Italian Association of Dementias)
- Italian Association for Parkinson's disease
- Italian Association of Neurogeriatrics (Member of the Scientific Committee)
- Italian Stroke Forum
- European Academy of Neurology (Member of the Board and Chairman of the Scientific Committee)
- American Academy of Neurology
- World Federation of Neurology (Co-Chair Section of Migration Neurology)

- Neuromediterraneum Forum (President)

His present positions are:
full professor of Neurology, University of Siena, Medical School

- Director of Unit Clinical Neurology and Neurometabolic Diseases, Siena Hospital.
- Past-Director of the Section Neurological Diseases of the Department of Neurological and Behavioural Sciences of the University of Siena since the 2012, at the fusion of this Department in the Dept Medicine, Surgery and Neurosciences.
- Italian Delegate to the World Federation of Neurology and to European Academy of Neurology Council.
- Past- President of the Italian Society of Neurology (President years 2009-2011)
- From 1995 he is Director of a PhD Programme on Applied Neurological Sciences at University of Siena, from 2004 of the European PhD Programme and European School of Doctorate of Applied Neurological Sciences. Since 2011 he is director of the PhD Programme on Cognitive and Neurological Sciences at University of Siena.
- He is Italian member of the Committee of European Union of Medical Specialists, in the section Neurology.
- Delegate for Research in the Dept. Medicine, Surgery and Neurosciences.
- Coordinator for the Tuscany Region of the Network on Rare Neurological Diseases.
- On 2013, he received Honoris Causa degree from the University Carol Davila, Bucharest
- Chairman of the Neuromediterraneum Forum
- Editor in Chief of Neurological Sciences, Springer-Verlag Editor.
- Co-Editor of many international journals.
- On the 2014 was nominate WHO consultant for Rare Neurological Diseases.
- From june 2014, he is Chairman of the Scientific Committee and Member of the Board of the European Academy of Neurology
- From February 2015 Co-Chairman of the Research Group Migration Neurology of the World Federation of Neurology.
- From the 1st april 2016, vice-Rector of the University of Siena.

STEFAN GOLASZEWSKI
AUSTRIA

Stefan Golaszewski was born 1964 in Vienna where he studied Technical Physics and Medicine. After his graduation as "Diplomingenieur" 1990 and as "Medical Doctor" 1995 he went to the Medical University Innsbruck where he worked from 1995 to 2001 as assistant doctor in Neurology at the Department of Magnetic Resonance Imaging and Spectroscopy. His scientific work in Innsbruck focused on the development of clinical applications for functional Magnetic Resonance Imaging (fMRI) in neurology, neurosurgery and psychiatry. In Innsbruck Dr. Golaszewski founded a specialized computer lab for fMRI data post processing and supervised an fMRI research group. From the beginning of 2001 until the end of 2002 he joined a residency in Neurology at the Department of Neurology at the Medical University Graz. Since December 2002 he joined a fellowship in "Functional Magnetic Resonance Imaging in the early diagnosis of Dementia" for one year at the Department of Neurology at the Alfried Krupp Hospital in Essen and at the Heinrich Heine University Düsseldorf in Germany. In 2005 Dr. Golaszewski joined the Department of Neurology of the Christian Doppler Clinic at the Paracelsus Medical University Salzburg in Austria where he currently works as senior physician and where he finished in 2006 his habilitation that focused on the investigation of cortical reorganisation after brain damage in functional MRI with graduation as "Privatdozent". Since October 2010 Dr. Golaszewski is the medical head of the Neuroscience Institute of the Christian Doppler Clinic at the Paracelsus Medical University Salzburg. At the beginning of 2016 Dr. Golaszewski got a call for an associate professorship from the Paracelsus Medical University Salzburg.

Dr. Golaszewski participated in a research project of the European Community about "paradigm development in Functional Magnetic Resonance Imaging" and in five research projects of the Austrian National Bank about clinical applications of fMRI in Neurology, Neurosurgery and Psychiatry. For four National Bank research projects about diagnosis and prognosis in patients with severe disorders of consciousness Dr. Golaszewski worked as project coordinator and currently he holds a grant of the Paracelsus Medical University Salzburg and the Austrian National Bank. Further scientific work included the computer simulation of neuronal networks at the Technical University of Vienna and the investigation of the human harmonic auditory processing with magnetic source imaging (MEG) at the Department of Neurology at the Medical University Vienna.

Hitherto, Dr. Golaszewski published 130 papers in international scientific peer-reviewed journals and since 2002 he reviews for the scientific peer-reviewed journals NeuroImage, Human Brain Mapping, Neuroscience Letters, Brain Research, The Tohoku Journal of Experimental Medicine, Progress in Biophysics and Molecular Biology, Clinical Neuroradiology, Journal of Magnetic Resonance Imaging, NMR in Biomedicine, Medical Engineering &

Physics, Experimental Neurology, BMC Neurology, Annals of Neurology, Behavior Research Methods, Brain & Behavior, Clinical Neurology and Neurosurgery, Clinical Neurophysiology, European Journal of Neurology, Journal of Neurological Sciences, Journal of Neuroimaging, Neuroscience, Neuroscience Methods, Radiology, Restorative Neurology and Neuroscience, Research in Developmental Disabilities, Somatosensory & Motor Research, Spinal Cord, and "Neurology". Moreover, Dr. Golaszewski is a member of the Editorial Board of the scientific peer-reviewed journals "The Open Medical Imaging Journal" and the "International Journal of Physical Medicine and Rehabilitation".

WOLFGANG GRISOLD
AUSTRIA

Prof. Wolfgang Grisold is a specialist for neurology and psychiatry. From1989 until 2016, he has been heading the department of neurology of the KFJ hospital in Vienna, Austria.

His special interests apart from general neurology are neuromuscular disease and neurooncology , palliative care and education in neurology. His has particular expertise in neuromuscular disease in regards to clinical findings, electrophysiology, neuropathology and imaging. He has participated in 2 EU projects on paraneoplastic syndromes, and in 2 ECCO- EU projects on oncologic video education. His focus in the past years was the effect of cancer on the peripheral nervous system.

He currently published 600 publications among them 4 books (Atlas of neuromuscular disease, 2 editions) and has presently 225 Pubmed quoted publications, 330 Abstracts and presented over 1400 lectures.

He has been involved in education from the aspects of CME and CPD (EFNS, UEMS, WFN), residency training (Austrian society of neurology and UEMS), board examinations (Austrian society and UEMS/EBN), patient and caregiver education and European and international department visits (UEMS/WFN). He has chaired the education committee of the EFNS from 2002 until 2007, has been the co-chair of the education committee of the WFN, where he also chaired the teaching course committee until 2015.

From 2000 to 2002, he was the founding president of the Austrian Society of Neurology.

He is presently the secretary general of the WFN from 2013 and is involved in educational projects as the WFN Teaching centers and WFN department visits.

He was president of the UEMS/EBN (past president), and the EANO (European Association of neurooncology). Within ECCO he chairs the ACOE (accreditation body for CME) and is a member of the UEMS EACCME CME governance board.

In Vienna he is a member of the KAV ethics committee and also a member of the higher medical council of the city of Vienna.

He also works in a private neurology office in Vienna, where combines clinical work with neuromuscular disease and electrophysiology.

MAX HILZ
GERMANY

studied medicine at the Universities of Cologne and Erlangen-Nuremberg in Germany. After he had defended his doctoral thesis, he first trained in Anesthesiology and Intensive Care Medicine and in Ear-Nose-and–Throat diseases. Then, he started his residency in Neurology and Psychiatry at the University of Erlangen-Nuremberg.
He specialized in Neurology, Clinical Neurophysiology, Neurological Intensive Care Medicine and Disorders of the Autonomic Nervous System (ANS), and holds German board certificates in Neurology and Psychiatry and in Psychotherapy. He also passed the board examination of the American Board of Electrodiagnostic Medicine. He is licensed to practice medicine in Germany, the United Kingdom, and in the State of New York, USA.
From 1992 until 2013, he held appointments at New York University, New York, NY, as Professor of Neurology, Medicine and Psychiatry. Until 2007, he also served as the Associate Director of the NYU Dysautonomia Evaluation and Treatment Center. He was deeply involved in clinical research regarding the pathophysiology of Familial Dysautonomia, also known as Riley-Day syndrome or Hereditary Sensory and Autonomic Neuropathy Type III, and in studies of Fabry disease that led to the approval of enzyme replacement therapy in the USA.
He is Professor of Neurology at the University of Erlangen-Nuremberg in Erlangen, Germany. Since June 2015, he is also Adjunct Professor of Neurology at Icahn School of Medicine at Mount Sinai, New York, NY, USA. In September 2016, he started as the Chair in Autonomic Neurology, and Director of the Clinical Department of Autonomic Neurology at the University College London, Institute of Neurology, Queen Square, London, UK.
Professor Hilz is a member of 16 national and international scientific societies and is on the board of several autonomic nervous system societies. He currently co-chairs the Autonomic Nervous System Subspecialty Panel of the European Academy of Neurology, EAN. He also is

Past-President of the German Autonomic Society, Past-President of the European Federation of Autonomic Societies, and Past-Chair of the Autonomic Section of the American Academy of Neurology. He is ad hoc reviewer for more than 25 international scientific journals, a member of the editorial board of Clinical Autonomic Research, and Associate Clinical Editor of Autonomic Neuroscience: Basic and Clinical. He co-authored the guidelines of the German Neurological Society on syncope, the guidelines on erectile dysfunction and the guidelines of the German Diabetes Society on diabetic neuropathy. He has published more than 300 original and review articles in peer-reviewed journals and chapters in textbooks and presented his work at several hundred scientific conferences.
Prof. Hilz is experienced in the examination of small nerve fiber diseases and disorders of the autonomic nervous system, including hereditary sensory and autonomic neuropathies, diabetic neuropathies, and Fabry disease, and central autonomic disorders. He also served as an advisor to the European Medicines Agency, EMA, on issues related to autonomic nervous system dysfunction.
Prof. Hilz conducted various studies showing improvement of neuropathic pain, small fiber neuropathy, and autonomic cardiovascular control in Fabry patients receiving biweekly 1.0 mg/kg enzyme replacement therapy.

TUDOR LUPESCU
ROMANIA

Tudor Lupescu obtained his medical degree from "Carol Davila" University of Medicine in Bucharest, in 1989. After 3 years of training at Colentina Clinical Hospital he became Specialist in Neurology in 1994. Since 2006 he is running the Neurology Department al Agrippa Ionescu Hospital in Bucharest. 1998, he qualified as Consultant Neurologist. Since his early years of training in Neurology, Tudor Lupescu has shown a special interest in Clinical Neurophysiology. In 2000 he earned a Competence in Clinical Neurophysiology (EEG, EMG, and Evoked Potentials). 1997 he was the first to use Transcranial Magnetic Stimulation in Romania. This was also the subject of his PhD thesis presented in 2005. Since 2008, Tudor Lupescu is President of ASNER – Romanian Society of Electrodiagnostic Neurophysiology. He is also founding member and vicepresident of the the Romanian Society of Diabetic Neuropathy.

Dr Tudor Lupescu is associate member of the American Academy of Neurology, and associate member of the American Association of Neuromuscular and Electrodiagnostic Medicine. Between 2008 and 2013 he was also member of the Neurophysiology Subcommittee of ENS.

KRISTINA MULLER
GERMANY

11.06.1957:	born in Kiel parents: Dr. rer. nat. Fritz Müller, Professor emeritus (Pharmaceutic Technology, University of Bonn) and Renate Müller
1967 - 1971:	Ernst-Barlach Gymnasium, Kiel
1971 - 1976:	Ernst-Moritz Arndt Gymnasium, Bonn
June 1976:	Abitur (high school degree)
1976-1983	Medical Schools "Université libre" of Brussels, Belgium; "Rheinische Friedrich Wilhelms" University of Bonn, Germany and "Centre Hôspitalier et Universitaire" of Montpellier, France. Electives in the Department of Dermatology of the Royal Infirmary, Bristol, U.K., "Hospital for Sick Children", Great Ormond Street, London, U.K.
1983	Medical Degree
Oct. 82 - Oct. 83:	Internship (Pediatrics, Internal Medicine, Surgery) at the "Centre Hôspitalier et Universitaire", Montpellier, Frankreich
1983/84:	Medical Thesis (Precocious Puberty: Effects of treatment) in the Department of Pediatrics of the "Centre Hôspitalier et Universitaire", Montpellier, France
from July 1984:	Training in General Pediatrics in the Department of Pediatrics at the "Heinrich-Heine"-Universität Düsseldorf, Specialization in Pediatric Neurology (Prof. H.-G. Lenard)
August 1985:	MD Thesis at the "Rheinischen Friedrich-Wilhelms" Universität Bonn
Jan. 89 - Dec. 90:	Research Project about "Motor development in children " sponsored by the Ministry of Research and Technology of Germany.
November 1991:	Board Qualification in Pediatrics
January 1992:	Senior Registrar at the Department of Pediatrics of the „Heinrich-Heine"- Universität, Düsseldorf
Oct. 92- April 93:	Fellowship at the Hospital for Sick Children , Department of Neuropaediatrics (Prof. B. Neville) , Great Ormond Street , London
February 93:	Habilitation (equivalent to the "Assistant Professor") "Development of voluntary and reflex motor activity in children"
May 93-Nov. 93:	Training in Neurology in the Department of Neurology „Heinrich-Heine"-Universität Düsseldorf (Prof. Dr.H-J Freund)
From May 93	Consultant at the Department of Pediatrics at "Heinrich-Heine-Universität" Düsseldorf
Feb - Dec 99	Research Project: Locomotion in Children with mit Cerebral Palsy

Jan. – Feb. 2000:	Work at the Département de Pédiatrie, Unité de Rééducation Neuropédiatrique (Dr.C. Billard), Centre Hospitalier Universitaire de Bicêtre, Le Kremlin-Bicêtre and Hôpital National de Saint-Maurice, Rééducation des pathologies neurologiques acquises de l'enfant (Dr. A. Laurent-Vannier), Saint-Maurice, France
March – June 2000	Work at the Rehabilitation Institute of Chicago (Chicago, USA) on special aspects of neuro-rehabilitation for children
from October 2000:	Head of Neuropediatrics at St Mauritius Therapy Clinic in Meerbusch-Osterath
since 2006	Board examiner in Neuropediatrics for the Nordrhein Medical Association
March 2007	Additional degree in general Rehabilitation

LUCIA MUNTEAN
GERMANY

CURRENT POSITION

Neurologist and Sleep Medicine Specialist, Paracelsus Elena Clinic, Center for Parkinsonism and Movement Disorders, Kassel, Germany (since 2013)

FORMER POSITIONS

2015-2016	Neurologist, Sleep Laboratory and Video-EEG-Monitoring, Clinic for Clinical Neurophysiology, University Medical Center Göttingen, Germany
2012-2016	Neurologist, Emergency County Hospital Cluj-Napoca, Romania (2013-2016 on leave)
2012-2016	Assistant Lecturer, Department of Neurosciences University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca, Romania (2013-2016 on leave)
2011-2012	Assistant Lecturer, Department of Morphological Sciences, University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca, Romania
Since 2007	Investigator in clinical studies

EDUCATION AND QUALIFICATIONS

May 2017	Competence in Epileptology, German Society for Epilepsy (DGfE)

January 2017	Competence in EEG, German Society for Clinical Neurophysiology (DGKN)
August 2015	Competence in Sleep Medicine, Landesärztekammer Hessen, Germany
2007-2011	PhD student, Department of Neuroscience, University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca Romania, research concerning sleep and sensory symptoms in Parkinson's disease patients.
2000-2006	Faculty of Medicine, University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca, Romania

AWARDS AND HONORS

April 2012	EFNS Bursary for the Department to Department Cooperation Program
24-26 February 2012	MDS-ES Bursary to attend the Winter School for Young Neurologists, Innsbruck, Austria
September 2006, 2010, 2011	Bursary from the EFNS to attend the EFNS Congresses

CONFERENCES WITH ACTIVE PARTICIPATION (SELECTION)

2015, 2017	International Congress of the European Academy of Neurology (EAN) (oral presention and chairman)
2015, 2016	Congress of the German Society of Sleep Medicine (oral presention and chairman)
2015	17th Meeting of the Group for the Study of Epilepsy, University Medical Center Göttingen, Germany
2009, 2012, 2014, 2016	International Congress of the International Parkinson and Movement Disorders Society (MDS)
2012; 2013, 2014, 2016	Annual Conference of the EURLSSG
2013	World Congress of Neurology
2009, 2010, 2011, 2012	EFNS Congresses

AFFILIATIONS

European Academy of Neurology (EAN)
European Academy for Neurology- Resident and Research Fellows (EAN-RRFS)– Delegate in the EAN Scientific Panel of Neurooncology
European Restless Legs Study Group (EURLSSG)
Deutsche Gesellschaft für Klinische Neurophysiologie und Funktionelle Bildgebung (DGKN)
Deutsche Gesellschaft für Epileptologie (DGfE)
Romanian Society of Electrodiagnostic Neurophysiology (ASNER)

AREAS OF SCIENTIFIC INTEREST

Sleep medicine especially Restless Legs Syndrome and REM-Sleep Behavior Disorder, movement disorders
Deep Brain Stimulation

The research results are published in peer reviewed international journals and presented at international conferences.

DAFIN F. MUREȘANU
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 member of 16 scientific international societies (being member of the American Neurological Association (ANA) - Fellow of ANA (FANA) since 2012) and 10 national ones, being part of the executive board of most of these societies. Professor Dafin 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 Dafin 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 Neurotraumatolgy (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 300 scientific participations as "invited speaker" in national and international scientific events, a significant portfolio of scientific articles (146 papers indexed on Web of Science-ISI, H-index: 16) as well as contributions in monographs and books published by prestigious international publishing houses. Prof. Dr. Dafin F. Muresanu has been honoured with: the University of Medicine and Pharmacy "Iuliu

Hatieganu" Cluj-Napoca, Faculty of Medicine, "Iuliu Hatieganu Great Award 2016" for the best educational project in the last five years; 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 Medicala, Bucuresti, 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 "Gheorghe Marinescu Award" for advanced contributions in Neuroprotection and Neuroplasticity.

BOGDAN O. POPESCU
ROMANIA

Born March 8th, 1971 in Bucharest, Romania.
Address: Department of Neurology, School of Medicine, 'Carol Davila' University of Medicine and Pharmacy, Colentina Clinical Hospital, 19-21 Sos. Stefan cel Mare, sector 2, 020125, Bucharest, Romania.

Scientometrics: 50 ISI full text articles, 0ver 1000 ISI citations, Hirsch index 18.

ACADEMIC EDUCATION AND APPOINTMENTS

1996	MD, 'Carol Davila' University School of Medicine, Bucharest, Romania
2000 - 2009	Assistant Professor, 'Carol Davila' University School of Medicine
2001	PhD, 'Carol Davila' University School of Medicine - suma cum laudae
2002 - 2008	Neurologist, University Hospital Bucharest
2004	PhD, Karolinska Institute, Stockholm, Sweden
2005 -	Head of Laboratory of Molecular Medicine, 'Victor Babeș' National Institute of Pathology, Bucharest, Romania
2008 -	Senior Neurologist
2009 - 2012	Lecturer, 'Carol Davila' University School of Medicine
2009 -	Senior Researcher, 'Victor Babeș' National Institute of Pathology, Bucharest, Romania
2012 - 2015	Associate Professor, 'Carol Davila' University School of Medicine and Head of Neurology Unit II, Colentina Clinical Hospital
2015	Professor of Neurology, 'Carol Davila' University School of Medicine, Colentina Clinical Hospital

AWARDS

1999 Beaufour-Ipsen prize for the best research study in neurology
2000 Young histochemist award - International Society of Histochemistry and Cytochemistry
2004 Diploma of scientific merit – 'Victor Babeș' National Institute of Pathology
2007 'Victor Babeș' Award of Romanian Academy for medical research
2010 Science and Art National Foundation Award of Excellence for research in the field of Neuroscience and Neuropathology
2014 'Brain Networking' Foundation Award of Romanian Academy of Medical Sciences, for developing Neurology nationally and internationally.

OTHER CURRENT ACTIVITIES

Editor in Chief of Romanian Journal of Neurology (2016 –) and former Executive Editor (2001-2016)

President of the Romanian Society of Neurology (2017 –) and former Secretary General (2001-2013)

Research director of the Society for the Study of Neuroprotection and Neuroplasticity (2005 –)

Vicepresident of 'Carol Davila' University of Medicine and Pharmacy Bucharest (2016 –)

Vicepresident of Bucharest College of Physicians (2015 –)

SELECTED PUBLICATIONS

1. Wallin A, Kapaki E, Boban M, Engelborghs S, Hermann DM, Huisa B, Jonsson M, Kramberger MG, Lossi L, Malojcic B, Mehrabian S, Merighi A, Mukaetova-Ladinska EB, Paraskevas GP, Popescu BO, Ravid R, Traykov L, Tsivgoulis G, Weinstein G, Korczyn A, Bjerke M, Rosenberg G. Biochemical markers in vascular cognitive impairment associated with subcortical small vessel disease - A consensus report. BMC Neurol. 2017; 17:102.

2. Ceafalan LC, Popescu BO. Juxtacerebral Tissue Regeneration Potential: Telocytes Contribution. Adv Exp Med Biol. 2016;913:397-402.

3. Gheorghiu M, David S, Polonschii C, Olaru A, Gaspar S, Bajenaru O, Popescu BO, Gheorghiu E. Label free sensing platform for amyloid fibrils effect on living cells. Biosens Bioelectron. 2014, 52:89-97.

4. Enciu AM, Gherghiceanu M, Popescu BO. Triggers and effectors of oxidative stress at blood-brain barrier level: relevance for brain ageing and neurodegeneration. Oxid Med Cell Longev. 2013;2013:297512.

5. Popescu BO, Gherghiceanu M, Kostin S, Ceafalan L, Popescu LM. Telocytes in meninges and choroid plexus. Neurosci Lett. 2012, 516:265-9.

6. Hort J, O'Brien JT, Gainotti G, Pirttila T, Popescu BO, Rektorova I, Sorbi S, Scheltens P; EFNS Scientist Panel on Dementia. EFNS guidelines for the diagnosis and management of Alzheimer's disease. Eur J Neurol. 2010, 17:1236-48.

7. Popescu BO, Toescu EC, Popescu LM, Bajenaru O, Muresanu DF, Schultzberg M, Bogdanovic N. Blood-brain barrier alterations in ageing and dementia. J Neurol Sci, 283:99-106, 2009.

8. Cowburn RF, Popescu BO, Ankarcrona M, Dehvari N, Cedazo-Minguez A. Presenilin-mediated signal transduction. Physiol Behav. 2007;92:93-7.

9. Popescu BO, Cedazo-Minguez A, Benedikz E, Nishimura T, Winblad B, Ankarcrona M, Cowburn RF. Gamma-secretase activity of presenilin 1 regulates acetylcholine muscarinic receptor-mediated signal transduction. J Biol Chem. 2004;279:6455-64.

10. Cedazo-Mínguez A, Popescu BO, Blanco-Millán JM, Akterin S, Pei JJ, Winblad B, Cowburn RF. Apolipoprotein E and beta-amyloid (1-42) regulation of glycogen synthase kinase-3beta. J Neurochem. 2003;87:1152-64.

HARI SHANKER SHARMA
SWEDEN

Hari Shanker Sharma, Director of Research (International Experimental Central Nervous System Injury & Repair, IECNSIR), University Hospital, Uppsala University is Professor of Neurobiology (MRC), Docent in Neuroanatomy (UU) and is currently affiliated with Department of Surgical Sciences, Division of Anesthesiology and Intensive Care Medicine, Uppsala University, Sweden. Hari Sharma was born on January 15, 1955 in an Industrialist town Dalmianagar (Bihar), India. He did his Bachelor of Science with Honors from the prestigious L. S. College Muzaffarpur in 1973 and secured 1st position in his batch. He obtained his Master Degree from Bihar University with special expertise in Cell Biology in 1976 and awarded Gold Medal of Bihar University for securing 1st potion in the 1st Class. Hari Sharma joined the group of Professor Prasanta Kumar Dey, a neurophysiologist by training in the Department of Physiology, Institute of Medical; Sciences, Banaras Hindu University, Varanasi in 1977 to obtain Doctor of Philosophy Degree (D.Phil.) in Neurosciences and was awarded Ph.D. in 1982 on "Blood-Brain Barrier in Stress." Hari Sharma after carrying out a series of Government of India funded Research Projects on the BBB and brain dysfunction (1982–1987), joined the lab of Neuropathology at Uppsala University with Professor Yngve Olsson in 1988 to investigate passage of tracer transport across the BBB caused by stress or traumatic insults to the Brain and Spinal cord at light and electron microscopy. Dr. Sharma awarded the prestigious Alexander von Humboldt Foundation Fellowship of German Government (1989–1991) to work on hyperthermia induced BBB dysfunction at the ultrastructural level in the laboratory of Professor Jorge Cervós-Navarro (a living "Legend in Neuropathology in Europe"). Dr. Sharma joined again Uppsala University and established a network of collaboration on "Experimental CNS Injury Research Group" as a lead investigator with eminent collaborators in various parts of Europe, USA, and Australia (1991–). On his work on hyperthermia Dr. Sharma received the prestigious Neuroanatomy award "Rönnows Research prize" of Uppsala University for "best neuroanatomical research of the year 1996" followed by the Award of the Degree of Doctor of Medical Sciences of Uppsala University in Neuroanatomy in 1999 and selected for the Best Thesis Award of the Medical faculty, "The Hwassers Prize" of 1999. On his meticulous works on the Blood Brain barrier and Brain edema (2000–2003) Dr. Sharma earned the prestigious title of "Docent

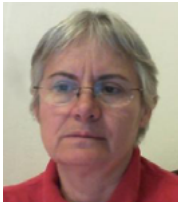
in Neuroanatomy" of Medical Faculty, Uppsala University in April 2004. Currently his main research interest is Neuroprotection and Neuroregeneration, in relation to the Blood-brain barrier in stress, trauma, and drugs of abuse in health and disease.

Dr. Sharma on his research on brain pathology and neuroprotection in different models received the prestigious awards from The Laerdal Foundation of Acute Medicine, Stavanger, Norway, in 2005 followed by Distinguished International Scientists Collaboration Award by National Institute on Drug Abuse (NIDA), Baltimore, MD (2006–2008). His recent work on 5-HT3 receptor mediated neuroprotection in morphine withdrawal induced neurotoxicity won the coveted prize of Best Investigator Award 2008 and Best Scientific Presentation by European Federation of the International Association for Study of Pain (ISAP), and Awarded during their VI Annual Meeting in Lisbon, September 9–12, 2008. His recent research is aimed to find out the role of nanoparticles in Neurodegeneration and Neuroprotection using various treatment strategies that is supported by European Aerospace Research and Development (EOARD), London, UK and US Air Force Research Laboratory, Wright Patterson Air Force Base, Dayton, Oh, USA. On his works on Blood–brain barrier in hypertension and diabetes together with Romanian colleagues, University of Medicine and Pharmacy "Iuliu Hatieganu," Cluj-Napoca, Romania awarded Dr. Sharma with Honorary Doctorate of Medical Sciences in 2009. Dr. Sharma's work over 30 years on the blood-brain barrier and brain edema won him the US Neurosurgeon Dr. Anthony Marmarou Award (2011) by the International Brain Edema Society at their 15th Congress in Tokyo, Japan, November 20–24, 2011. His works on Nanoneuroscience and development of nanomedicine to treat the CNS injuries has won accolades at various Government and International Scotties or Organization across the World. Accordingly Dr Sharma was decorated with the most prestigious "Hind Rattan Award 2012" (Jewel of India) on the eve of Republic Day of India 25th January 2012 and Mahatma Gandhi Pravasi Gold Medal on October 12, 2012 in House of Lords, London, UK. Based on his outstanding contribution in Nanoneuropharmacology and nanodrug delivery to treat central nervous system (CNS) diseases including Neurodegenerative diseases such as Alzheimer's and Parkinson's Hari Sharma bestowed with Prestigious Gujarat Govt. International Visionary Award 2012 in a glittering function in Ahmedabad, Gujarat on Nov 23, 2012. His further research on co-morbidity factors e.g., hypertension or diabetes may alter pathophysiology of brain injuries and require higher drug dose or nanodrug delivery of neuroprotective agents to minimize brain dysfunction is recognized by Govt. of India by presenting him one of the coveted "Bharat Jyoti Award 2013" (Glory of India) by His Excellency Governor Balmiki Prasad Singh in Hotel Le Meridien, New Delhi on Jan 12, 2013. Dr Sharma also received the highest Award of the Govt. of India "Navrattan Award 2013" (Nine Jewels of India) on the eve of 64th Republic Day of India (25th January 2013) by His Excellency Governor Bhishma Narain Singh, in Ashok Hotel, New Delhi. Hari Sharma is Founding President of the Global College of Neuroprotection & Neuroregeneration (2004-); Elected President of International Association of Neurorestoratology (IANR) (2014-); and selected Senior Expert of Asia-Pacific CEO Association, Worldwide (APCEO) (2012-) for his contribution to uplift scientific research in many countries Globally that may have better economic and social benefit for the mankind. Hari Sharma awarded coveted National Award "Sword of Honor" 2015 by Govt. of India on the eve of 66th Republic Day of India 25th January 2015 in New Delhi Eros Hotel International during the 34th Non-resident Indian (NRI) conclave by Speaker of Lok Sabha (Indian Parliament) the Hon'ble Mrs Meira Kumar of Indian national Congress (INC) Party for the continued extraordinary achievement in nanomedicine for public health awareness and

possible therapeutic measures.

Based on his expertise in Nanoneuroscience, Hari Sharma was also invited to organize and chair Nanosymposium in Society for Neuroscience meetings in Chicago (2009), San Diego (2010), Washington DC (2011), New Orleans (2012), San Diego (2013) and Washington DC (2014, Nov 15-19, 2014); Chair Neurobiology Symposium 14th Int. Amino Acid & Peptide, Vienna, Austria; Keynote speaker & Chair Nanotechnology-2015, Frankfurt, Germany. Hari Sharma is also the recipient of Prestigious US TechConnect Global Innovation Award 2013 at the National Innovation Summit & Innovation Showcase, Washington DC May 12-16, 2013 on his work on Nanowired cerebrolysin in Neuropathic Pain. Hari Sharma Served as one of the Poster Judges in 2014 180th Annual Meeting of American Association of Advancement of Science (AAAS) Held in Chicago, IL, USA Feb 13-17, 2014 followed by 181st Annual Meeting of American Association of Advancement of Science (AAAS) held in San José, CA, USA Feb 12-16, 2015. Hari Sharma has published over 350 research papers and 85 reviews, 14 monographs, and 80 international book chapters and edited 18 book volumes with Current H-index = 38 (ISI Database) as of today. He served as Guest Editor of Curr. Pharm. Desig. (2005, 2007, 2010–); J Neural. Transmiss. (2006, 2011–) and is the founding Editor-in-Chief of Int. J. Neuroprotec. Neuroregen. (2004–), UK and the European Editor of Central Nervous system-Neurological Disorders Drug Target (2013-). Dr. Sharma is on board of various International Journals including CNS and Neurological Disorders-Drug Targets, USA (2010), Journal of Neurodegeneration and Regeneration, USA (2009–); Austin Journal of Nanomedicine & Nanotechnology (2014-); and is associate editor of Journal of Nanoscience and Nanotechnology (Nanoneuroscience 2006–), USA, Review Editor—Frontiers in Neuroengineering (2007–), Frontiers in Neurorestoratology, and Associate Editor of Frontiers in Aging Neuroscience (2008–), Frontiers of Fractal Physiology (2010–), Switzerland, Journal of Neurorestoratology, Dove Medical press, London, UK (2012–), WebMD Central, Neurology Faculty, Advisory Board Member (2010–), World Journal of Pharmacology (2011–), Journal of Physical Medicine and Rehabilitation, USA (2012–). Dr. Sharma served as volume editor of several progress in Brain research series (Volumes 104, 115, 162 and 180), International review of Neurobiology (Volume 82 and 102) and other Springer Volumes on Spinal cord injury (1988) and Handbook of Neurochemistry (2009) apart from stand alone books (Elsevier, Springer and Academic Press since 1994). Dr. Hari Sharma is invited to join several National Academies of repute including New York Academy fo Science, USA (since 1994–); International Academy of Stress, New York (2003–), Swedish Academy of Pharmaceutical Sciences (2010–). Dr. Sharma has served as an expert evaluator and advisor to various Boards, Councils and Institutions for their Research Grants including Wellcome Trust, London, UK (2011–); Catalan Agency for Health Information and Quality, TV3 (2010–), European Commission Projects (2002–), European Nanomed Council (2009–), Ministry of Health Science Foundation; Medical research Council and University Commission of Grants in various countries in Europe, USA, UK, Canada, Hong Kong, Singapore and in Australia. Some of the notable organizations include: Australia and New Zealand Health Council (2000–); University Commission of Grants, Hong Kong (2002–), Singapore Medical Council, Singapore (2003–); UK Charity Organization "Research on Ageing: Help the Aged" (2003–); Euro Nanomed (2010–). Dr. Sharma is designated as ambassador of the City of Uppsala 2007, by Uppsala County administration and Uppsala Tourism for promoting Uppsala, Sweden as International Research Collaboration/Meetings and Conference Destination. Dr. Hari Sharma

is married to Aruna Sharma (nee Bajpai) since 23rd April 1979 and has two sons. Dr Sharma is designated as Visiting Professor, University of Basque Country, Bilbao, Spain supported by Basque Govt. Foundation. His political affiliation belongs to Swedish Social Democrat Party (Socialdemokraterna, Sverige) where he is associated with the development of Education and Research matters in Sweden actively.



MIHAELA SIMU
ROMANIA

Mihaela Simu is presently working as Professor and Chairman of the Neurology Department II of University of Medicine and Pharmacy "Victor Babes" - Timisoara.

Professor Simu is currently Vicepresident of the Romanian Society of Neurology, one of the coordinators of the National Programme for the treatment of Multiple Sclerosis in Romania, active member of ENS, EFNS, American Academy of Neurology, and MDS.

Professor Simu has been and is involved as principal investigator in more than 20 international and national multicentric trials and 4 national research grants, and is presently the Romanian project leader in the BIOMARK HURO project (cooperation between Szeged and Timisoara medical Universities). Her interests are directed mainly in clinical neurology, in particular in multiple sclerosis, Parkinson disease, dementia, cerebrovascular and focal dystonias.
As author or co-author, has published and reported more than 100 national and international scientific papers, 3 medical books and 2 neurology courses in a bilingual (Romanian / English) version.

STEPHEN SKAPER
ITALY

STUDIES: B.S. (chemistry) Illinois Institute of Technology (1969); Ph.D. (biochemistry) University of South Dakota (1973); Laurea in chemistry, University of Padua (1990)

CAREER: NIH Postdoctoral Fellow, Department of Medicine, University of California, San Diego (1973-1976); Fellow in Human Genetics, Department of Pediatrics, Case Western Reserve University, Cleveland, Ohio (1977); Postgraduate Research Biologist, Department of Biology, University of California, San Diego (1978); Assistant Research Biologist, Department of Biology, University of California, San Diego (1979-1982); Associate Research Biologist, Department of Biology, University of California, San Diego (1983-1987); Head, Laboratory of Neuropharmacology, Neuroscience Research Laboratories, Fidia S.p.A. - Abano Terme, Italy (1987-1993); Principal Scientist and Head, Laboratory of Cell Biology, Researchlife S.c.p.A. (a Lifegroup Company), Biomedical Research Center, St. Thomas Hospital, Castelfranco Veneto (TV), Italy (1993-1996); Visiting Professor, Department of Pharmacology, University of Padua, Padua, Italy (1997); Assistant Director, Molecular Neurobiology Research, SmithKline Beecham Pharmaceuticals, New Frontiers Science Park, Harlow, United Kingdom (1998-2001); Senior Group Leader, Migraine and Stroke Research, Neurology & GI Centre of Excellence for Drug Discovery, GlaxoSmithKline R & D Limited, Harlow, United Kingdom (2002-2003); Senior Group Leader, Neurodegeneration Research, Neurology & GI Centre of Excellence for Drug Discovery, GlaxoSmithKline R & D Limited, Harlow, United Kingdom (2004-2007); Senior Group Leader, Target Validation (Cognition and Pain), Centre of Excellence for Drug Discovery, GlaxoSmithKline R&D Limited, Harlow, United Kingdom (2008); Adjunct Professor, Department of Pharmacology and Anesthesiology, University of Padua, Faculty of Medicine, Padua, Italy (2009-present).

PROFESSIONAL MEMBERSHIPS: Sigma CI (The Scientific Research Society); Phi Lambda Upsilon (honorary chemistry society); Alpha Chi Sigma (professional society in chemistry/ chemical engineering); Society for Neuroscience; International Society for Cerebral Blood Flow and Metabolism

JOURNALS EDITED: Editor-in-Chief, CNS & Neurological Disorders – Drug Targets; Associate Editor, American Journal of Neuroprotection and Neuroregeneration; Editorial Board Member, Scientific Reports (Neuroscience); Councilor, International Association of Neurorestoratology
REVIEW PANELS: The Wellcome Trust (UK), Biotechnology and Biological Sciences Research Council (BBSRC) (UK), Austrian Science Fund (ad hoc review panel to evaluate interdisciplinary doctoral programmes in neuroscience)

RESEARCH INTERESTS: Molecular biology and cellular mechanisms of cell death in CNS ageing, neurodegenerative disorders and neuroinflammation, astrocyte-microglia interactions, pharmacological modulation of oligodendrocyte precursor maturation and demyelinating diseases. Track record of drug discovery project leadership in kinases, ion channels, G-protein-coupled receptors, DNA repair enzymes, growth factors, identification and optimization of tools for target validation studies, utilising RNAi, conditional and viral knockdown\outs\ins, transcriptomics, proteomics and in vitro cell-based disease or mechanism relevant assays in rodent systems.

PUBLICATIONS: OVER 300 publications in the neurosciences, including book chapters and symposia proceedings.
PATENTS: Pharmaceutical compositions containing monosialoganglioside GM1 or derivative thereof suitable for the treatment of Parkinson's disease (Patent No.: US 6,620,792 B1), use of CRF receptor agonists for the treatment or prophylaxis of diseases, for example neurodegenerative diseases (US 2003/0186867 A1), treatment of conditions with a need of GSK-3 inhibition (PCT WO 02/062387 A1), use of CRF receptor agonists for the treatment or prophylaxis of diseases, for example neurodegenerative diseases (PCT WO 01/72326 A1), use of monosialoganglioside GM1 or N-dichloro-acetyl-lyso-GM1 for preventing or reversing neuronal degeneration induced by long term treatment with L-DOPA in the therapy of Parkinson's disease (EP 0 770 389 A1)

REVIEWER FOR JOURNALS: Journal of Neuroscience, PNAS, Nature Reviews, The FASEB Journal, Journal of Neurochemistry, Journal of Neuroinflammation, Neurobiology of Disease, Neurobiology of Aging, Glia, Neuroscience, Apoptosis, PLoS One Biology, Journal of Pharmacology and Experimental Therapeutics, British Journal of Pharmacology, European Journal of Pharmacology, Journal of Neurological Sciences.

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 at the University and Institute for Research and Medical Care IRCCS San Raffaele 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.

Professor Stocchi pioneered (along with Dr. Obeso and Tom Chase) in the 80's the concept of "continuous dopaminergic stimulation" for Parkinson's disease and started the subcutaneous and intraintestinal infusion of dopaminergic drugs. 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 extrapiramidal committee, the European Clinical Neuropharmacology Society and the European Federation Neurological Society.

JÓZSEF SZÁSZ
ROMANIA

PERSONAL DATA:
- Surname: Szász
- First name: József Attila
- Date and place of birth: 02.APR.1967, Sighisoara, Romania

EDUCATION:
- University of Medicine and Pharmacy (UMPh), Tirgu-Mures, Romania (1986-1992)
- PhD thesis: Motor complications and therapy in advanced Parkinson's Disease (2005)
  University of Medicine and Pharmacy, Tirgu-Mures, Romania

WORK EXPERIENCE :
- Resident in Neurology (1992-1998)
- Neurologist (1998-2003)
- Senior neurologist (2003-)
- Assist. Prof. at the Department of Neurology UMPh Tg.Mures (1999-2009)
- Senior Lecturer at the Department of Neurology UMPh Tg.Mures (2009-)

TEACHING ACTIVITY
IN ROMANIAN: clinical practice in neurology for students and resident doctors (1999-)

IN HUNGARIAN: lectures in adult neurology (2005-)

CLINICAL TRIALS

Principal investigator in 10, investigator in 6, phase III, clinical studies

THE MOST IMPORTANT PUBLICATIONS:

1. Kerenyi L, Kardos L, Szász J, Szatmari S, Bereczki D, Hegedus K, Csiba L. Factors influencing hemorrhagic transformation in ischemic stroke: a clinicopathological comparison. European Journal of Neurology 2006 Nov;13(11):1251-1255. ISSN 1351-5101 IF: 2,244
2. Szatmari S, Pascu I, Mihalka L, Mulesa SV, Fekete I, Fulesdi B, Csiba L, Zselyuk G, Szász J, Gebefugi J, Nicolescu S, Vasiesiu D, Smolanka VI, Bereczki D: The Mures-Uzhgorod-Debrecen study: a comparison of hospital stroke services in Central-Eastern Europe. European Journal of Neurology 2002;9:1-4 ISSN 1351-5101 IF: 1,565
3. Rupam Borgohain, Jozsef Szász, P. Stanzione, et al. Randomized trial of safinamide add-on to levodopa in Parkinson's disease with motor fluctuations. Mov Disord, 2014, 29:229–237
4. Rupam Borgohain, Jozsef Szász, Paolo Stanzione, et al. Two-Year, Randomized, Controlled Study of Safinamide as Add-on to Levodopa in Mid to Late Parkinson's Disease Mov Disord, 2014, 29: 1273–1280
5. Fekete K, Szatmari S, Szőcs I, Szekeres C, Szász J, Mihálka L, Smolanka V, Kardos L, Csiba L, Bereczki D. Prestroke alcohol consumption and smoking are not associated with stroke severity, disability at discharge, and case fatality. J Stroke Cerebrovasc Dis. 2014 Jan;23(1):e31-37 IF: 1.984

FIELDS OF INTEREST: movement disorders, dementia, stroke, chronic pain, epilepsy,

CRISTINA TIU

ROMANIA

I always considered myself an optimistic person but still there are certain things which I find depressing, and a CV is one of those things. Suddenly it is not about you anymore, but about a person who had a number of achievements which are rarely the things you find interesting about yourself, and all your life is compressed in half a page.

I have graduated the University of Medicine and Pharmacy "Carol Davila" in Bucharest in 1987 and I started my career in neurology in 1991, as a resident in the Department of Neurology of the University Hospital Bucharest, the same place where now I am Associated

Professor and Head of the Stroke Unit. I have two favorite domains: vascular pathology and multiple sclerosis. My main interest is in cerebrovascular diseases, I am coordinating a teaching course for cervical and cerebral ultrasonography and I followed the European Master in Stroke Medicine Programme in Austria.

My involvement in MS field started in year 2000, when the first patients in Romania were treated with DMTs due to a constant effort (read fight) of three people: Prof. Ioan Pascu, Prof. Alexandru Serbanescu and Prof. Ovidiu Băjenaru. Since then, I have followed-up hundreds of patients with MS, and I am now the coordinator of the University Hospital Bucharest Center for the National Programme for treating the Patients with Multiple Sclerosis. I have participated, together with my colleagues in the majority of the main International Clinical Trials in MS in the last decade and we had also several original scientific work related to clinical aspects of MS patients. I am one of the two representatives of the Romanian Society of Neurology in the Board of ECTRIMS.
In the end of my half page, I am looking forward to future goals: development of basic research in MS in Romania, a National MS Registry, better drugs, a better education for patients and doctors, a better me...

SHIV TRIPATHI
INDIA

Prof. Shiv K. Tripathi has 20 years of professional experience in teaching research and education management. Formerly he was the Professor and Dean (Strategic Planning and International Relations) at CMR University, Bangalore (India); Professor and Head of Business Studies at Mzumbe University Dar Es Salaam Campus (Tanzania) and Dean, Faculty of Management at VBS Purvanchal University (India). Prof. Tripathi was a visiting faculty to Coventry University (UK) and Indian Institute of Foreign Trade (India) programs in Tanzania. As a trainer and facilitator, he has worked with a number of companies and institutions including National Thermal Power Corporation (India), University of Witwatersand (South Africa) and International Society for Advancement of Scientific Publications (INASP, UK). He has been a guest speaker in The University of St. Gallen's master course in "International Management". He has delivered invited presentation in a number of international conferences in India, Brazil, Egypt, Germany, Switzerland and USA. His part-time corporate experience includes advisory and board membership roles in different companies in India, South Africa and Tanzania.

Prof. Tripathi has supervised 11 students for an award of Ph.D. degree in Business Management and has been a member in Doctoral thesis committee of different universities in India, Tanzania and France. He has published more than 70 articles, book-chapters and

case-studies including two books on 'Management Education' and 'Executive Education' theme. He has been member in United Nations Principles for Responsible Management Education (PRME) Global Working Group on 'Anti-Corruption in Management Curricula' and 'Poverty Eradication through Management Education'.

He is actively involved in Editorial / Advisory/Review Board of a number of Indian and International Journals and is regular reviewer in International Conferences including Academy of Management (AOM). His professional association includes membership of professional bodies like CEEMAN (Slovenia), IESE Alumni Association (Spain) and Project Management Institute (PMI).

Prof. Tripathi currently has interest in strategy, sustainability and higher education management inter-linkages. In addition, he is also interested in issues related to ethics, integrity and professional responsibility of managers.

LÁSZLÓ VÉCSEI
HUNGARY

1979	MD, Albert Szent-Györgyi Medical University, Szeged, Hungary
1984	Board examination in chemical pathology
1986	CSc (PhD, University of Szeged)
1987	Board examination in clinical neurology
1987-1989	Research fellow in Neuroscience, University of Lund, Sweden (PhD, University of Lund)
1989-1990	Research fellow in Experimental Neurology, Harvard Medical School, Massachusets General Hospital, Boston, USA
1992	DSc, Hungarian Academy of Sciences
1993-	Professor and Director of Neurology, University of Szeged
2001-2007	Corresponding Member of Hungarian Academy of Sciences
2007-	Ordinary Member of Hungarian Academy of Sciences
2010-2014	Dean of the Medical Faculty, Univ. Szeged
2011-2014	President, Medical Class, Hungarian Academy of Sciences

László Vécsei was Dean of Medical Faculty (2010-2014), University of Szeged, Past-President of the Medical Class of the Hungarian Academy of Sciences, of the Society of Hungarian Neurologists and Psychiatrists and of the Hungarian Medical Association, General Secretary of the Danube Symposium for Neurological Sciences, Past-Secretary of European Society for

Clinical Neuropharmacology (ESCNP), Vice-President of European Federation of Neurological Societies (EFNS; 2011-2014). His main interests are: headache, multiple sclerosis and extrapyramidal disorders (especially the role of kynurenines). Published PUBMED papers: 470; books and monographs: 15; cumulative citation: 11.400/8.400 (www.mtmt.hu).
During the last years he served in EFNS as a member of the Scientific-, Program-, Liasion and European Affairs- and European Cooperation Committees, the 1st European Neurology Board Exam Committee, and Editorial Board of European Journal of Neurology. He was President of the Panel of Developmental Neurology and the Educational Committee and serves in the Headache Panel (European Academy of Neurology). He was Chairman of the Local Arrangements Committee of the 15th EFNS Congress (Budapest, 2011).

JOHANNES VESTER
GERMANY

Born, 1952, he specialized in Veterinary Medicine between 1971 and 1974 at the University in Munich, then changed to the University in Cologne in 1974 and specialized in Human Medicine from 1974 to 1980. In 1976 to 1979, he additionally studied biometric methods for pharmacology and clinical research at the Institute for Data Analysis and Study Planning in Munich.

While studying human medicine, he completed research work on pattern recognition in the visual brain and developed a pharmacodynamic Neuron Simulation Model at the Institute for Medical Documentation and Statistics of the University at Cologne.

From 1985 to 1995, he was member of the Ultrahigh Dexamethasone Head Injury Study Group and the leading biometrician of the German GUDHIS project in Traumatic Brain Injury, involving 10 Departments of Neurosurgery in Germany.

Since 1982 he holds > 100 advanced training courses on biometry for professionals in clinical research as well as teaching courses for universitary institutions and international societies.

Since 1995 he is Senior Consultant for Biometry & Clinical Research. He planned and evaluated about 150 randomized clinical studies worldwide.

Since 2013 Elected Member of the International Scientific Committee of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN).

Since 2013 Elected Member of the World Academy for Multidisciplinary Neurotraumatology (AMN), since 2016 Elected Member of the Presidium of the AMN.

Since 2015 Member of the PhD Neuroscience International Faculty, "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania

Since 2017 Invited Associate Professor, Department of Neuroscience, "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania

He is head of the Multidimensional Department at the Institute for Data Analysis and Study Planning, and statistical peer reviewer for leading medical journals such as Stroke (American Heart Association).

He is member of various international Advisory Boards and Steering Committees including participation as biometric expert in regulatory authority panels, in FDA, EMA, and BfArM hearings, and in workshops of the International Biometric Society (IBS)

ANDREAS WINKLER
AUSTRIA

Graduation at the Medical University Vienna,
Postgraduate study at the National Institute of Neurology and Neurosurgery, Queen Square, London, Postgraduate study at the Donau-University Krems/ Neurological Rehabilitation,
Diploma for Geriatrics/Palliative medicine
Diploma medical specialist for neurology
Scientific Chair of the BrainDays, Neuro-Competence Center
Head of Department of Neurology, Haus der Barmherzigkeit, Vienna
Diploma for the postgraduate study of medical executives
Since 2010 Head of Neurological Department at the Clinic Pirawarth, Medical Rehabilitation Center, Bad Pirawarth
Vice-President of Alzheimer Austria,

President of the Austrian Society for Clinical Sciences in Neurorehabilitation (ÖGKFR)
More than 180 scientific publications in neurological and other medical journals, member of various international scientific boards and committees

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