International School of Neurology

14TH INTERNATIONAL SUMMER SCHOOL OF NEUROLOGY

8 – 10 JULY 2019 | HOTEL ALPIN | POIANA BRASOV | BRASOV | ROMANIA

BOOK OF ABSTRACTS | ISSUE 14/2019
ISSN 2501-8957
ISSN-L 2501-8957

www.ssnn.ro

PROGRAM COORDINATORS

NATAN M. BORNSTEIN

Director of Neurological Division,
Shaare Zedek Medical Center

Vice President of the World Stroke Organization (WSO)

Chairman of the Israeli Neurological Association

Doctor Honoris Causa,
"Iuliu Hatieganu" University of Medicine and Pharmacy,
Cluj-Napoca, Romania

DAFIN F. MUREȘANU

Co-Chair EAN Scientific Panel Neurorehabilitation
Chairman of EAN Communication and Liaison Committee

President of the European Federation of NeuroRehabilitation Societies (EFNR)

Past President of the Romanian Society of Neurology

Professor of Neurology, Chairman Department of Neurosciences "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania

THE SOCIETY FOR THE STUDY OF NEUROPROTECTION AND NEUROPLASTICITY
LOCAL SCIENTIFIC COMMITTEE

OVIDIU BĂJENARU | PRESIDENT

Honorary President ad Vitam of the Romanian Society of Neurology
University of Medicine and Pharmacy "Carol Davila" Bucharest
Director of the Department of Neurology,
Neurosurgery and Psychiatry
Chairman and Head of Dept. Neurology - University Emergency
Hospital Bucharest

ANCA BUZOIANU | VICE PRESIDENT

Dean,
Faculty of Medicine,
University of Medicine and Pharmacy "Iuliu Hatieganu",
Cluj-Napoca, Romania

ŞTEFAN FLORIAN | VICE PRESIDENT

Head of Neurosurgery Department, Cluj County Emergency Hospital, Romania
President of the Senate
University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca, Romania
Past- President of the Romanian Society of Neurosurgery

BOGDAN O. POPESCU | DIRECTOR OF RESEARCH

President of Romanian Society of Neurology
Vice-Rector Carol Davila' University of Medicine and Pharmacy
Department of Neurology, School of Medicine, 'Carol Davila' University of Medicine and Pharmacy,
Colentina Clinical Hospital Bucharest, Romania

FACULTY

IN ALPHABETICAL ORDER

Ovidiu Băjenaru / Romania
Dana Boering / Germany
Natan Bornstein / Israel
Daniel-Tudor Cosma / Romania
László Csiba / Hungary
Günther Deuschl / Germany
Cristian Falup Pecurariu / Romania
Antonio Federico / Italy
Mihail Gavriliuc / Rep. of Moldova
Stanislav Groppa / Rep. of Moldova
Max Hilz / Germany
Volker Hömberg / Germany
Georgeta Inceu / Romania
Peter Jenner / UK
Amos Korczyn / Israel
Vitalie Lisnic / Rep. of Moldova
Dafin F. Mureșanu / Romania
Bogdan Popescu / Romania
Raad Shakir / UK
Hari Shanker Sharma / Sweden
Jozsef Szász / Romania
Cristina Tiu / Romania
Eugen Trinka / Austria
Johannes Vester / Germany
David Vodušek / Slovenia
Camelia Vonica / Romania

SCIENTIFIC PROGRAM

14TH INTERNATIONAL SUMMER SCHOOL OF NEUROLOGY

8 – 10 JULY 2019 | HOTEL ALPIN | POIANA BRASOV | BRASOV | ROMANIA

MONDAY, 8 JULY 2019

08:45 – 09:00	***WELCOME ADDRESS***

SESSION 1 | CHAIRPERSONS: Volker Hömberg (Germany), Peter Jenner (UK)

09:00 – 09:30	The treatment of Parkinson's disease: What is new Günther Deuschl (Germany)
09:30 – 10:00	Neurological comorbidity in mental disorders Raad Shakir (UK)
10:00 – 10:30	Post stroke depression - a neglected issue Natan Bornstein (Israel)
10:30 – 11:00	Results of the CAPTAIN trials - new horizon in TBI treatment Dafin F. Mureșanu (Romania)
11:00 – 11:30	***COFFEE BREAK***

SESSION 2 | CHAIRPERSONS: Raad Shakir (UK), Günther Deuschl (Germany)

11:30 – 12:00	Do we need a new conception of neuropsychology? Volker Hömberg (Germany)
12:00 – 12:30	Visual information and neurocognitive functions Ovidiu Băjenaru (Romania)
12:30 – 13:00	The concept of high quality, non-interventional comparative effectiveness in neurorehabilitation - new pathways within the framework of evidence-based medicine Johannes Vester (Germany)
13:00 – 13:30	Stroke risk factors in the population of Republic of Moldova and strategies of prevention Stanislav Groppa (Rep. of Moldova)
13:30 – 15:00	***LUNCH BREAK***

SESSION 3 | CHAIRPERSONS: Ovidiu Băjenaru (Romania), Hari Shanker Sharma (Sweden)

15:00 – 15:30	Fake news in neuroscience Amos Korczyn (Israel)
15:30 – 16:00	Continuous drug delivery in APD: Now and the future Peter Jenner (UK)
16:00 – 16:30	Making the most in APD: non oral approach Peter Jenner (UK)
16:30 – 17:00	***COFFEE BREAK***

SESSION 4 | CHAIRPERSONS: Amos Korczyn (Israel),
Bogdan Popescu (Romania)

17:00 – 17:30	Alzheimer's disease neuropathology is exacerbated following traumatic brain injury. Neuroprotection by co-administration of nanowired mesenchymal stem cells and trophic factors Hari Shanker Sharma (Sweden)
17:30 – 18:00	Prevention of dementia Bogdan Popescu (Romania)
18:00 – 18:30	Atypical Parkinsonism Cristian Falup Pecurariu (Romania)
18:30 – 19:00	Management of Advanced Parkinson's Disease: DAT - limitations and unanswered questions. How early DAT should be initiated? (including Case presentations) Jozsef Szász (Romania)

TUESDAY, 9 JULY 2019

SESSION 5 | CHAIRPERSONS: Natan Bornstein (Israel),
Dafin F. Mureșanu (Romania)

08:30 – 09:15	Time is Brain, TIA as an Emergency Natan Bornstein (Israel)
09:15 – 10:00	Secondary stroke prevention Natan Bornstein (Israel)
10:00 – 10:45	Management of symptomatic carotid stenosis Natan Bornstein (Israel)
10:45 – 11:15	***COFFEE BREAK***

SESSION 6 | CHAIRPERSONS: Natan Bornstein (Israel), László Csiba (Hungary)

11:15 – 12:00	Challenges and opportunities in stroke recovery Dafin F. Mureșanu (Romania)
12:00 – 12:45	From neurobiology to evidence-based medicine concepts in neurorehabilitation after stroke Dafin F. Mureșanu (Romania)
12:45 – 13:15	Silent brain infarcts. Treat or not to treat? László Csiba (Hungary)
13:15 – 13:45	Particular aspects of diagnostic and treatment of the subarachnoid haemorrhage Cristina Tiu (Romania)
13:45 – 15:00	***LUNCH BREAK***

SESSION 7 | CHAIRPERSONS: Johannes Vester (Germany), Eugen Trinka (Austria)

15:00 – 15:30	EEG in non-convulsive status epilepticus – a case based discussion Eugen Trinka (Austria)
15:30 – 16:15	Acute stroke treatment (Case presentations) Natan Bornstein (Israel)
16:15 – 16:45	***COFFEE BREAK***
16:45 – 17:45	Stroke (Case presentations) László Csiba (Hungary)
17:45 – 18:45	Neurorehabilitation (Case presentations) Volker Hömberg (Germany) & Dana Boering (Germany)

WEDNESDAY, 10 JULY 2019

SESSION 8 | CHAIRPERSONS: David Vodušek (Slovenia), Antonio Federico (Italy)

09:00 – 09:30	Update of inherited small vessel diseases Antonio Federico (Italy)
09:30 - 10:00	Central autonomic dysfunction Max Hilz (Germany)
10:00 – 10:30	Pelvic EMG and other neurophysiological tests in uro-neurology David Vodušek (Slovenia)
10:30 – 11:00	Electrophysiological profile of spinal cord diseases Mihail Gavriliuc (Rep. of Moldova)
11:00 – 11:30	***COFFEE BREAK***

SESSION 9 | CHAIRPERSONS: Max Hilz (Germany), Vitalie Lisnic (Rep. of Moldova)

11:30 – 12:00	Inflammatory neuropathies in diabetes mellitus: diagnosis and management Vitalie Lisnic (Rep. of Moldova)
12:00 – 12:30	Management of peripheral diabetic neuropathy, from theory to practice - Case presentations Georgeta Inceu (Romania)
12:30 – 13:00	Oral alpha-lipoic acid for the management of peripheral and autonomic diabetic neuropathy - case presentations Camelia Vonica (Romania)
13:00 – 13:30	Podiatrist – the key component of the multidisciplinary team in reducing the amputations in people with diabetic neuropathy Daniel-Tudor Cosma (Romania)
13:30 – 15:00	***LUNCH BREAK***
15:00 – 18:00	***FINAL EXAMINATION***

EACCME

European Accreditation Council for Continuing Medical Education

Accreditation Statement

"The **14th International Summer School of Neurology, Poiana Brasov, Romania, 08/07/2019- 10/07/2019** has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with **19** European CME credits (ECMEC®s). Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity."

"Through an agreement between the Union Européenne des Médecins Spécialistes and the American Medical Association, physicians may convert EACCME® credits to an equivalent number of *AMA PRA Category 1 CreditsTM*. Information on the process to convert EACCME® credit to AMA credit can be found at www.ama-assn.org/education/earn-credit-participation-international-activities.

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

ABSTRACTS

VISUAL INFORMATION AND NEUROCOGNITIVE FUNCTIONS

OVIDIU BĂJENARU
University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

Space representation of the environmental world is a key-element of the neurocognitive activity of the human brain: most of the stimuli from both spaces (peri- & extrapersonal) express as a combination of multisensory information which offer an unique image of the external world, for which the visual information has a major role. The internal brain system for the representation of the environment and of the self (body scheme representation, visceral perceptions) creates the framework for programming, coordination and execution generating the individual behavior (motor, verbal, etc.); in this process the space representation in the brain is not just "a map" for the representation of the environmental world, but it is a neurocognitive integrative complex process of information related to perception (multimodal), action, awareness. The brain perception of the visual information implies beyond the primary visual area (V1), at least other 24 extrastriate areas (associative) for the utilization of the visual information, some with retinotopic organisation, others with different organisation based on the significance of the respective visual stimuli (movement, space integration, written words, face recognition, etc.). There are two different directions of integration: (a) dorsal (occipito-parietal) related to space analysis (movement & action control), and (b) ventral (occipito-temporal) related to the perception of "visual world" and object recognition. All these aspects are systematically presented and analyzed in both physiologic and pathologic medical conditions.

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.

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.

POST STROKE DEPRESSION

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

Stroke is a major cause of long-term physical, cognitive, emotional and behavioral disability. There is poor recognition of the emotional burden after stroke. Depression is abnormal and considered as "emotional distress". Post -stroke Depression (PSD) is the most frequent non-cognitive neuropsychiatric complication affecting up to a third of all ischemic stroke patients. PSD is associated with increased mortality, poorer functional recovery and lower quality of life. Despite its great clinical relevance the relationship between stroke, depression and cognitive impairment remains relatively unexplained and the awareness of . The potential mechanisms of PSD are either neuroanatomical caused by lesions in the frontal areas, or directly affecting neural circuits involving mood regulation, or as a result of psychological adjustment required by the disease. There is controversy regarding the appropriateness of diagnosing depression in the setting of an acute stroke. Geriatric Depression Scale (GDS) is the most widely used.

Regarding treatment there is insufficient randomized evidence to support the routine use of antidepressants for the prevention of depression or to improve recovery from stroke.

The approaches to management should be multidisciplinary including nurses and allied health staff.

PODIATRIST – THE KEY COMPONENT OF THE MULTIDISCIPLINARY TEAM IN REDUCING THE AMPUTATIONS IN PEOPLE WITH DIABETIC NEUROPATHY

DANIEL-TUDOR COSMA
Diabetes, Nutrition and Metabolic diseases Clinical Center, Cluj-Napoca, Romania
Exercise and Physical Activity Study Group (ExPAS)
Society for Diabetic Neuropathy (NeuRoDiab)

The podiatry is a medical specialty that is focused on the study, prevention, diagnosis and medical and surgical treatment of disorders of the foot, ankle and lower extremity. While in English-speaking countries, the term used for the specialists is chiropodist/podiatrist, in many non-English-speaking countries of Europe, the title used may be podologist. Depending on each country, the podiatrist

may have different competencies. The conditions podiatrist treat include: bone and joint disorders, soft tissue and muscular disorders, as well as neurological and circulatory disease. The American Board of Podiatric Orthopedics and Primary Podiatric Medicine (ABPOPPM) offers a comprehensive board qualification and certification process in podiatric medicine and orthopedics as: consultant podiatric surgeon, general podiatric physician, podiatric sports physician, neuro-podiatrist, podiatric vascular specialist, podopaediatrics, forensic podiatry, etc.

When mentioning diabetes, the podiatrist is the key element in the multidisciplinary team of diabetic foot care. Previous studies have clearly showed that podiatric intervention reduced up to 75% and 4 times the amputations and respectively the mortality rate.

Previous studies showed that almost 25% of people with diabetes will develop an ulcer. The increasing incidence of diabetes (estimated to 550 million by 2030) and amputations (every 20 seconds worldwide) demands an aggressive approach. The costs are also impressive, exceeding those allocated for the first five deadliest cancers. Extensive analysis from the US healthcare system demonstrated that each dollar invested in diabetic foot care performed by a podiatrist leads to savings of 51 dollars.

Thus, including a podiatrist in the multidisciplinary team who manages people with diabetic neuropathy is a cost-effective measure.

Key words: podiatry, diabetes, neuropathy, multidisciplinary, team

SILENT BRAIN INFARCTS. TREAT OR NOT TO TREAT?

LÁSZLÓ CSIBA
Dept. of Neurology, Debrecen University, Hungary

The recent development of neuroimaging enabled routinous CT or MR imaging on patients without manifest stroke symptoms. It was observed, that every 4th person (elder than 80y) has one or more silent infarcts. Probably, 8-10x more patients live with silent infarcts in their brains than those with clinically manifest stroke-symptoms. The so-called silent brain infarcts are smaller or larger holes in the white matter or infarct-like absences of cortex without anamnestic data of previous stroke and seemingly without neurological deficits. The brain autopsies found 1demyelination, gliosis and microinfarction in these brain regions, presumably caused by ischemia. The in vivo imaging detected either white matter hyper

intensities on MRI imaging or white matter hypo densities on CT. Using gradient echo or susceptibility weighted MRI (the latter is more sensitive for microbleeds than the first one) microbleeds could be detected as the signs of previous silent hemorrhages. Although these patients seem to be free from neurological deficits but careful cognitive testing, gait analysis, heteroanamnesis from the relatives confirmed the presence of subtle symptoms in many patients. Population-based observations also proved the further deteriorating of cognitive deficits and higher risk of a manifest stroke by follow up studies. So, the silent infarcts aren't innocent phenomenons. Our lecture tries to answer the following clinical questions (1) How to diagnose silent infarct with neuroimaging and what is the role of screening (2) Is it necessary to perform any complementary investigations? (3) What is the optimal therapy to prevent a manifest stroke (4) How safe is the anticoagulation, antiplatelet and thrombolysis therapy in these patients (5) Do we have good biomarkers (e.g. microbleeds) to detect patients with high risk for intracranial bleeding?

THE TREATMENT OF PARKINSONS DISEASE: WHAT IS NEW

GÜNTHER DEUSCHL
Department of Neurology, UKSH, Kiel,
Christian-Albrechts University, Kiel, Germany

The treatment of Parkinson's disease has made great progress and currently life expectancy is only shortly beyond the normal population but the even more important aspect is that life quality can remain improved until the end stage of the disease. The spectrum of treatment options in the early phase is from MAO-inhibitors until L-dopa. Recently the LEAP-trial has shed new light on the differential indication for L-dopa. In the intermediate stage dyskinesia, fluctuations and different non-motor symptoms can be treated successfully. The later stages often need advanced therapies like deep brain stimulation or pump therapies. During the whole disease course of a PD patient physical activity is of paramount importance for the well-being of the patients and should be continuously monitored and encouraged. This is also needed for better improvement of non-motor symptoms which are now more closely analyzed. The hope is that future disease modifying drugs are developed to slow down or even stop the disease.

ATYPICAL PARKINSONISM

CRISTIAN FALUP-PECURARIU
Department of Neurology, Faculty of Medicine, Transilvania University, Brasov, Romania

The most common types of atypical parkinsonian syndromes include progressive supranuclear palsy (PSP), multiple system atrophy (MSA), corticobasal degeneration (CBD), and dementia with Lewy bodies (DLB). In addition to these syndromes, there are other causes of atypical parkinsonism, most of them being represented by the hereditary neurodegenerative disorders. Clinical diagnosis of these syndromes remains challenging due to the great heterogeneity of the manifesting signs and symptoms. However, there are some predictive features that help distinguishing between the various types of atypical parkinsonian syndromes. In addition to the parkinsonian component, each syndrome presents at least one clinical feature suggestive for multisystemic degeneration (eye movements abnormalities, early falls, rapid onset dementia, dysautonomia, etc). The main pathological mechanism implies the presence of abnormal protein deposits in the brain (e.g. tau tangles, Lewy bodies, β-amyloid) which contributes to the specific neurodegeneration. Genetic factors are also incriminated in the development of the atypical parkinsonism. Neuroimaging approaches (magnetic resonance imaging, positron emission tomography scan) might be useful for differential diagnosis. Recent research studies propose molecular biomarkers as promising findings for a novel diagnostic approach of the atypical parkinsonism.

This lecture will focus on presenting the key features of the most common atypical parkinsonian syndromes, including pathological insights, imaging examples and therapeutic options.

UPDATE OF INHERITED SMALL VESSEL DISEASES

ANTONIO FEDERICO
Department of Medicine, Surgery and Neurosciences, University of Siena, Siena, Italy

Cerebral microangiopathies are responsible of a great number of strokes. In the recent years advances in molecular genetics identified several monogenic conditions involving cerebral small vessels and predisposing to ischemic and/or hemorrhagic stroke and diffuse white matter disease leading to vascular dementia. Clinical features and diagnostic clues of these conditions, [cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL), cerebral autosomal recessive arteriopathy with subcortical infarcts and

leukoencephalopathy (CARASIL), COL4A1-related cerebral small vessel diseases, autosomal dominant retinal vasculopathy with cerebral leukodystrophy (AD-RVLC), and Fabry's disease] are here reviewed. Albeit with variable phenotypes and with different defective genes, all these disorders produce arteriopathy and microvascular disintegration with changes in brain functions. Specific diagnostic tools are recommended, genetic analysis being the gold standard for the diagnosis. We will also discuss on some pathogenetic mechanism responsible for brain abnormalities evident in an early stage of the diaseses.

ELECTROPHYSIOLOGICAL PROFILE OF SPINAL CORD DISEASES

MIHAIL GAVRILIUC
Department of Neurology, Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova

Spinal cord disorders are often devastating due to motor, sphincter and senory disturbances that they produce. Some of them, such as infectious, inflammatory, vascular, developmental, compressive, and metabolic, are totally or partially reversible. The purpose of this paper is to review, through the authors' experience, the possibilities of the multimodal electrophysiological examination in determining the character, intensity and duration of the lesion of the medullary functions.

Electromyographic examination (EMG). Pathological fibrillation are recorded in all medullary processes accompanied by neuronal death within 2-3 weeks from the start of loss of nerve control on the muscle fiber membrane. The expression of fibrillation activity is directly proportional to the degree of denervation. Sharp positive waves are recorded at the 10th to 20th day after the onset of the denervation process and usually precede the occurrence of fibrillation potentials with a few days. Fasciculation recording serves to confirm the suffering of anterior medullary horns in amyotrophic lateral sclerosis, spinal amyotrophy and more rarely in other disorders such as myelitis, tumors, or siringomyelia. Neurogenic changes of motor unit potential (MUP) occur in acute or chronic medullary diseases with peripheral motoneuron injury. The repeated examination of MUP morpholgy follows the purpose of monitoring the denervation-restoration process in medullary affections.

Nerve conduction studies with sensory and motor electroneurographic examination will detect changes such as myelinopathy or axonopathy in large-scale medullary suffering.

F wave examination offers the possibility of assessing the functional status of the most proximal portion of the peripheral nerve in the immediate vicinity of the medullary root.

The Hoffman reflex examines the integrity of the reflex arc and determines the difference between electrophysiological characteristics of spasticity caused by spinal cord injury at different levels.
The study of bulb-cavernos reflex has a predominant value in the category of patients with medullary lesions accompanied by sphincter disturbances and potency disorders.
Somatosensory evoked potentials are particularly useful in locating the level of spinal cord injury.
Motor evoked potential are simple to perform and offer a rapid evaluation of the intramedullary pyramidal pathway and have become a routine electrophysiological technique, and in combination with the above-mentioned techniques, offer very valuable diagnostic and monitoring information.
In conclusion, technical progress in recent years has opened exceptional electrophysiological possibilities in the diagnosis and functional evaluation of spinal cord disorders of various origins.

STROKE RISK FACTORS IN THE POPULATION OF REPUBLIC OF MOLDOVA AND STRATEGIES OF PREVENTION.

STANISLAV GROPPA[1,2]

DAMIAN CRISTINA[2], CHEPTEA CRISTINA[2], GLAVAN DANU[2], EFREMOVA DANIELA[2]

1. Laboratory of Neurobiology and Medical Genetics, State University of Medicine and Pharmacy "Nicolae Testemițanu", Chisinau, Moldova.
2. Department of Neurology, Laboratory of Cerebrovascular Disease and Epilepsy, Institute of Emergency Medicine, Chisinau, Moldova.

INTRODUCTION: Stroke represent the first cause of adult disability , the second cause of dementia and the third cause of mortality in developed countries. A good management of risk factors can lead to significant improvements in the incidence of stroke. Herein, we aimed to investigate stroke risk factors in the population of Republic of Moldova.

METHODS: In November 2015 we initiated an epidemiological study aimed to asses the risk factors for stroke specific in the population of the Republic of Moldova. Subjects were examined according to a pre-established International Protocol of risk factors' estimation. This study protocol included: questionnaire, physical and

neurological examinations, ECG, Doppler/Duplex ultrasound of carotid arteries and laboratory tests. Informed consent was obtained from all subjects.

RESULTS: In this study a total of 2038 subjects were evaluated with preliminary data shown for 1274 subjects. There were 757 (59%) women and 517 (41%) men with a mean age 47,9 ± 13.6 years. Abdominal obesity was one of the most common risk factors, idenfied in 938 (74%) subjects; 508 (40%) had a body mass index (BMI) >30. Hypertension was identified in 413 (32%), 38 (3%) had atrial fibrillation and 76 (6%) diabetes mellitus. One hundred seventy six (14%) were smokers and aterosclerotic plaques were found in 273 (21%). Increased total cholesterol was found in 758 (59%) and family history of stroke in 303 (24%) subjects. ECG examination found: left ventricular hypertrophy in 496 subjects (39%), atrial fibrillation in 25 (2%) subjects and acute ischemic changes in 23 (2%) subjects. Abdominal circumference significantly correlated with systolic blood pressure (BP) ($r=0.44$, $p<0.0001$), diastolic BP ($r=0.46$, $p<0.0001$), BMI ($r=0.84$, $p<0.0001$) and uric acid levels ($r=0.42$, $p<0.0001$). Carotid artery intima-media thickness significantly correlated with systolic ($r=0.44$, $p=0.00$) and diastolic ($r=0.36$, $p=0.00$) blood pressure, body mass index ($r=0.32$, $p=0.00$), abdominal circumference ($r=0.40$, $p=0.00$).

CONCLUSIONS: Abdominal as well as general obesity, dyslipidemia and arterial hypertension were the most common identified risk factors. Prevention of obesity and weight reduction need a greater emphasis in stroke prevention programs. Carotid artery intima-media thickness can be considered an early common integrator of the effects of multiple risk factors on the arterial wall. Our preliminary results indicate that in the studied population the modifiable risk factors predominate and their prevention, and control requires an interdisciplinary strategic approach.

CENTRAL AUTONOMIC DYSFUNCTION

MAX HILZ

Dept. of Neurology, University Erlangen-Nuremberg, Erlangen, Germany
Icahn School of Medicine at Mount Sinai, New York, NY, USA

Rather few clinical studies reflect the impact of different autonomic areas on human physiology and organ function. Clinical testing of central autonomic function is mainly based on the analysis of cardiovascular modulation induced by the central autonomic network (CAN) at rest and during challenge. This presentation gives a brief overview on various centrally mediated cardiovascular autonomic effects in health and disease.

Various studies will be presented that show hemishperic effects as well as effects of specific CAN master controllers on cardiovascular autonomic modulation. In addition, effects of acute stroke and of a history of traumatic brain injury (TBI) on cardiovascular autonomic function will be presented.

Autonomic cardiovascular modulation differs between hemispheres. In epilepsy patients who will undergo tailored epilepsy surgery, left-hemispheric inactivation results in augmented sympathetic cardiovascular modulation while right-hemispheric inactivation enhances parasympathetic activity. Similarly, the frontal lobe, particularly the ventromedial prefrontal cortex (VMPFC) which contributes to autonomic cardiovascular responses to emotional stimuli, triggers side-specific responses to emotional stimuli. Left VMPFC lesions yield dampened heart rate or blood pressure adjustment to visual emotional stimuli, whereas right-sided VMPFC lesions are associated with exaggerated paradoxical cardiovascular responses. The insular cortex not only mounts side-dependent cardiovascular autonomic modulation but even yields topographically distinct interactions with heart rate and blood pressure control. Insular cortex lesions are associated with altered cardiovascular control. The insula region seems to be involved in the pathophysiology of sudden death. Removal of the amygdala, master controllers of autonomic function that contribute essentially to conditioned cardiovascular fear responses, decreases sympathetic cardiovascular activation and might lower the risk of sudden unexpected death, for example due to psychological stress. Stress alters central autonomic modulation and may cause transient myocardial stunning, myofibrillar degeneration, coagulative myocytolysis or life-threatening arrhythmias. Combined dysfunction of cardiovascular baroreflex and chemoreflex responses may also trigger life-threatening cardiovascular instability. Acute stroke as well as a history of TBI reduce overall autonomic modulation and shift sympathetic-parasympathetic balance towards more sympathetic influences.

In summary, clinical examination of central autonomic dysfunction should be more widely performed in order to better assess cardiovascular risk of patients with central nervous system diseases.

DO WE NEED A NEW CONCEPT OF NEUROPSYCHOLOGY?

VOLKER HÖMBERG
Heinrich Heine University of Duesseldorf, Germany
SRH Health Center, Bad Wimpfen, Germany

Over the last 20 years there has been significant progress in designing evidence based strategies for motor rehabilitation. In term of evidence based concepts the field of cognitive rehabili-tation seem to lag behind.

One of the major differences is that cognitive rehabilitation is primarily based on derivated constructs such as "attention, memory, concept formation, executive functions" etc. whereas motor rehabilitation is dealing with simple straight forward con-cepts such as: Can you lift your arm or not- and if you can move can the quality of this movement (speed ,accuracy etc.) be im-proved.
Therefore motor therapies are always closer to everyday life and behavior. Measurements have a higher surface validity.

The usage of elaborate constructs in neuropsychology neces-sarily induces a lot of noise in studies about "memory","attention "or other cognitive domains increasing the heterogeneity of data even more than we know from motor re-hab.

Historically experimental psychology started with elementary aspects of mental chronometry e.g. by measuring something "motor" as reaction times whereas neuropsychology today is using a plethora of abstract elaborate concepts which not necessarily directly relate to observable human behavior.

To come out of this dilemma it maybe useful to go back to more elementary behavioral analysis and look at behavioral prob-lems of individual patients. In this sense instead of using con-cepts of memory or attention as disjunct entities the behavioral problem of how to concentrate on a given text or video and ex-tract and store as much information could be an alternative.

Looking at possible rationales of treatment in the motor domain a differentiation between impairment oriented and compensa-tion oriented treatments has been useful. This is however diffi-cult to transfer into cognitive domains. In the motor domain it appears pretty simple: restoration means to find ways to meas-urably reduce the amount of impairment and increase function of a paretic arm. Restoration of "memory" or "attention" is more difficult to conceive. On the other side it may be feasible in cog-nitive rehabilitation to train "elementary" processes such as se-lective attention or short term memory as a bottom up approach to gain consecutively in turn improvements of more complex task behavior.

In rehabilitation compensatory strategies play an important role. That is true for the motor domain (e.g. using a cane or some other sort of helping devices or etc.). This may also be true for cognitive problems e.g. using external memory aids etc.

The question is how we can design new strategies for a better rehabilitation of cognitive problems. In my view the best way of doing this is to refrain as much as possible from construct driv-en approaches and instead go for analysis and consecutive training of "real" everyday life behavior.

In the talk construct vs. the behavioral driven concepts in neu-ropsychology will be discussed in form of a dialog with other experts entertaining different views.

MANAGEMENT OF PERIPHERAL DIABETIC NEUROPATHY, FROM THEORY TO PRACTICE

GEORGETA INCEU
Department of Diabetes, Nutrition, Metabolic Diseases, "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania

Diabetic peripheral neuropathy (DPN) is the most common chronic complication of diabetes, that affects about 50% of those with diabetes, and about 30% have painful diabetic neuropathy. Up to 50% of DPN may be asymptomatic and may lead to foot injuries if not early recognized and if preventive foot care is not implemented.
Major components of DPN are prevention, pathogenetic therapy, pain management, treatment of foot complications, fall prevention, psychosocial factors. In type 1 diabetes near-normal glycemic control reduces the occurrence of DPN and in type 2 diabetes can slow the progression of DPN.

Neuropatic pain can impact quality of life an contribute to depression. There are three major categories of pain medication, anticonvulsants, antidepressants and opioids. Antidepressants are further divided into serotonin-norepinephrine reuptake group and tri-cyclic antidepressants (TCA) group. According to ADA (American Diabetes Association) guidelines pregabalin, duloxetine, or gabapentin are recommended as initial pharmacologic treatments for neuropathic pain in diabetes. If these agents are not working or have limited effectiveness because of side effects, then a second-line agent or tramadol can be added in combination.

A number of studies have showed that hyperglycemia causes oxidative stress in different tissues. Treatment of specific underlying pathogenetic mechanisms are targeting oxidative stress (alpha-lipoic acid, aldose reductase inhibitors,

benfotiamine, protein kinase C inhibitors), and the deficiency of nerve growth factor in diabetes. Other therapeutic strategies for DPN include botulinum toxin, psychological support, physical measures, acupuncture, electrical stimulation, surgical decompression.

CONTINUOUS DRUG DELIVERY IN ADVANCED PARKINSON'S DISEASE – NOW AND THE FUTURE

PETER JENNER
NDRG, Institute Of Pharmaceutical Sciences, Faculty Of Life Sciences And Medicine, King's College, London, UK

With increasing disease progression, the treatment of Parkinson's disease becomes more complex as immediate release oral medications lose efficacy in controlling motor and non-motor symptoms and complications of therapy continue to emerge. More continuous oral drug delivery improves motor control, reduces the risk of motor fluctuations and motor complications and can reverse established dyskinesia. For this reason, extended release versions of both L-dopa and dopamine agonist drugs have been introduced in to clinical practice. Further formulations of L-dopa that provide increasingly prolonged plasma exposure to the drug are now either coming in to use or are under clinical development. However, in advanced Parkinson's disease, it becomes increasingly important to find non-oral routes of administration that avoid common problems of oral drug delivery associated with impaired swallowing, gastroparesis and lowered drug absorption. As a result, attention has turned to alternative delivery technologies.

The intra-duodenal delivery of L-dopa, the subcutaneous infusion of apomorphine and the transdermal delivery of rotigotine are well established and their use increasingly validated by basic science and clinical trial data demonstrating advantages for the treatment of both motor and some non-motor symptoms. In addition, new technologies are starting to be employed to find less invasive approaches and to respond to alterations in individual patients' medication requirements. For example, patch-pump technology can provide non-invasive drug delivery of apomorphine or L-dopa at levels adequate to reverse motor symptoms. However, it will probably be sensor based technologies that monitor motor function and adjust drug delivery on a continuous basis that will form the next major advance in continuous drug delivery in advanced Parkinson's disease. It may be feasible to develop technologies similar to those used in diabetes that will continually monitor plasma drug levels and adjust drug delivery to ensure maintenance within the required therapeutic range.

FAKE NEWS IN NEUROSCIENCE

AMOS KORCZYN
The Sieratzki Chair of Neurology, Sackler School of Medicine
Tel-Aviv University, Ramat-Aviv, Israel

In many cases, brain dysfunction does not have an immediate solution. This is particularly obvious in neurodegenerative diseases. These are in many cases multifactorial disorders and are therefore unlikely to respond to silver bullets. The neurodegenerative process affects many systems, composed of different cell types and several neurotransmitters. Therefore it is unlikely to have simple solutions, and thus are open ground for whack medicine. Examples of these are therapies advocated for several diseases each, such as stem cell therapies, transcranial brain stimulation, and hyperbaric oxygen therapy. These will be discussed in detail.

INFLAMMATORY NEUROPATHIES IN DIABETES MELLITUS: DIAGNOSIS AND MANAGEMENT

VITALIE LISNIC
State University of Medicine and Pharmacy of the Republic of Moldova

The prevalence of diabetes mellitus (DM) is around 6–7% worldwide, being higher in the EU countries and USA, where the prevalence is estimated to be between 10 and 14%. These numbers are expected to rise in the next decades. Diabetic polyneuropathy is the most common complication of DM. Almost 50% of patients with diabetes will develop polyneuropathy. Diabetes accounts up to 50% of all polyneuropathy cases. However, patients with diabetes may have other neuropathies, which need to be recognized.

Distal symmetric polyneuropathy (DSP) is the most common neuropathy to occur in DM. However, patients with diabetes can also develop inflammatory neuropathies, the most common and most treatable of which is chronic inflammatory demyelinating polyradiculoneuropathy (CIDP). Other inflammatory neuropathies that occur in diabetes are diabetic radiculoplexus neuropathies (known as diabetic amyotrophy and Bruns-Garland syndrome) and vasculitic multiple mononeuropathy.

Diagnosis of CIDP in the presence of diabetes can be made mainly on the basis of clinical characteristics and specific electrophysiological criteria. Diagnosis of CIDP in diabetes patients may be significantly more difficult than in non-diabetics

due to demyelinating changes associated with DSP. CIDP must be suspected when a predominantly motor and ataxic polyneuropathy occurs in a diabetic patient and the degree of improvement following treatment is less favorable. The nerve conduction studies showed more severe axonal loss. Cerebrospinal fluid analysis, imaging and nerve biopsy are helpful.

The treatment options for CIDP in diabetes include the same methods as for typical CIDP: corticosteroids, intravenous immunoglobulins and plasma exchange. Steroids with proven beneficial effect in CIDP are relatively contraindicated in DM. Immunosuppression with cytostatics is considered to spare the side effects of corticosteroids.

CHALLENGES AND OPPORTUNITIES IN STROKE RECOVERY

DAFIN F. MUREȘANU

Chairman Department of Clinical Neurosciences, University of Medicine and Pharmacy "Iuliu Haţieganu", Cluj-Napoca, Romania

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 CARS 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 NEUROBIOLOGY TO EVIDENCE BASED MEDICINE CONCEPTS IN NEUROREHABILITATION AFTER STROKE

DAFIN F. MUREȘANU
Chairman Department of Clinical Neurosciences, University of Medicine and Pharmacy "Iuliu Haţieganu", Cluj-Napoca, Romania

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 CARS 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.

RESULTS OF THE CAPTAIN II TRIAL - A NEW HORIZON IN TBI TREATMENT

DAFIN F. MUREȘANU

JOHANNES VESTER, KLAUS VON WILD, VOLKER HÖMBERG

Chairman Department of Clinical Neurosciences, University of Medicine and Pharmacy "Iuliu Haţieganu", Cluj-Napoca, Romania

Background and aims

Traumatic brain injury (TBI) is a leading cause of injury-related disability and death worldwide. In 2016, an estimated 27 million new cases of TBI we added to the global burden. The CAPTAIN-RO trial enriches compelling evidence that currently exists for Cerebrolysin, an approved agent for neuroprotection and neurorecovery after TBI in many countries, using a novel approach: multidimensional analysis.

Methods

The study is an interventional, randomized, double-blind, controlled, single-center trial. The full protocol is available for consultation in the ISRCTN registry (no. 17097163). General and neurocognitive outcomes after TBI were measured using full scales, avoiding dichotomization of variables. The multidimensional analysis opens a new direction for clinical and statistical thinking in neurorehabilitation by adding precision to the measurement of complex health states for TBI.

Results

A total of 142 patients aged 19-79 with a diagnosis of TBI and a GCS score between 7-12 at the time of hospital admission were enrolled. Baseline, day 10, 30 and 90 assessments were collected using nine scales that measured cognitive function and emotional status.

Conclusion

CAPTAIN-RO is one of the first trials in TBI history with a truly multidimensional approach based on full outcome scales. We believe this strategy is superior to the single criterion paradigm, commonly used in neuroprotective treatment research. This trial delivers a unique perspective to decades of well-established positive effect trends of Cerebrolysin. These will be extensively discussed and evaluated for implications concerning future TBI research upon completion of data analysis.

Keywords: Randomized Controlled Trial, Traumatic Brain Injury, Multidimensional Analysis

PREVENTION OF DEMENTIA

BOGDAN O. POPESCU

'Carol Davila' University of Medicine and Pharmacy Bucharest, Romania
'Victor Babes' National Institute of Pathology Bucharest, Romania

Dementia is a syndrome, with almost 50 recognized causes. However, the vast majority of dementia cases occur in the elderly and are due to neurodegeneration and cerebrovascular disease. Even though for neurodegenerative disorders associated with dementia there is no disease-modifying treatment, prevention might be very important. Classical and frequent vascular risk factors, such as hypertension, diabetes mellitus, hypercholesterolemia, obesity, smoking and others, which are seen more and more frequently in the midlife, are risk factors as well for dementia, either vascular or neurodegenerative. Therefore, efforts to

diagnose all these frequent primary diseases early and to treat them vigorously and efficiently are worthy since they can majorly reduce the dementia incidence in elderly. In the present paper I will resume the major possible interventions and the degree of efficacy that can be reached through a well-developed public health strategy.

NEUROLOGICAL COMORBIDITY IN MENTAL DISORDERS

RAAD SHAKIR
Division of Brain Sciences, Imperial College, London UK

The issue is that of comorbidity or causation. Can there be a serious psychiatric disorder with a normal brain? There are many common pathways when 'neurological and psychiatric diseases' cross in their etiology and pathology. Moreover, there is shared molecular neuropathology across many psychiatric disorders. The issue of precision medicine is much closer than ever and psychiatry being a structural brain disorder is now clear. Disorders previously considered 'mental' are reconsidered as due to disrupted neural, cognitive and behavioral systems.

Examples are many and four are chosen to illustrate the issue. Firstly, Functional / dissociative disorders and their neural basis, secondly, the use of biomarkers in the diagnosis and prognosis of Alzheimer's disease, thirdly, structural abnormalities of the occipital lobes in severe depression and lastly the issue of explaining the hallucinations in Parkinson's disease on the basis of being blind to blind sight.

The crux of the matter is that the title of the presentation is misleading, as there are no distinct 'mental and neurological disorders'. The time has come for us all to recognize that we are dealing with brain disorders.

ALZHEIMER'S DISEASE NEUROPATHOLOGY IS EXACERBATED FOLLOWING TRAUMATIC BRAIN INJURY. NEUROPROTECTION BY CO-ADMINISTRATION OF NANOWIRED MESENCHYMAL STEM CELLS AND TROPHIC FACTORS

HARI SHANKER SHARMA[1,3,4,7]

D. F. MURESANU[2,3], J. V. LAFUENTE[4], A. OZKIZILCIK[5], Z. TIAN[6], I. MANZHULO[7], R. PATNAIK[8], H. MOESSLER[9], A. NOZARI[10], R. J. CASTELLANI[11], A. SHARMA[1,3,4,7;]

1. Int. Exp. CNS Injury & Repair (IECNSIR), Surgical Sciences, Anesthesiol. & Intensive Care Med., Uppsala Univ., Uppsala, Sweden;
2. Dept. Clin. Neurosciences, Univ. Med. Pharm. &
3. "RoNeuro" Inst. Neurol. Res. & Diag., Cluj-Napoca, Romania;
4. Neurosciences, Univ. of Basque Country, Bilbao, Spain;
5. Biomed. Engin., Univ. of Arkansas, Fayetteville, AR;
6. Chem. & Biochem., Univ. of Arkansas, Fayatteville, AR;
7. Nat Scientific Cent of Marine Biology, Far Eastern Branch, Russian Acad of Sci, Vladivostok, Russia & Sch. of Biomed, Far Eastern Fed. Univ., Vladivostok, Russia;
8. Sch. of Biomed. Engin., Indian Inst. of Technology,Banaras Hindu Univ., Varanasi, India;
9. Drug Develop. & Discovery, Ever Neuro Pharma, Mondsee, Austria;
10. Anesthesia and Critical Care, Massachusetts Gen. Hosp., Boston, MA;
11. Pathology, Univ. of Maryland, Baltimore, MD

Military personnel are often prone to traumatic brain injury (TBI) that enhances the possibility of Alzheimer's disease (AD) at a later stage. Since TBI leads to breakdown of the blood-brain barrier (BBB) and extravasation of serum proteins into the brain fluid compartment, it is quite likely that plasma amyloid beta protein (AbP) may enter into the brain after TBI leading to development of AD. Thus, there is a need to understand the role of TBI in AD. AD like brain pathology was induced by intracerebroventricular (i.c.v.) administration of soluble form of AbP 200 ng/30 µl per day into the left lateral ventricle for 4 weeks in a rat model. This treatment resulted in AD like pathology e.g., deposit of AbP in the brain as well as BBB breakdown, edema formation and neuronal, glial and axonal injuries. In order to find out role of TBI in AD development, rats were subjected to mild concussive head injury (CHI) by dropping a weight of 114.6 g over the exposed parietal skull bone from a 20 cm height through a guide tube. This adjustment resulted in an impact of 0.224 N over the skull surface. In these CHI inflicted animals AbP was infused in identical conditions starting from 1 week after injury for 4 weeks. Our observations show that AbP infusion in CHI rats exacerbated BBB breakdown to serum proteins by 2-4 fold, edema formation by 1.5 to 2 fold and marked increase in neuronal, glial or axonal injuries as compared to AbP treatment in normal animals. Immunohistochemical examination revealed enhanced deposits of AbP in the brain in CHI group after AbP infusion. The glial reactions and myelin damages

were also much more aggravated. Extravasation fo albumin was also increased in several brain regions in CHI group after AbP infusion as compared to normal animals. Administration of mesenchymal stem cells (MSCs, ca. 1 million, i.c.v.) 1 week after AbP infusion resulted in marked neuroprotection as seen by reduced BBB leakage, AbP deposits and brain pathology in normal animals. Likewise i.c.v. administration of 50 µl cerebrolysin daily for 3 weeks starting from 1 week after AbP infusion was neuroprotective in normal animals. However, in CHI group these treatments either alone or in combination were ineffective. Interestingly when TiO2 nanowired MSCs and cerebrolysin administered together in identical conations, significant neuroprotection was achieved in AD cases in CHI group. Taken together, our observations are the first to point out that co-administration of MSCs and cerebrolysin using nanowired delivery has far more superior neuroprotective effects in AD model in CHI, not reported earlier.

*About the speaker Hari S Sharma

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. Dr. Sharma joined the lab of Neuropathology at Uppsala University with Professor Yngve Olsson in 1988 and received the prestigious Alexander von Humboldt Foundation Fellowship of German Government (1989–1991) for work on hyperthermia induced BBB dysfunction in Berlin (Germany). Dr Sharma awarded the Degree of Doctor of Medical Sciences of Uppsala University in Neuroanatomy in 1999 and received Award of the Medical faculty for best work, "The Hwassers Prize" of 1999. The Laerdal Foundation of Acute Medicine, Stavanger, Norway, and European Aerospace Research and Development (EOARD), London, UK and US Air Force Research Laboratory, Wright Patterson Air Force Base, Dayton, OH, USA supports his research. Dr. Sharma is the recipient of Distinguished International Scientists Collaboration Award by National Institute on Drug Abuse (NIDA), Baltimore, MD (2006–2008); US TechConnect Global Innovation Award 2013, Washington DC May 12-16, 2013 on his work on Nanowired cerebrolysin in Neuropathic Pain, followed by Nanodelivery of Cerebrolysin and Neprilysin for the treatment of Alzheimer's disease, Washington DC, May 14-17, 2017. 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 = 40 (ISI Database) as of today.

MANAGEMENT OF ADVANCED PARKINSON'S DISEASE: DAT - LIMITATIONS AND UNANSWERED QUESTIONS (HOW EARLY DAT 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 neurodegenerative disorder 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. The treatment of advanced PD (APD) is challenging for both physicians and caregivers. There are now several treatment options for switching from intermittent, non-invasive therapy (oral, transdermal patch) to device-aided treatment (DAT). The DAT need expertise and dedicated movement disorders centers. The continuous intra-jejunal infusion of levodopa (Levodopa-Carbidopa Intestinal Gel, 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 DAT are similar and include: pronounced motor and/or non-motor fluctuations, with or without 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.

PARTICULAR ASPECTS OF DIAGNOSTIC AND TREATMENT OF THE SUBARACHNOID HEMORRHAGE

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

Subarachnoid hemorrhage (SAH) represents less than 10% of all strokes, but it deserves our total attention due to its high risk of mortality. 90% of the cases are due to the rupture of an aneurysm, most frequently localized in the anterior communicating artery, the posterior communicating artery or top of the basilar artery, but practically every part of the circle of Willis or of the main brain vessels can host one or more aneurysms. Knowing the cardinal clinical signs of a subarachnoid hemorrhage is essential for an early diagnostic, and consecutively an early treatment. A typical SAH can be easily seen on a non- contrast computed tomography, but sometimes the bleeding is very discrete and can be overlooked, especially when it is a small sulcal hyperdensity. Beside aneurysmal SAH, the neurologist is facing sometimes particular cases, like SAH due to an arterial dissection, or subarachnoid bleeding associated to a syndrome of intracranial hypotension. Lumbar puncture is mandatory whenever you have the clinical suspicion of a SAH. The main objective of the treatment is to prevent re-bleeding, but treating a patient with subarachnoid hemorrhage can be a challenge also due to other complications, like vasospasm or hydrocephalus. Ultrasound monitoring of the blood velocity on medial cerebral artery or anterior cerebral artery in order to identify vasospasm is part of the clinical routine surveillance. There are different methods to secure the aneurysm, and what to choose between clipping and coiling seems an endless fight between surgeons and neuroradiologists, but in the end, we must not forget that we have to choose what it is the best for our patient.

EEG IN NON-CONVULSIVE STATUS EPILEPTICUS - A CASE-BASED DISCUSSION

EUGEN TRINKA
Paracelsus Medical University Salzburg, Austria
Department of Neurology, Christian Doppler University Hospital, Salzburg, Austria

Non-convulsive status epilepticus (NCSE) is a challenging medical condition with multiple clinical symptoms. As one of the key characteristics, it is a fixed and during condition with variable degrees of impairment of consciousness, but it may also accompanied by pure subjective phenomena. Its incidencs is difficult to estimate, but a recent epidemiological study from Salzburg suggested that it is around 12 per 100.000 per year with a marked increase in the elderly population where overall incidences of status epilepticus are in the range between 70 and 80 per 100.000 per year with a huge proportion of non-convulsive cases (Leitinger et al. Epilepsia 2019). It has to be empathized that NCSE can only be exactly diagnosed with the aid of EEG. Serval diagnostic criteria have been proposed over the past decade. In 2013 an expert panel suggested the so called "Salzburg Criteria for NCSE" (Beniczky et al. Epilepsia 2013, Trinka and Leitinger Epilepsy Behavior 2015). They have been validated on two retrospective cohorts (Leitinger et al. Lancet Neurol 2016). The diagnostic value is high, and the diagnostic accuracy is around 90 percent. The implementation of the Salzburg Criteria of Non-convulsive status epilepticus led to an enormous improvement in diagnosis and prompt treatment where needed. The diagnostic criteria are also now implemented in the revised version of the American Clinical Neurophysiology terminology and are an integrate part of the classification. The classes of Non-convulsive status epilepticus have a different prognostic implication based on the degree of impairment of consciousness (Trinka et al. Epilepsia 2015). In this session, we will discuss the diagnostic criteria mechanistic treatment approaches and outcomes of non-convulsive status epilepticus by using a case-based approach.

THE CONCEPT OF HIGH QUALITY, NON-INTERVENTIONAL COMPARATIVE EFFECTIVENESS IN NEUROREHABILITATION - NEW PATHWAYS WITHIN THE FRAMEWORK OF EVIDENCE-BASED MEDICINE

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

Evidence-based practice knocks on the door of clinical research in neurorehabilitation. The clinical trial is the mechanism for comparing and testing therapeutic interventions to determine their effect in human subjects and thus their value in rehabilitation practice (Terrin, 2003, Behrman 2013). But how are the chances to improve therapeutic concepts within the demanding framework of evidenced-based medicine?

While there is growing demand for information about comparative effectiveness (CE), there is substantial debate about whether and when observational studies have sufficient quality to support decision making.

Methodological challenges for analysis and the interpretation of results, as well as the lack of accepted principles to assess quality have limited the practical use of observational research.

Non-randomized studies have been relegated to lower tiers in commonly used hierarchies of evidence, largely because of their heterogeneity, the potential for bias in the results, and the challenges involved in their conduct and interpretation. Within the GRADE system (guidance for use of the Grading of Recommendations Assessment, Development, and Evaluation), observational studies start as low quality evidence and even can be rated further down if relevant evidence comes from studies that suffer from a high risk of bias.

Recent calls for using the full range of high-quality comparative effectiveness (CE) research to inform decisions about medical diagnostics and interventions have brought forth a spate of consensus offerings about recognizing quality in observational CE studies and meta-analysis.

An important milestone has been achieved by implementing the GRACE Principles for High-Quality Observational Studies of Comparative Effectiveness. This important guidance provides a hierarchy of evidence for observational research on comparative effectiveness that can be used by decision-makers, as well as key elements of good practice including defining research questions and methods a

priori; collecting valid, clinically relevant data; analyzing, interpreting and reporting data, including sensitivity analyses and alternative explanations for findings; and conducting these studies in accordance with accepted good practices.

In this lecture, current perspectives of evidence-based medicine, classic and modern approaches to comparative effecteveness research, future pathways to improve the quality of CE trials, are discussed with examples from different fields of neurorehabiliation.

PELVIC EMG AND OTHER NEUROPHYSIOLOGICAL TESTS IN URO-NEUROLOGY

DAVID VODUŠEK
Institute of Clinical Neurophysiology, University Medical Centre Ljubljana, Ljubljana, Slovenia

Clinical neurophysiological tests have been introduced to test motor and sensory parts of the somatic and autonomic nervous system involved in control of uro-ano-genital functions, pelvic floor muscles and sensory innervation of perineum and pelvic organs. The whole gamut of different EMG techniques, tests of conduction, and autonomic nervous system tests has thus become available for use in the patient with uro-ano-genital dysfunction. The aim of the presentation is to review available tests and stress which ones are useful in clinical practice.
Needle EMG and conduction studies (particularly the bulbocavernosus reflex) are useful in diagnosing lesions within the lower (S2-S4) sacral reflex arcs. EMG and electrophysiological recording of reflexes are more sensitive than clinical examination to detect abnormalities, and provide additional information, whereas pudendal SEP is as a rule less sensitive then clinical examination of sensitivity.
Application of urethral sphincter EMG has revealed myogenic urethral sphincter hyperactivity as cause for urinary retention in women, thus defining a new clinical syndrome (Fowler syndrome). Neurophysiological methods have demonstrated the (partly) neuropathic cause of "genuine" stress urinary and anal incontinence. The tests of conduction (bulbocavernosus reflex testing, pudendal SEP, sphincter MEP) are particularly promising as intraoperative monitoring techniques. Autonomic nervous system testing of the lower thoracic - upper lumbal sympathetic and the sacral parasympathetic, as well as testing visceral afferents from pelvic organs, has so far remained mostly a research area.
Kinesiological sphincter EMG is routinely used in functional testing and demonstrates detrusor /and bowel / sphincter discoordination.

To summarize: clinical application of pelvic EMG has been particularly helpful in urodynamic studies and in diagnosing denervation and reinnervation of pelvic floor muscles in patients with sacral nervous system involvement due to dysraphism, disease, and trauma. Urethral sphincter EMG studies have revealed a new syndrome of myogenic urethral sphincter hyperactivity (Fowler syndrome), and have contributed to the understanding of the pathophysiology of "genuine" stress urinary and anal incontinence. The tests of conduction are auxiliary in testing the lower sacral reflex arcs and the central connections of the sacral nervous system lesions, and are used increasingly for intraoperative mapping and monitoring.
In conclusion, concentric needle EMG and bulbocaverosus reflex testing are useful particularly in diagnostics of patients with suspected lesions of the peripheral sacral nervous system (segments S2 – S 4); clinical neurophysiological tests in general remain interesting for research of neurogenic uro-ano-genital dysfunctions, and, in particular, in extending the possibilities of clinical neurophysiological intraoperative monitoring.

Selected reviews:

Vodušek DB, Fowler CJ. Pelvic floor clinical neurophysiology. In: Binnie C, Cooper R, Mauguière F, Osselton J, Prior P, Tedman B, editors. Clinical neurophysiology. Vol. 1. EMG, nerve conduction and evoked potentials. Amsterdam, Boston etc.: Elsevier, 2004: 281-307.

Wyndaele JJ and Vodušek DB: Approach to the male patient with lower urinary tract dysfunction. In: Vodušek DB and Boller F. NEUROLOGY OF SEXUAL AND BLADDER DISORDERS, Elsevier, Amsterdam 2015; 143 -164.

ORAL ALPHA-LIPOIC ACID FOR THE MANAGEMENT OF PERIPHERAL AND AUTONOMIC DIABETIC NEUROPATHY – A CASE REPORT

CAMELIA VONICA
Department of Diabetes, Nutrition, Metabolic Diseases, "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Cluj, Romania

In the human body there are two types of small nerve fibers, unmyelinated fibers and thinly myelinated fibers. The unmyelinated fibers are also divided in autonomic and sensory fibers. Symptoms of dysfunction depend on which fibers are affected. Diabetes mellitus (DM) is the most common cause of cardiovascular autonomic

neuropathy (CAN). Its prevalence differs between DM types, up to 90% in T1DM and up to 20-73% in T2DM. (1,2)

During physical examination and clinical interview this type of neuropathy can only be suggested. American Autonomic Society endorses 3 types screening tests: quantitative sudomotor axon test, sympathetic skin response and the thermoregulatory sweat test. (3) European Federation of Neurological Societies considers skin biopsy for the quantification of epidermal nerve fiber density the highest accuracy test for small fiber nerve dysfunction. (4) For CAN diagnosis, after running sudomotor testing, cardiovascular testing should include: Valsalva maneuver, tilt-table test with continuous blood pressure measuring, heart rate variability during paced deep breathing.

Among diabetic chronic complications, neuropathy is by far the most common. For diffuse neuropathies, distal symmetric polyneuropathy (DSPN), followed by CAN are the most studied complications. Toronto Clinical Neuropathy Score (TCNS) is generally used for the diagnostic and staging of DSPN. SUDOSCAN is a point-of-care device for screening of sudomotor function and it offers a risk score for CAN by evaluating sweat gland secretory function. Since there are no previous studies focusing on the relationship between TCNS and SUDOSCAN parameters, we aimed to evaluate the relationship between TCNS, sudomotor function and SUDOSCAN-CAN in patients with T2DM. (6)

Material and methods:
We herein report the response to oral 600 mg of alpha-lipoic acid administered to a male patient with T2DM since 2006 for CAN and DSPN management. TCNS, SUDOSCAN and CARDIO-SYS were performed twice, at the moment the patients was reffered to our clinic for DSPN screening and after 3 months of treatment.

Results and discussions:
Alpha-lipoic acid decreased SUDOSCAN-CAN score, increased feet and hand conductance and improved heart rate response to deep inspiration and expiration, heart rate response to the Valsalva maneuver, 30:15 ratio: heart rate response upon standing up.

Conclusions:
Our results strengthen the belief that alpha-lipoic acid is an effective drug in the treatment of various forms diabetic neuropathy.

CURRICULUM VITAE

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 22) 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

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)

DANIEL-TUDOR COSMA

ROMANIA

WORK EXPERIENCE

01/05/2016–Present	Resident in Diabetes, Nutrition and Metabolic diseases Center for Diabetes, Nutrition and Metabolic diseases, County Clinical Emergency Hospital, Cluj-Napoca (Romania)
01/04/2016–30/04/2016	Resident in Diabetes, Nutrition and Metabolic diseases – Pneumology internship Clinical Pneumology Hospital, Cluj-Napoca (Romania)
01/06/2015–31/03/2016	Resident in Diabetes, Nutrition and Metabolic diseases Center for Diabetes, Nutrition and Metabolic diseases, County Clinical Emergency Hospital, Cluj-Napoca (Romania)
01/02/2015–31/05/2015	Resident in Diabetes, Nutrition and Metabolic diseases – Cardiology internship "Niculae Stancioiu" Heart Institute, Cluj-Napoca (Romania)
01/12/2014–31/01/2015	Resident in Diabetes, Nutrition and Metabolic diseases – Intensive care internship Intensive Care Unit, "Octavian Fodor" Regional Institute for Gastroenterology and Hepatology, Cluj-Napoca (Romania)
01/10/2014–30/11/2014	Resident in Diabetes, Nutrition and Metabolic diseases – Neurology internship Neurology Clinic, Clinical Recovery Hospital, Cluj-Napoca (Romania)
01/08/2014–30/09/2014	Resident in Diabetes, Nutrition and Metabolic diseases – Nephrology internship Nephrology Clinic, County Clinical Emergency Hospital, Cluj-Napoca (Romania)

01/06/2014–31/07/2014	Resident in Diabetes, Nutrition and Metabolic diseases – Gastroenterology internship "Octavian Fodor" Regional Institute for Gastroenterology and Hepatology, Cluj-Napoca (Romania)
16/05/2014–31/05/2014	Resident in Diabetes, Nutrition and Metabolic diseases – Medical Biostatistics internship Medical Biostatistics Department, "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca (Romania)
01/05/2014–15/05/2014	Resident in Diabetes, Nutrition and Metabolic diseases – Bioethics internship Bioethics Department, "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca (Romania)
01/04/2014–30/04/2014	Resident in Diabetes, Nutrition and Metabolic diseases – Public Health internship Public Health Department, "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca (Romania)
01/03/2014–31/03/2014	Resident in Diabetes, Nutrition and Metabolic diseases – Pediatrics internship 1st Pediatric Clinic, Children's County Clinical Emergency Hospital, Cluj-Napoca (Romania)
01/02/2014–28/02/2014	Resident in Diabetes, Nutrition and Metabolic diseases – Ophthalmology internship Ophthalmology Clinic, County Clinical Emergency Hospital, Cluj-Napoca (Romania)
01/01/2014–31/01/2014	Resident in Diabetes, Nutrition and Metabolic diseases – Dermatology internship Dermatology Clinic, County Clinical Emergency Hospital, Cluj-Napoca (Romania)
01/07/2013–31/12/2013	Resident in Diabetes, Nutrition and Metabolic diseases – Endocrinology internship Endocrinology Clinic, County Clinical Emergency Hospital, Cluj-Napoca (Romania)
01/01/2013–30/06/2013	Resident in Diabetes, Nutrition and Metabolic diseases Center for Diabetes, Nutrition and Metabolic diseases, County Clinical Emergency Hospital, Cluj-Napoca (Romania)

EDUCATION AND TRAINING

01/10/2006–01/07/2012	Medical Doctor EQF level 8 "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca (Romania) Paper license: "The value of transesophageal echocardiography in choosing the surgical treatment or fibrinolysis in prosthetic valve thrombosis"
15/09/2002–15/06/2006	High School Graduation Diploma National College "Alexandru Lahovari", Natural Science Profile, Ramnicu-Valcea (Romania) participation in regional stages of Geography and Chemistry Olympiads
15/09/1994–15/06/2002	General School Graduation Diploma General School, Pietrari (Romania)

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 (1994),
- 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 of "International Journal of Stroke", "LAM" "Neurosonology (Japan)" "Frontiers in Stroke" (associate editor"), "Neurosonology and Cerebral Hemodynamics", "Emergency Medicine Search and Rescue Journal", "European J of Stroke"
- Past president of the Hungarian Stroke Society,
- 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.
- 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, Szentgyörgyi Award (Ministry of Health) and Lazarevics prize (Serbian Neurol Soc) for his activity in stroke care, education and research.
- His students elected him 7x "Teacher of the Year" and the "Faculty prize" has been donated him due to his outstanding educational activity.
- 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.
- He has published 250 papers on stroke, stroke risk disease, neurosonology and arteriosclerosis.
- His book ("Dissect me, please") had two Hungarian editions and has been translated on German, English, Rumanian and Serbian language.

GÜNTHER DEUSCHL
GERMANY

Günther Deuschl received his MD at the University of Munich. Between 1981-1982 he trained at the Department of Neurology of the Universities in Munich and subsequently in Freiburg where he was promoted to assistant professor in 1988. In 1991 he spent a sabbatical the National Institutes of Health, Bethesda/USA. In 1995 he was elected as full Professor of Neurology at the Christian-Albrechts-University in Kiel and chairman of the Department of Neurology. He retired in 2016 and is working currently as a senior professor at the Department.

His research interests are focused on the clinical features and treatment of Movement Disorders, Parkinson's disease, essential and other tremors and deep Brain Stimulation. A special interest covers clinical studies on deep brain stimulation for Parkinson's disease and the pathophysiology of movement disorders. He has conducted many clinical studies (DBS and drug treatment of Parkinson's diease and tremor) as a PI.

He published 600 Pubmed listed papers and his H-factor is 110. Publications see: http://scholar.google.de/citations?user=SNnXK9kAAAAJ&hl=de. He is past editor of the 'Movement Disorder Journal'. He is holding honorary professorships in Hangzhou and Shanghai and is doctor honoris causa of the Moldovian Academy of Sciences. He is honorary member of the International Movement Disorder, the Austrian Parkinson Society as well as the French, Moldavian and Rumanian Neurological Societies. He has served in many functions for different scientific societies. He is past president of the German Society of Neurology, of the International Movement Disorder Society and the founding president of the European Academy of Neurology.

Important papers:

Deuschl, G., P. Bain, M. Brin, and Ad Hoc Scientific Committee. "Consensus Statement of the Movement Disorder Society on Tremor." Mov Disord 13, no. Suppl 3 (1998): 2-23.

Deuschl G, Schade-Brittinger C, Krack P, Volkmann J, Schafer H, Botzel K, Daniels C, Deutschlander A, Dillmann U, Eisner W, Gruber D, Hamel W, Herzog J, Hilker R, Klebe S, Kloss M, Koy J, Krause M, Kupsch A, Lorenz D, Lorenzl S, Mehdorn HM, Moringlane JR, Oertel W, Pinsker MO, Reichmann H, Reuss A, Schneider GH, Schnitzler A, Steude U, Sturm V, Timmermann L, Tronnier V, Trottenberg T, Wojtecki L, Wolf E, Poewe W, Voges J. A randomized trial of deep-brain stimulation for Parkinson's disease. N Engl J Med 2006; 355: 896-908

Kupsch A, Benecke R, Muller J, Trottenberg T, Schneider GH, Poewe W, Eisner W, Wolters A, Muller JU, Deuschl G, Pinsker MO, Skogseid IM, Roeste GK, Vollmer-Haase J, Brentrup A, Krause M, Tronnier V, Schnitzler A, Voges J, Nikkhah G, Vesper J, Naumann M, Volkmann J. Pallidal deep-brain stimulation in primary generalized or segmental dystonia. N Engl J Med 2006; 355: 1978-90.

Witt, K., C. Daniels, J. Reiff, P. Krack, J. Volkmann, M.O. Pinsker, M. Krause, V. Tronnier, M. Kloss, A. Schnitzler, L. Wojtecki, K. Botzel, A. Danek, R. Hilker, V. Sturm, A. Kupsch, E. Karner, G. Deuschl, Neuropsychological and psychiatric changes after deep brain stimulation for Parkinson's disease: a randomised, multicentre study. Lancet Neurol, 2008. 7(7): p. 605-14.

Bartsch T, Schonfeld R, Muller FJ, Alfke K, Leplow B, Aldenhoff J, Deuschl G, Koch JM. Focal lesions of human hippocampal CA1 neurons in transient global amnesia impair place memory. Science 2010; 328: 1412-5.

Bartsch T, Deuschl G. Transient global amnesia: functional anatomy and clinical implications. Lancet Neurol 2010; 9: 205-214.

Schuepbach, W. M., Rau, J., Knudsen, K., Volkmann, J., Krack, P., Timmermann, L., Halbig, T. D., Hesekamp, H., Navarro, S. M., Meier, N., Falk, D., Mehdorn, M., Paschen, S., Maarouf, M., Barbe, M. T., Fink, G. R., Kupsch, A., Gruber, D., Schneider, G. H., Seigneuret, E., Kistner, A., Chaynes, P., Ory-Magne, F., Brefel Courbon, C., Vesper, J., Schnitzler, A., Wojtecki, L., Houeto, J. L., Bataille, B., Maltete, D., Damier, P., Raoul, S., Sixel-Doering, F., Hellwig, D., Gharabaghi, A., Kruger, R., Pinsker, M. O., Amtage, F., Regis, J. M., Witjas, T., Thobois, S., Mertens, P., Kloss, M., Hartmann, A., Oertel, W. H., Post, B., Speelman, H., Agid, Y., Schade-Brittinger, C., and Deuschl, G. (2013) Neurostimulation for Parkinson's disease with early motor complications. N Engl J Med 368, 610-622

Berg D, Postuma RB, Adler CH, Bloem BR, Chan P, Dubois B, Gasser T, Goetz CG, Halliday G, Joseph L, Lang AE, Liepelt-Scarfone I, Litvan I, Marek K, Obeso J, Oertel W, Olanow CW, Poewe W, Stern M, Deuschl G. MDS research criteria for prodromal Parkinson's disease. Mov Disord. 2015 Oct;30(12):1600-11.

Bhatia KP, Bain P, Bajaj N, Elble RJ, Hallett M, Louis ED, Raethjen J, Stamelou M, Testa CM, Deuschl G, Tremor Task Force of the International P, Movement Disorder S. Consensus Statement on the classification of tremors. from the task force on tremor of the International Parkinson and Movement Disorder Society. Mov Disord. 2018 Jan;33(1):75-87.

Muthuraman M, Raethjen J, Koirala N, Anwar AR, Mideksa KG, Elble R, Groppa S, Deuschl G. (2018) Cerebello-cortical network fingerprints differ between essential, Parkinson's and mimicked tremors. Brain. Earlyview : Apr 26, 2018.

Bhatia KP, Bain P, Bajaj N, Elble RJ, Hallett M, Louis ED, Raethjen J, Stamelou M, Testa CM,

Deuschl G, Tremor Task Force of the International P, Movement Disorder S. Consensus Statement on the classification of tremors. Mov Disord. 2018 Jan;33(1):75-87.

Muthuraman M, Raethjen J, Koirala N, Anwar AR, Mideksa KG, Elble R, Groppa S, Deuschl G. Cerebello-cortical network fingerprints differ between essential, Parkinson's and mimicked tremors. Brain 2018;141(6):1770-1781.

L'Hommee E, Wojtecki L, Czernecki V, Witt K, Maier F, Tonder L, Timmermann L, Halbig TD, Pineau F, Durif F, Witjas T, Pinsker M, Mehdorn M, Sixel-Doring F, Kupsch A, Kruger R, Elben S, Chabardes S, Thobois S, Brefel-Courbon C, Ory-Magne F, Regis JM, Maltete D, Sauvaget A, Rau J, Schnitzler A, Schupbach M, Schade-Brittinger C, Deuschl G, Houeto JL, Krack P, group Es. Behavioural outcomes of subthalamic stimulation and medical therapy versus medical therapy alone for Parkinson's disease with early motor complications (EARLYSTIM trial): secondary analysis of an open-label randomised trial. Lancet Neurol 2018;17(3):223-231.

Katzenschlager R, Poewe W, Rascol O, Trenkwalder C, Deuschl G, Chaudhuri KR, Henriksen T, van Laar T, Spivey K, Vel S, Staines H, Lees A. Apomorphine subcutaneous infusion in patients with Parkinson's disease with persistent motor fluctuations (TOLEDO): a multicentre, double-blind, randomised, placebo-controlled trial. Lancet Neurol 2018;17(9):749-759.

Verschuur CVM, Suwijn SR, Boel JA, Post B, Bloem BR, van Hilten JJ, van Laar T, Tissingh G, Munts AG, Deuschl G, Lang AE, Dijkgraaf MGW, de Haan RJ, de Bie RMA, Group LS. Randomized Delayed-Start Trial of Levodopa in Parkinson's Disease. N Engl J Med. 2019, 380(4):315-24.

CRISTIAN FALUP-PECURARIU
ROMANIA

Cristian Falup-Pecurariu is Head of the Department of Neurology, County Emergency Clinic Hospital from Brasov, and is Associate Professor of Neurology at the Transilvania University from Brasov, Romania. He received his medical degree from the University of Medicine and Pharmacy "Iuliu Hatieganu" 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, Catalunya, Spain (Prof.Eduardo Tolosa).

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, member of the MDS Leadership Task Force and European Academy of Neurology Scientific Panel Movement Disorders. Currently he is member of the Executive Committee of MDS-European Section. Cristian Falup-Pecurariu 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 Sanita, 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 , Springer-Verlag Editor from 2000. 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 (2013-2018) - Vice-Rector of the University of Siena, from 1st april 2016 to november 2017.

Medical Involvements – Until November 2018 (date of retirement) Director of the OU Clinical Neurology and Neurometabolic Diseases, University Hospital of Siena Medical School. –He is still 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 (2014-2018) - Chairman of Neuromediterraneum Forum - Co-Chairman of Research group of WFN Migration Neurology. Member of the Scientific Societies: - Societa 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).

MIHAIL GAVRILIUC

REPUBLIC OF MOLDOVA

1987-1991 : Neurologist at the Republican Clinical Hospital, Chisinau

1991-1996 : Assistant professor of the Department of Neurology and Neurosurgery at the State University of Medicine and Pharmacy "Nicolae Testemitanu" Chisinau

1996-2001 : Docent of the Department of Neurology and Neurosurgery at the State University of Medicine and Pharmacy "Nicolae Testemitanu" Chisinau

2001-2010 : Deputy Director of the Institute of Neurology and Neurosurgery, Chisinau

2010 (since) : Professor of Neurology, Chairman of the Neurology Department at the State University of Medicine and Pharmacy "Nicolae Testemitanu" Chisinau

2010-2012 : Dean of the Faculty of Medicine 2 - State University of Medicine and Pharmacy "Nicolae Testemitanu" Chisinau

2012-2018 : Vice-rector for International Relations - State University of Medicine and Pharmacy "Nicolae Testemitanu" Chisinau

2018 (since) : Vice-rector for International Students - State University of Medicine and Pharmacy "Nicolae Testemitanu" Chisinau

Fields of special interests: general neurology, ischemic tolerance of the nervous system, and medical education.

STANISLAV GROPPA
REPUBLIC OF MOLDOVA

Stanislav Groppa, MD, PhD, University Professor, Academician of Moldavian Academy of Science, Neurologist, Head of Neurology Chair of "N. Testemitanu" State Medicine and Pharmacy University, Director of the Neurology Neurosurgery Department (Institute of Emergency Medicine), Head of the Neurobiology and Medical Genetics Laboratory

He has graduated of the "N. Testemitanu" State Medicine and Pharmacy University in 1979. At age of 29 he got his doctor of medical science degree, and at 35 - doctor habilitat and at 39 years is conferred the title of university professor.

In 2007, he became a member of the Moldavian Academy of Sciences, and shortly after he was elected academician-coordinator of the Medical Department of the Moldavian Academy of Science. In 2012 Prof Groppa is elected as member of the Moldavian Academy of Science.

Between 2015 -2016 hee is vice-president of the Moldavian Academy of Science. He is a Honorary Member of the of Medical Sciences Academy from Romania.

He has been trained in Medical centers from Russia, USA, Germany, China, Australia, Italy, and many others. Established a strong collaboration connections with researches and scientific institutions from all around the world.

Under the leadership, 18 doctoral theses were performed, including doctor habilitat thesis. His scientific interests are in the field of stroke prevention and early management, epilepsy, and pain relief.

Also, he is a member of international organizations, American Neurology and Stroke Association, European Academy of Epileptology; Member of the European Academy of Neurology, Member of Romania Academy of medical Schience, Member of Romania Stroke Association.

Professor S. Groppa is President of the Moldavian League against Epilepsy, President Moldavian Stroke Association, Vice-President of the Moldavian Neurology Society. He is a member of the editorial staff of Moldavian and not only Medical Journals.

MAX HILZ
GERMANY

He studied medicine at the Universities of Cologne and Erlangen-Nuremberg in Germany. He first trained in Anesthesiology and Intensive Care Medicine and in Ear-Nose-and–Throat diseases, and then 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). He 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 was Attending and Full Professor of Neurology, Medicine and Psychiatry at New York University, New York, NY. Until 2007, he also served as the Associate Director of the Dysautonomia Evaluation and Treatment Center at New York University. In

2006, he was offered an Endowed Chair and tenured Professorship at New York University. From September 2016 to August 2017, he was 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. Until April 2019, he was 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 December 2018, he received the academic degree of Doctor honoris causa (Dr. h.c.) from the "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania,

Professor Hilz is the current Chair of the Autonomic Disorders Research Group in the World Federation of Neurology. He also co-chairs the Autonomic Nervous System Subspecialty Panel of the European Academy of Neurology, EAN. He was President of the German Autonomic Society, President of the European Federation of Autonomic Societies, and Chair of the Autonomic Section of the American Academy of Neurology. He is a member of the editorial board of Clinical Autonomic Research, and Associate Clinical Editor of Autonomic Neuroscience: Basic and Clinical. He also served as an advisor to the European Medicines Agency, EMA, on issues related to autonomic nervous system dysfunction.

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 peripheral and central autonomic nervous system, including hereditary sensory and autonomic neuropathies, diabetic neuropathies, and Fabry disease, and central autonomic disorders. He studied the pathophysiology of Familial Dysautonomia, also known as Hereditary Sensory and Autonomic Neuropathy Type III, of Fabry disease, and the effects of brain lesions of various etiologies on the central autonomic network and on autonomic function. He also described long-term changes in the central autonomic modulation of the cardiovascular system in patients with a history of traumatic brain injury, stroke, epilepsy, multiple sclerosis and other diseases.

VOLKER HÖMBERG
GERMANY

Prof. Hömberg had his medical education at the Universities of Düssel-dorf, Freiburg and Boston Massachusetts. After spending electives in Neurology at Boston City Hospital and the National Hospital for Nerv-ous Diseases Queens Square London he was a research fellow at the C. and O. Vogt Institute for Brain Research in Düsseldorf. In 1981 he started a residency in neurology with Prof. Hans Freund at Heinrich Heine University Düsseldorf. In 1987 he was appointed Director of the Neurological Therapy Centre (NTC) a newly founded Institute at Hein-rich Heine University in Düsseldorf. He was also founding Director of the NTC in Cologne . He was involved in the setup of many in-and outpa-tient rehabilitation hospitals in Germany. In 2001he started the St. Mauritius Therapy Clinic in Meerbusch near Düsseldorf and since 2011 he is Director of the Dept. of Neurology at the Gesundheitszentrum Bad Wimpfen and works as senior neurology group leader for the SRH-Group ,one of the biggest hospital groups in Germany.

He was founder, president and vice president of the German Society for Neurorehabilitation for many years. He serves as Secretary Gen-eral for the World Federation of Neurorehabilitation (WFNR)for more than 12 years and is Vice President oft the European Federation of Neurorehabilitation Societies. (EFNR)

He is regular reviewer and co-editor for many international peer re-viewing journals.

He is regular (co) -programme chairman for neurorehabilitation for major international meetings as the World- and European Neuroreha-bilitation Congresses (WCNR,ECNR), Controversies in Neurology (CONy) and the European Stroke Congress (ESC).

He has published more than 250 articles in international peer reviewed journals and many book chapters. His primary scientific interest are the fields of motor rehabilitation, cognition epistemiology, neurological music therapy and pharmacology in neurorehabilitation.

GEORGETA INCEU
ROMANIA

Academic Position
Since 2011 Assistant professor "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania, Department of Diabetes, Nutrition, Metabolic Diseases

Medical Position
Since 2015 Senior physician Diabetes, Nutrition and Metabolic Diseases (private practice)
2009-2015 Specialist physician Diabetes, Nutrition and Metabolic Diseases (private practice)
2004-2009 Resident physician Diabetes, Nutrition and Metabolic Diseases, Emergency Clinical County Hospital Cluj
1997-2003 Student of "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania, Department of Diabetes, Nutrition, Metabolic Diseases

Since 2016 Trainer in Podiatry
Professional memberships
Since 2018 Vice president of Romanian Association of Podiatry

Her area of interest is diabetic neuropathy, her PhD thesis titled "Nerve conductibility role in neuropathy screening and diagnosis in people with impaired glucose metabolism". She is the author of several articles in diabetic neuropathy domain.

PETER JENNER
UK

Prof Peter Jenner is a specialist in preclinical aspects of neurodegenerative diseases, notably Parkinson's disease. He has spent the major part of his career at King's College London where he was Head of Pharmacology for 14 years before returning to his research roots and subsequently becoming Emeritus Professor of Pharmacology. Peter has expertise in drug metabolism and pharmacokinetics but neuropharmacology based on functional models of

neurodegenerative diseases has formed the major focus of his work. Peter holds a BPharm, PhD and DSc from the University of London. He has published well over 1000 articles with more than 700 peer reviewed papers. He is a Fellow of the Royal Pharmaceutical Society, the British Pharmacological Society, the Royal Society of Medicine and of King's College London. Peter has worked closely with the pharmaceutical industry for many years and acts as an adviser and consultant to both major pharma and biotech companies. He has a wide knowledge of the drug discovery and drug development process and has been involved from molecule synthesis through to drug registration for use in man. Peter was the Founder, Director and Chief Scientific Officer of Proximagen, a biotech focussed on the treatment and cure of neurodegenerative diseases that was listed on AIMs and subsequently purchased by a US based healthcare company. He is a regular speaker at international meetings and also takes time to speak at Parkinson's disease patient-carer groups across the UK. Peter works closely with Parkinson's UK and the Cure Parkinson's Trust.

AMOS KORCZYN
ISRAEL

Professor Korczyn graduated from the Hebrew University – Hadassah Medical School in Jerusalem in 1966 (MD), where he also received an MSc degree in pharmacology (cum laude) in 1966. He trained in neurology at Beilinson Hospital and at the National Hospital for Nervous Diseases, Queen Square, London. He was the Chairman of the Department of Neurology at the Tel-Aviv Medical Center since 1981 until 2002, and the incumbent of the Sieratzki Chair of Neurology at Tel-Aviv University, 1995-2010. Professor Korczyn has a particular interest in neurodegenerative diseases. He has authored or co-authored over 600 articles in peer-reviewed journals, as well as chapters in books, etc. He edited several books and Special Issues in Journals, and is co-Editor of the Journal of the Israeli Neurological Association (JINA) since 2009. He is or has been an Editorial Board member of 20 international journals, and organized several neurological conferences, mainly in the field of dementia, Parkinson's disease and other degenerative brain disorders, as well as CONy – the International Congress on Controversies in Neurology. Professor Korczyn also served on advisory boards in several drug discovery programs.

Professor Korczyn is the Chairman of the Scientific Administrative Board of the Israeli Alzheimer's disease association (EMDA), and member of the SAB of Alzheimer Disease International, and has been the chairman of the WFN Research Committee for Neuropharmacology.
Professor Korczyn is an honorary member of the neurological societies of Israel, Serbia, Poland and Russia. Professor Korczyn's H-index is 39.

VITALIE LISNIC
REPUBLIC OF MOLDOVA

Professor of Neurology, responsible for postgraduate education of the residents at the State University of Medicine and Pharmacy „Nicolae Testemitanu", consultant neurologist at the Institute of Neurology and Neurosurgery in Chisinau, Republic of Moldova.
Dr. Lisnic graduated with mention the Faculty of General Medicine of the Chisinau State Medical Institute in 1989. He passed internships in Neurology and Neurophysiology in Moscow, Russian Federation, 1993; Charles University, Pilsen, Czech Republic, 1994; Landesnervenklinik of Salzburg, Austria, 1999; Emory University, Atlanta, USA, 2002 - 2003, Vienna University, Austria, 2008. In 2003 obtained a clinical attachment in neuropathies at the National Institute of Neurology, Queen's Square, London, UK.

V. Lisnic defended the thesis of doctor of science on amyotrophic lateral sclerosis (1995) and the thesis of habilitat doctor of medical science on impairment of the central nervous system in demyelinating neuropathies (2006). The main fields of clinic expertize and scientific interests are peripheral nerve disorders, neuromuscular diseases. He was the Principal Investigator in some research projects in neuropathies, postherpetic neuralgia, neuropathic pain, depressive disorders.
Vitalie Lisnic is the President of the Society of Neurologists of the Republic of Moldova, Fellow of the European Academy of Neurology. He is a member of the Education Committee of the World Federation of Neurologists, member of American Academy of Neurology, European Stroke Organization, Movement Disorders Society, Romanian Society of Electrodiagnostic Neurophysiology.

Professor Vitalie Lisnic is the author of 2 monographs, more than 150 scientific publications in Moldovan and International biomedical journals. Under his guidance were defended 5 Ph.D theses.

.

DAFIN F. MUREȘANU
ROMANIA

Professor of Neurology, Senior Neurologist, Chairman of the Neurosciences Department, Faculty of Medicine, "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, President of the European Federation of Neurorehabilitation Societies (EFNR), Co-Chair EAN Scientific Panel Neurorehabilitation, Past President of the Romanian Society of Neurology, President of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), Member of the Romanian Academy, Member of the Academy of Medical Sciences, Romania, secretary of its Cluj Branch. He is member of 17 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 400 scientific participations as "invited speaker" in national and international scientific events, a significant portfolio of scientific articles (193 papers indexed on Web of Science-ISI, H-index: 21) as well as contributions in monographs and books published by prestigious international publishing houses. Prof.

Dr. Dafin F. Muresanu has been honoured with: „Dimitrie Cantemir" Medal of the Academy of The Republic of Moldova in 2018, Ana Aslan Award 2018 - "Performance in the study of active aging and neuroscience", for the contribution to the development of Romanian medicine, National Order "Faithful Service" awarded by the President of Romania in 2017;

"Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Faculty of Medicine, the "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, "Iuliu Hatieganu" University of Medicine and Pharmacy 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.

RAAD A. SHAKIR

UK

Present Appointment:

- Professor of Neurology
- Division of Brain Sciences
- Imperial college, London
- Honorary Consultant Neurologist
- Chief of Service (2005-2015).
- West London Neuroscience Centre,
- Imperial College Healthcare NHS Trust,
- Charing Cross Hospital,
- Honorary Consultant Neurologist - University College Hospital London.

International:

- President, World Federation of Neurology 2014-2018.
- Chair, Topic Advisory Group, Nervous System Disorders, ICD11 WHO 2009-
- Secretary-Treasurer General - World Federation of Neurology January 2007 –2014.
- EAN WHO representative 2019-
- Member EAN European Affairs committee 2018-
- Fellow American Academy of Neurology
- Honorary Fellow European Academy of Neurology
- Honorary Fellow Japanese Society of Neurology
- Honorary Fellow Indian Academy of Neurology
- Honorary Fellow Sri Lankan Academy of Neurology
- Chair Local Organising Committee - World Congress of Neurology London 2001.
- Treasurer, Commission on Tropical Diseases, ILAE 1991 - 2001.
- Member, Education Committee, ILAE 1994 – 2001.

- Member, Public Relations Committee, WFN 1993 – 2005.
- Member Publication Committee, WFN 1989 – 1993.
- Secretary, Tropical Neurology Research Group, WFN 1989 – 2001.
- Chair Tropical Neurology RG. WFN 2001 – 2007.
- Secretary, Asian Division, Tropical Neurology RG, WFN 1987 – 1993.
- Delegate, Council of Delegates WFN 1984 – 1990.
- Associate Member American Academy of Neurology 1984 -
- Member, American Academy of Clinical Neurophysiology 1986 -

Publications:

Seventy six published papers in refereed Journals (List can be made available if required)

Latest publications:

* Mateen FJ, Dua T, Shen GC, Reed GM, Shakir R, Saxena S. Neurological disorders in the 11th revision of the International Classification of Diseases: now open to public feedback. Lancet Neurol. 2012; 11: 484-5.

* Shakir R, Rajakulendran S. The 11th revision of the International Classification of Diseases (ICD): the neurological perspective. JAMA Neurol. 2013; 70:1353-4.

* Shakir R, Bergen D. International Classification of Diseases (ICD-11) and Neurologic disorders: the future. Neurology 2013;81:182-3.

* Rakalulendran S, Dua T, Harper M, Shakir R. The classification of neurological disorders in the 11th revision of the International classification of Diseases (ICD-11). J Neurol Neurosurg Psychiatry. 2014; 85:952-3.

* Shakir R, Carroll W, Grisold W. The World Federation of Neurology and the impact of neurological diseases. Health Management 2014; 14(4):1

* Stone J, Hallett M, Carson A, Bergen D, Shakir R. Functional disorders in the Neurology section of ICD-11: A landmark opportunity. Neurology 2014; 83:2299-301.

* Feigen VL et al New Strategy to reduce global burden of stroke. Stroke 2015; 46: 1740-7.

* Shakir R Neurologists are key to the WHO global dementia Strategy. Lancet Neurol 2015; 14: 686.

* Shakir R. Neurodegenerative Noncommunicable Diseases (Neurology NCDs). Where are we now? J Neurol Sci, 2015; 356:1-2.

*Covanis A, Guekht A, Li S, Secco M, Shakir R, Perucca E. From global campaign to global commitment: The World Health Assembly's Resolution on Epilepsy. Epilepsia 2015; 56:1651-7.

*Shakir R. Brain health: widening the scope of NCDs. Lancet 2016, 387:518-9.

*Shakir R. Neurological expertise is essential for Zika Virus infection. Lancet Neurol 2016; 15:353-4.

*Shakir R. Neurologists and Zika. J Neurol Sci 2016; 363:164
*Wasay M, Grisold W, Carroll W, Shakir R. Celebrating brain health in and ageing population. Lancet Neurol. 2016 Sep;15(10):1008. doi: 10.1016/S1474-4422(16)30171-5. Epub 2016 Jul 22.

*Shakir R, Davies S, Norrving B, Grisold W, Carroll WM, Feigin V, Hachinski V. Revising the ICD: Stroke is a brain disease. Lancet 2016; 388: 2575-2476.

* Shakir R, Norrving B. Stroke in ICD11: the end of a long exile. Lancet 2017; 289: 2373.

* Shakir R, Norrving B. Stroke is a brain disease. J Neurol Sci 2017; 289:281-282.

* GBD 2015 Neurological disorders collaborators. Global, Regional and national burden of neurological disorders during 1990-2015: a systematic analysis for the global burden of diseases study 2015. Lancet Neurol 2017; 16: 877-897.

Author of 15 CHAPTERS and 2 BOOKS
Tropical Neurology (W B Saunders 1996);
Tropical Neurology (Landes Bioscience 2003).

Invited Lecturer in the fields of Global Neurology, CNS Infections and Epilepsy
National and International Meetings, Workshops and Symposia.
Regional and World Congresses on Global Neurological training and care delivery.

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.

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...

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 completed the curriculum on biostatistics 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.
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.

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

Since 1995 he is Senior Consultant for Biometry & Clinical Research at the Institute for Data Analysis and Study Planning (IDV). He planned and evaluated about 150 randomized clinical studies worldwide and 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).

Statistical peer reviewer for leading medical journals such as Stroke (American Heart Association).

Since 2013 Statistical Expert and Elected Member of the International Scientific Committee of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN).
Since 2013 Statistical Expert and Elected Member of the World Academy for Multidisciplinary Neurotraumatology (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.
Since 2018 Co-Chair EAN Guideline Task Force Neurorehabilitation.
Since 2018 Head Biometry & Clinical Research at the Institute for Data Analysis and Study Planning (IDV).
Since 2018 President of the Academy for Multidisciplinary Neurotraumatology (AMN).

DAVID VODUŠEK
SLOVENIA

David B. Vodušek, MD, PhD, FEAN, is Emeritus Professor of Neurology at the University of Ljubljana, Slovenia. Born in Slovenia he received his MD and PhD from the University of Ljubljana. He spend time in the Department for Clinical Neurophysiology, Uppsala, Sweden, Institute of Neurology, Queen Square, London, Baylor College, Houston, and at NYU, NY USA. In 1997 he was appointed full Professor of Neurology at the University of Ljubljana. He served as Head of the Institute of Clinical Neurophysiology in Ljubljana, as Chair of Neurology, Medical Faculty, University of Ljubljana and from 1996 - 2017 as Medical Director of the Division of Neurology, University Medical Center Ljubljana, where he continues to work as consultant. Dr. Vodušek is a member of the Slovene and German Neurological Association, British Association of Clinical Neurophysiology, and the European Academy of Neurology (Chair of the SubCommittee for European Affairs skince 2018), and is the Chair of CME experts Committee of the Biomed Alliance in Europe (since 2019). He serves on the Editorial Board of Neurourology and Urodynamics. During his career, Dr. Vodušek has authored more than 100 articles in peer-reviewed international journals and has co-edited the 130th volume of the Handbook of Clinical Neurology series (Neurology of Sexual and Bladder Disorders).

CAMELIA VONICA
ROMANIA

Academic Position
Since 2017 Assistant professor "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania, Department of Diabetes, Nutrition, Metabolic Diseases

Medical Position
Since 2017 Specialist physician Diabetes, Nutrition and Metabolic Diseases at Podiatry Clinic, Cluj-Napoca
2012-2016 Resident physician Diabetes, Nutrition and Metabolic Diseases, Emergency Clinical County Hospital Cluj
2006-2012 Student of "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania, Department of Diabetes, Nutrition, Metabolic Diseases

Membership
2017-2018 EASD member
2018 – present Neurodiab member
2018 – present Podiatry Association member

Area of interest:
Diabetic neuropathy and cardiovascular autonomic neuropathy. She is currently running research in the field of diabetic peripheral neuropathy. Her recent work in this field has been presented at the 28th Annual Meeting of the Diabetic Neuropathy Study Group of the EASD.

GENERAL INFORMATION

GENERAL INFORMATION

CONGRESS VENUE:

Hotel ALPIN - Poiana Brasov

Phone: +40 268 262 343, fax: +40 268 262 435
500001 Poiana Brasov, Brasov, Romania

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.

LOGISTIC PARTNER:

SYNAPSE
TRAVEL

Synapse Travel

37 Calea Motilor, Ap 6
Cluj Napoca, Romania
office@synapsetravel.ro
synapsetravel.ro

Scientific Secretariat

Foundation for the
Society for the Study of
Neuroprotection and
Neuroplasticity
37 Mircea Eliade Street, 400364,
Cluj-Napoca, Romania
Mr. Ovidiu Selejan: +40745255311
E-mail:office@ssnn.ro

Contact Details

Mrs. Doria Constantinescu,
mobile: +40757096111
doria@synapsetravel.ro

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).

THIS MEETING HAS BEEN ENDORSED BY:

EFNR The European Federation of NeuroRehabilitation Societies

ean the home of neurology

WFNR
World Federation for NeuroRehabilitation

ORGANIZERS

Institute for Neurological Research and Diagnostic
www.roneuro.ro

Foundation of the Society for the Study of Neuroprotection and Neuroplasticity
www.ssnn.ro

Foundation of the Journal for Medicine and Life
www.medandlife.org

Tel Aviv University
www.tau.ac.il

"Iuliu Haţieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania
www.umfcluj.ro

Uppsala University
www.uu.se

Romanian Society of Neurology
www.neurology.ro

Romanian Academy of Medical Sciences
www.adsm.ro

Global College of Neuroprotection and Neuroregeneration

ACADEMIC PARTNERS

European Academy of Neurology
www.ean.org

European Federation of Neurilogical Societies
www.efnr.org
www.ecnr.org

World Federation for NeuroRehabilitation
www.wfnr.co.uk

Foundation for the Study of Nanoneurosciences and Neuroregeneration

Donau Universitat Krems
www.donau-uni.ac.at

Society for Diabetic Neuropathy
www.neurodiab.org

MEDIA PARTNERS

ROMANIAN
NATIONAL NEWS AGENCY
AGERPRES
Updating the world.

Jurnalul Național
ZIAR VERTICAL

Fondator: Ion Cristoiu
Evenimentul zilei
www.evz.ro

Doctorul zilei

DeCe MEDICAL
De Ce se întâmplă?


FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEUROPROTECTION AND NEUROPLASTICITY