12TH EUROPEAN TEACHING COURSE on NEUROREHABILITATION

2-3 SEPTEMBER 2022 | EFORIE NORD | ROMANIA

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HYBRID EVENT

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WELCOME ADDRESS

This event is is jointly organized by the Foundation of the Society for the Study of Neuroprotection and Neuroplasticity and the Romanian Society of Neurology and "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania, and is endorsed by the World Federation of Neurorehabilitation (WFNR) and European Federation of Neurorehabilitation Societies (EFNR).

After eleven successful past events, the 12th European Teaching Course on Neurorehabilitation will again present a platform for the exchange of the newest scientific information, and will provide the proper environment for teaching oriented workshops. Each year, we are reaching out towards an audience with an interest in this steadily expanding and exciting field of neurorehabilitation (physicians, nurses, therapists, basic scientists etc.).

A major topic will be to debate and highlight the present standpoint of neurorehabilitation in Europe, and identify potential directions of future scientifical and educational perspectives, but also of services to be optimized.

DAFIN MURESANU

Course Director
EFNR President
SSNN President

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SCIENTIFIC PROGRAM

12TH EUROPEAN TEACHING COURSE on NEUROREHABILITATION

2ND OF SEPTEMBER 2022

09:00 – 09:15		WELCOME ADDRESS Dafin Muresanu (Romania), Volker Hoemberg (Germany), Natan Bornstein (Israel), Wolfgang Grisold (Austria)
SESSION 1 | CHAIRPERSONS: Dafin Muresanu (Romania), Volker Hoemberg (Germany)		
09:15 – 09:45		The concept of neurobiological reserve and the impact in stroke recovery Dafin Muresanu (Romania)
09:45 – 10:15		Proportional recovery after stroke or Long Covid: Truth or Chimera Volker Hoemberg (Germany)
10:15 – 10:45		Intersectorial action plan for epilepsy and other neurological disorders | IGAP and Brain Health Wolfgang Grisold (Austria)
10:45 – 11:15		Post stroke dementia (PSD) Natan Bornstein (Israel)
11:15 – 11:25		Discussions
11:25 – 11:40		COFFEE BREAK

SESSION 2 | CHAIRPERSONS: Hadi Manji (UK), Caterina Pistarini (Italy)

11:40 – 12:05		Brain computer interfaces Caterina Pistarini (Italy)
12:05 – 12:35		Eye movements in dizziness Sudhir Kothari (India)
12:35 – 14:00		Case presentations Sudhir Kothari (India)
14:00 – 15:00		LUNCH BREAK

SESSION 3 | CHAIRPERSONS: Raad Shakir (UK), Hadi Manji (UK)

15:00 – 15:30		Covid 19 – Neurological complications Hadi Manji (UK)
15:30 – 17:00		Case presentations Hadi Manji (UK)
17:00 – 17:15		COFFEE BREAK

SESSION 4 | CHAIRPERSONS: Natan Bornstein (Israel), Dafin Muresanu (Romania)

17:15 – 17:35		The WHO Global action plan on epilepsy and other neurological disorders Matilde Leonardi (Italy)
17:35 – 18:00		Current synthetic data regarding main assessment and rehabilitative approaches in spine/cord meningiomas Gelu Onose (Romania)

18:00 – 18:25  Rehabilitation tools in a digital world and the metaverse
Michael Kaldasch (Germany)

18:25 – 18:50  Pain control
Marta Imamura (Brazil)

18:50 – 19:15 High quality, non-interventional comparative effectiveness in neurorehabilitation - new pathways for observational trials within the framework of evidence-based medicine
Johannes Vester (Germany)

19:15 – 19:30 Discussions

3RD OF SEPTEMBER 2022

SESSION 5 | CHAIRPERSON: Raad Shakir (UK), Dafin Muresanu (Romania)

09:00 – 09:45 All are brain disorders: The pathology of mental symptoms
Raad Shakir (UK)

09:45 – 11:00 Case presentations
Raad Shakir (UK)

11:00 – 11:15 COFFEE BREAK

SESSION 6 | CHAIRPERSONS: Heinrich Binder (Austria), Dana Boering (Germany)

11:15 – 11:40  Therapeutic transcranial DC Stimulation
Nam-Jong Paik (South Korea)

11:40 – 12:05 The pivotal role of motivation in neurorehabilitation
Dana Boering (Germany)

12:05 – 12:30		Modern concepts of disorders of consciousness Karin Diserens (Switzerland)
12:30 – 12:55		Driving recovery in the post-stroke brain through volition: A case study in digital brain health Paul Verschure (The Netherlands)
12:55 – 13:10		Discussions
13:10 – 14:00		LUNCH BREAK

SESSION 7 | CHAIRPERSONS: Volker Hoemberg (Germany), Heinrich Binder (Austria)

14:00 – 14:25		Epilepsy and neurorehabilitation Nirmal Surya (India)
14:25 – 14:50		The essence of neurorehabilitation - a philosophical interpretation Heinrich Binder (Austria)
14:50 – 15:15		Head trauma and dementia Katrin Rauen (Switzerland)
15:15 – 15:25		Discussions
15:25 – 15:40		COFFEE BREAK

SESSION 8 - BLACK SEA GRAND ROUNDS
CHAIRPERSONS: Raad Shakir (UK), Volker Hoemberg (Germany)

15:40 – 16:40	Case presentations (Dana Boering & Volker Homberg) Volker Hoemberg / Dana Boering (Germany)
16:40 – 17:40	Case presentations (Dafin Muresanu's team)

16:40 – 17:10		Case Presentation of Anti-N-Methyl-D-Aspartate (NMDA) Receptor Encephalitis in a 22-year-old female without ovarian teratoma Irina Benedek (Romania)
17:10 – 17:40		Chameleons in motor neuron disease – atypical clinical variants we cannot afford to miss (case presentations) Hanna-Maria Dragos (Romania)
17:40 – 18:00		COFFEE BREAK

SESSION 9 | CHAIRPERSONS: Dana Boering (Germany), Natan Bornstein (Israel)

18:00 – 18:25		Designing a Large Multi-center Neuromodulation Stroke Recovery Trial Wayne Feng (USA)
18:25 – 18:50		Selected outcomes after traumatic brain injury (TBI), their assessment, and therapy Nicole von Steinbuchel (Germany)
18:50 – 19:15		Is it prime time for spiritual therapy to improve outcomes in neurorehabilitation? Mayowa Owolabi (Nigeria)
19:15 – 19:30		Discussions
19:30		CONCLUDING REMARKS & WRAP UP

ABSTRACTS

CASE PRESENTATION OF ANTI-N-METHYL-D-ASPARTATE (NMDA) RECEPTOR ENCEPHALITIS IN A 22-YEAR-OLD FEMALE WITHOUT OVARIAN TERATOMA

IRINA BENEDEK
Department of Clinical Neurosciences, University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj-Napoca, Romania

BACKGROUND:
Anti-NMDA Receptor encephalitis is an autoimmune disorder where Immunoglobulin G (IgG) antibodies against the NR1 subunit of the NMDA receptors are present in the central nervous system. These antibodies can be identified in the patient's cerebrospinal fluid or serum (CSF). Although a rare disease, it is the most common type of immune-mediated limbic encephalitis. The most frequent feature is the acute/subacute onset of neuropsychiatric symptoms. Early diagnosis and prompt immunotherapy treatment are essential for the outcome.

CASE PRESENTATION:
We report the case of a 22-year-old female medical student who was admitted to the emergency room of the Psychiatric Department for a car crash in a hallucinatory context. The acute onset of the psychiatric symptoms was 2 weeks before the accident and manifested through complex auditory and visual hallucinations along with maniacal elements. Despite symptomatic treatment of the psychiatric manifestations, the patient developed a catatonic state and other neurological disorders, for which she was transferred to the Neurological Unit. At presentation, she had altered consciousness, impaired speech, ocular flutter, swallowing difficulties, extrapyramidal rigidity with abnormal posturing, and slight hemodynamic instability. Even though the cerebral MRI with gadolinium and EEG didn't identify any abnormalities, the cerebrospinal fluid results were positive for anti-NMDA antibodies which were also present in the serum. Screening for ovarian teratoma was also performed by requiring a full body scan, but there was no evidence of a tumor. After IV methylprednisolone and immunoglobulins, followed by immunosuppressive therapy, the patient's clinical condition gradually improved.

CONCLUSIONS:
Typically, young individuals with no prior history of acute psychiatric symptoms should be screened for anti-NMDAR encephalitis. Prior to establishing a psychiatric diagnosis for such a patient, it is essential to consider the likelihood of this pathology.

THE ESSENCE OF NEUROREHABILITATION - A PHILOSOPHICAL INTERPRETATION

HEINRICH BINDER
Professor for Neurology, Chairman of the Special Interest Group/WFNR "Neurophilosophy" together with Giorgio Sandrini

Neurological rehabilitation affects individuals whose actions and behavior are not adapted to their living environment. Their ability to act is therefore restricted. Thereby one has to differentiate between general categorical capacity to act and individual capacity, which depends on specific intrinsic and extrinsic conditions.

For individual capacity, the term agency is used as opposed to mere events in one's life. Agency is a central part of human nature. In addition to cognition and thinking, agency requires emotion and motivation as mediators between cognition and action.

While the intrinsic conditions result from the pathology or dysfunction of the nervous system, the external conditions represent the living environment (Husserls "Lebenswelt") of the individual. This includes real social conditions and personal biographical experiences which have an influence on the subjective image of man. In this Husserl speaks of a world of simple intersubjective experiences ("Welt der schlichten intersubjektiven Erfahrungen"). Of course this subjective image includes also sociological (Dahrendorfs homo sociologicus), economic and cultural aspects. Motivation has already been mentioned above. Motivation has intentionality and is part of human nature in terms of striving for a good life, which is expressed in the ongoing basic feeling of satisfaction with the way of life, but also in accidental happiness. With regard to the good life, the individual is in a constant state of tension between wanting and the limitations of his or her possibilities. Reflected subjectivism speaks of an informed desire account. This touches on the question of basic needs such as: existential safety, physical integrity, performance, emotional security, self-development, appreciation of social status. Of course, there are different priorities. This brings us back to the limitations by neurological dysfunction and the central concerns, the essence of neurological rehabilitation from which everything else can be derived: agency and good life.

THE PIVOTAL ROLE OF MOTIVATION IN NEUROREHABILITATION

DANA BOERING
Neurologist, Neurorehabilitationist 2001, Neurophysiologist 2002

During the last decade, numerous efforts were undertaken in order to successfully translate the effects of enriched environmental animal research on neurorehabilitation strategies post-stroke and a growing body of literature was published emphasizing, increasing, and maximizing the amount of therapy time that each patient can benefit from. Only recently clinicians have been developing an increasing interest in intrinsic motivation and its role in therapy acceptance, self-training, patient commitment and resilience.

The talk will focus on the role of actual motivational theory rules on increasing the intensity of impairment-oriented training post-stroke and give a conceptual scenario regarding motivation assessment and motivation increasing tools in day by day clinical practice.

POST STROKE DEMENTIA (PSD)

NATAN BORNSTEIN
Professor of Neurology Tel-Aviv University, Neurology, Sackler Faculty of Medicine, Israel

Stroke is a major cause of long term physical, cognitive and emotional disability. Stroke and Dementia are the two major causes of Disability Lost Years (DALYs) and account for 36.5% of all population attributable prevalence fractions (PAPF) (1). Cognitive impairment as a sequella after ischemic stroke is a major issue and might be the only preventable form of dementia of late life. The diagnosis of Post Stroke Dementia (PSD) requires evidence of temporal relation between clinically defined stroke and cognitive decline, presence of focal neurological symptoms and signs and usually fluctuating course. However, the current criteria are insufficient and ill defined. The incidence of PSD varies between studies because of different diagnostic criteria the time of assessment of cognition after the stroke and characteristics of study populations. Still, it is generally accepted that approximately 25% of all ischemic stroke patients will develop dementia within 3-6 months. One out of 3 women and 4 men over the age of 65 will develop either stroke or dementia or both (2). The reported incidence of PSD vary and range between 6-32% in hospital based studies and in about 30% in population based studies which is 3.5 to 4.8 times greater than stroke-free subjects (3). For Mild Cognitive Impairment (MCI) after stroke the incidence range between 17-66% depending on the criteria used and the relative risk is 1.5-2.1 compared to stroke-free controls (4).

Mortality is afflicted by PSD and the mean survival in PSD is approximately 3-5 years. Risk factors for developing PSD include: age, female sex, low level of education, diabetes mellitus, cigarette smoking, white matter changes, left side infarct and volume of infarct. The mechanism of PSD by which stroke patients may develop is still not entirely clear and include: multi-infarcts, strategic single infarct (Thalamus, hippocampus etc.), chronic hypoperfusion and associated degenerative process (Alzheimer's disease).

There is lack of data regarding primary and secondary prevention of PSD.

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MODERN CONCEPTS OF DISORDERS OF CONSCIOUSNESS

KARIN DISERENS
Acute Neurorehabilitation Unit, Neurology, Department of and Clinical Neurosciences, University Hospital of Lausanne, Lausanne, Switzerland

Bedside assessment of consciousness or awareness after a severe brain injury may be hampered by confounding clinical factors (i.e., pitfalls) that interfere with the production of behavioral or motor responses to external stimuli. Indeed, despite use of validated clinical scales, a high misdiagnosis rate (30-40%) is observed in severe brain injury patients admitted to an acute neuro-rehabilitation program. The main pitfalls include polyneuropathy and/or myopathy and/or myelopathy, major cranial nerve palsies, non-convulsive status epilepticus, aphasia (expressive or comprehensive), cortical blindness, thalamic involvement and frontal akinetic syndrome. Each of these pitfalls could compromise the motor efference and verbal responses that are mainly evaluated by the current clinical scales. In order to avoid confusing unresponsiveness with disorders of consciousness, the validated

scales should be complemented by observing the motor behavior to detect subtle clues or conscious perception as signs of clinical 'Cognitive Motor Dissociation' (cCMD). We present a validated methodology called the Motor Behavior Tool (MBT) to detect cCMD using videos of clinical cases, and a treatment program using a neurosensorial approach in the very acute phase of severe brain injury patients. Recent results using structural MRI, functional MRI, PET and non-task-related evoked potentials confirm the clinical differentiation of cCMD and disorders of consciousness (DOC) by MBTr in the acute phase and bring a better understanding of the underlying neural networks involved.

DESIGNING A LARGE MULTI-CENTER NEUROMODULATION STROKE RECOVERY TRIAL – KEY COMPONENTS TO CONSIDER

WAYNE FENG
Chief for the Division of Stroke & Vascular Neurology, Stroke Director of Duke Comprehensive Stroke Center, tenured Professor of Neurology and Biomedical Engineering, Durham, USA

As evidence of various neuromodulation technologies emerges for stroke or other acquire brain injury condition, it is important to design high quality scientific rigorous clinical trial to demonstrate and confirm the safety, efficacy of neuromodulation technology. It is an important part of science advancement and translational process. This presentation will use TRANSPORT2 (TRANScranial direct current stimulation for POst-stroke motor Recovery – a phase II sTudy) study as an example to demonstrate the key components to consider when designing a multi-center stroke recovery trial – such as dose, montage, outcomes measures, patient selections and adjunctive rehabilitation therapy, power and sample size justification, etc. At the end of the presentation, the audience should have a basic understanding of major components of stroke recovery trial design.

CHAMELEONS IN MOTOR NEURON DISEASE – ATYPICAL CLINICAL VARIANTS WE CANNOT AFFORD TO MISS (CASE PRESENTATIONS)

HANNA-MARIA DRAGOS
Department of Clinical Neurosciences, University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj-Napoca, Romania

Amyotrophic lateral sclerosis (ALS) is a neurodegenerative disease that selectively affects upper and lower motor neurons and is fatal 3–5 years after onset – a description which suggests a homogenous clinical presentation of ALS. However, clinical, electrophysiological and genetic studies demonstrated that there is significant variability in the phenotypic expression of ALS with some important chameleon-like presentations and considerable variation in the clinical course.

Here, we present two cases of ALS with atypical clinical pictures that posed a diagnostic challenge and needed an extensive work-up. Furthermore, we discuss how unusual clinical characteristics could provide insights into the pathology, the disease progression and the development of therapeutic strategies in ALS.

Lack of confidence about such variability in clinical presentations and the importance of an extensive differential diagnosis has the potential to exacerbate diagnostic delay in ALS and impede timely care planning which is essential to maximizing quality of life in this disabling disease.

PAIN CONTROL

MARTA IMAMURA
Associate Professor at the University of São Paulo School of Medicine, São Paulo, Brazil

Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. Pain is a relevant biological phenomenon as informs on an actual or potential tissue damage. In these cases, pain control measures should address the underlying pathology, injury and related health condition. Chronic pain occurs beyond the expected healing time, usually persisting for more than three months of its onset. Neuropathic pain arises as a direct consequence of a lesion or disease affecting the somatosensory system. Painful peripheral neuropathy, polyneuropathy, radiculopathy, postherpetic

neuralgia, trigeminal neuralgia, spinal cord injury, postamputation and central poststroke pain. Nociplastic pain is recently defined as pain that arises from altered nociception despite no clear evidence of actual or threatened tissue damage causing the activation of peripheral nociceptors or evidence for disease or lesion of the somatosensory system causing the pain. Nociplastic pain derives from augmented pain processing and altered pain modulation in the central nervous system and should be considered in any patient with chronic pain. It is a phenotypic expression of multifactorial processes originating from different inputs, both as a response to a peripheral nociceptive or neuropathic trigger and reduced pain inhibitory mechanisms. Main clinical features of nociplastic pain conditions include combined peripheral and central sensitization, spinal cord reorganization, hyper-responsiveness to painful and non-painful sensory stimuli, associated with fatigue, sleep and cognitive disturbances, hypersensitivity to environmental stimuli, anxiety and depression mood. Pain control measures include nonopioid analgesics such as nonsteroidal anti-inflammatories (NSAIDs), acetaminophen, and aspirin. Additionally, medications such as tramadol, opioids, antiepileptic drugs (gabapentin or pregabalin) can be used with caution. Antidepressants such as tricyclic antidepressants and serotonin and norepinephrine reuptake inhibitors (SNRI's), topical analgesics, muscle relaxers, N-methyl-d-aspartate (NMDA) receptor antagonists, and alpha 2 adrenergic agonists are also possible pharmacological therapies. Adjunctive topical agents such as topical lidocaine, NSAIDs and capsaicin cream may also be useful treatments. Multidisciplinary rehabilitation approaches target sleep hygiene, adequate nutrition, physical fitness as tolerated and in progressive fashion. Nonpharmacological options include heat and cold therapy, cognitive behavioral therapy, relaxation therapy, biofeedback, group counseling, ultrasound stimulation, acupuncture, aerobic exercise, chiropractic, physical therapy, osteopathic manipulative medicine, occupational therapy, TENS units and neuromuscular stimulation. Interventional techniques can also be utilized for pain control. Spinal cord stimulation, epidural steroid injections, radiofrequency nerve ablations, botulinum toxin injections, nerve blocks, trigger point injections, and intrathecal pain pumps are some of the procedures and techniques commonly used to combat chronic pain. Pain control strategies should be introduced in a stepwise fashion, considering patient's tolerance and to avoid side effects. It is crucial to recognize the types of pain, as they respond differently to therapies. Patients diagnosed with nociplastic pain, for example, present with a decreased responsiveness to peripherally directed therapies such as anti-inflammatory drugs, opioids, surgeries and invasive procedures. First line interventions include non-pharmacological treatments, patient education, promotion of self-management control measures, including proper lifetime habits and psychological therapies.

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THE WHO GLOBAL ACTION PLAN ON EPILEPSY AND OTHER NEUROLOGICAL DISORDERS

MATILDE LEONARDI
Director of Neurology, Public Health, Disability Unit and Coma Research Centre and Director of the Italian WHO Collaborating Centre-Research BranchFondazione IRCCS Istituto Neurologico Carlo Besta, Milan, Italy

The World Health Organization's (WHO) new Intersectoral Global Action Plan (IGAP) on Epilepsy and other Neurological Disorders 2022-2031 was adopted by the World Health Assembly on May 2022. This plan represents an integrated approach to neurology and to neurological conditions throughout the life-course and envisions a world in which "brain health is valued, promoted, and protected across the life course; neurological disorders are prevented, diagnosed and treated, and premature mortality and morbidity are avoided; and people affected by neurological disorders and their carers attain the highest possible level of health, with equal rights, opportunities, respect and autonomy". It also spells out strategic objectives and specific targets, indicators signifying the achievement of these targets, and the means of verification of each indicator. This will mark a turning point for neurological disorders and for neurology and the human race, it will represent a real neurology revolution.

COVID 19 – NEUROLOGICAL COMPLICATIONS

HADI MANJI
Associate Professor at University College, London, UK

There was an inkling, because of the previous experience with the SARS and MERS pandemics, that SARS -CoV- 19 could cause neurological complications. The first reports from Wuhan, China in April 2020, documented neurological symptoms and syndromes in 36% of inpatients. However, it was not clear from those early reports, if these neurological complications were a result of the virus itself or were due to the complications of sepsis, hypoxia, metabolic derangements or drugs and interventions such as ventilation and ECMO (extracorporeal membrane oxygenation) used in these, often critically ill patients, on the Intensive Care Units.

Subsequently, in acute COVID infection, although relatively rare (but with potentially

devastating long-term sequelae given the number of individuals infected with the virus) the following syndromes have been associated – encephalopathy, inflammatory disorders including ADEM, encephalitis, opsoclonus/myoclonus or brain stem syndromes, large multi vessel strokes, neuropsychiatric disorders (psychosis, depression and anxiety). Several movement disorders have also been described including myoclonus (the commonest), and also Parkinsonism. The association of Guillain-Barre Syndrome and COVID -19 is, to date, still controversial. Some studies have also described a persistent low-grade myositis.

In my lecture, these neurological presentations will be described in more detail with examples and attempts at elucidating the underlying mechanisms (such as endothelialitis, thrombophilia, and cytokine storms) and hence treatment options. Neuropathological studies have detected the SARS-CoV2 virus in the brain, albeit at low levels. Inflammatory changes with microglial activation, microglial nodules and T cell activation were found in the brain stem and cerebellum.

It has also become clear that after acute COVID infection, whether mild or severe, a significant proportion will develop what is now called Long COVID. The commonest symptoms include headache, brain fog, fatigue, myalgia and autonomic symptoms, The underlying mechanisms have yet to be identified and treatment is at present symptomatic only. In this lecture, I will describe our experience at Queen Square since we have had to set up a special Long COVID Neurology clinic to address the demand.

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THE CONCEPT OF NEUROBIOLOGICAL RESERVE AND THE IMPACT IN STROKE RECOVERY

DAFIN MURESANU
Chairman Department of Clinical Neurosciences
'Iuliu Hatieganu' University of Medicine and Pharmacy, Cluj-Napoca, Romania

Stroke is a major global health problem and a leading cause of long-term adult disability worldwide.

Only a small proportion of stroke survivors (approximately 14%) achieve full recovery of activities of daily living, while 25–50% require some assistance, and approximately half experience long-term dependency.

Biological reserve is the most important parameter which determines brain capacity resilience to various lesional mechanism. Biological reserve can be assessed by using biomarkers that describe structural and functional features of the brain, key clinical parameters of the patient and molecular characteristics that measure the underlying cellular processes (that may be difficult to measure directly in humans) and structural and functional connectivity.

These could be used to understand outcome, or predict recovery or treatment response.

In practical terms, biomarkers should improve our ability to predict long-term outcomes after stroke across multiple domains. This is beneficial for: patients, caregivers and clinicians; planning subsequent clinical pathways and goal setting; identifying whom and when to target, and in some instances at which dose, with interventions for promoting stroke recovery.

This presentation briefly reviews the current and future considerations on this therapeutic strategy.

IS IT PRIME TIME FOR SPIRITUAL THERAPY TO IMPROVE OUTCOMES IN NEUROREHABILITATION?

MAYOWA OWOLABI
Professor of Neurology, pioneer Director, Center for Genomic and Precision Medicine, University of Ibadan, Nigeria

The overall goal of neurorehabilitation is to improve the quality of life of people living with neurological disorders, add years to life, add life to years and add meaning to life. The concept of quality of life cannot be understood without understanding the concepts of life, purpose of life, essence of life and nature of human life. An integrative concept of human life: the seed of life model (SOLM) was derived from extensive literature and scriptural research, multidisciplinary consultations and exploration of patient's belief systems and reinforced by analysis of the philosophies of Socrates, Plato, Aristotle, Descartes, Spinoza and Leibniz as well as Hartmann's and Scheller's theories. The SOLM proposes a dualistic configuration of the human nature comprising the physical and spiritual spheres. There is increasing interest in and scientific publications exploring spiritual aspects of patient care. Is it prime time to expand the philosophy of rehabilitation and investigate interventions beyond healing the body to healing the spirit? If we heal the spirit, through the mind could we also heal the body?

THERAPEUTIC TRANSCRANIAL DC STIMULATION

NAM-JONG PAIK
President & CEO of the Seoul National University Bundang Hospital, Professor of the Department of Rehabilitation Medicine, Seoul National University College of Medicine, Seul, South Korea

Neuroplasticity plays a major role during the recovery process of motor impairment, aphasia, dysphagia, and other symptoms after stroke. Neuromodulation technique, such as repetitive transcranial magnetic stimulation (rTMS) and transcranial direct current stimulation (tDCS), has gained growing importance in the field of stroke rehabilitation, and provides means to modulate brain cortical activity in a specific brain region and induces plasticity or long-lasting facilitative effect of the network that has been stimulated. Using their after-effects, we can potentially facilitate motor, cognitive, and language recovery after stroke.

According to the available literature on the effect of the transcranial DC Stimulation for stroke recovery, this modality demonstrated conflicting results, but still has a potential to be used as an adjuvant therapy for stroke rehabilitation when appropriately combined with behavioral therapy. However, the further establishment of stimulation protocols maximizing the beneficial effect of interventions in terms of the optimal target population, delivery timing and stimulation parameters should further be pursued. Up to now, transcranial DC Stimulation for stroke rehabilitation is off label, and needs a large-scale phase III clinical trials, with eventually proof of effectiveness in a meta-analysis study. In this lecture, I will introduce studies on the application of transcranial DC Stimulation for neurorehabilitation.

BRAIN COMPUTER INTERFACES

CATERINA PISTARINI
WFNR General Secretary
Director of Scientific Institute of Rehabilitation ICS Maugeri, Genova, Italy

With the continuous development of artificial intelligence technology, "brain-computer interfaces" are gradually entering the field of medical rehabilitation. As a result, brain-computer interfaces (BCIs) have been included in many countries' strategic plans for innovating this field, and subsequently, major funding and talent have been invested in this technology. In neurological rehabilitation for stroke patients e.g., the use of BCIs opens up a new chapter in "top-down" rehabilitation. In this lecture, we, at first, presented recent research advances and landmark findings in BCI-based neurorehabilitation for stroke patients and for patients with Disorders of consciousness. We reviewed the latest studies where Neurorehabilitation has focused on the areas of motor, sensory, speech, cognitive, and environmental interactions. Finally, we summarized the shortcomings of BCI use in the field of neurorehabilitation and the prospects for BCI technology development for rehabilitation.

HEAD TRAUMA AND DEMENTIA

KATRIN RAUEN
Consultant in Neurology, Psychiatry & Psychotherapy - Department of Geriatric Psychiatry, University Hospital of Psychiatry Zurich, Switzerland

Traumatic brain injury (TBI) is the most relevant external risk factor for dementia and the current classification into mild, moderate, or severe TBI often misrepresents the patient's neuropsychiatric long-term outcome. Half of patients with a normal routine brain scans complain of functional deficits, and more than 15% of patients suffer from cognitive dysfunction at 12 months after a so-called mild TBI. Thus, our overarching goal is to identify patients at risk of an unfavorable TBI outcome early. Here, we give insights in the following topics for clinicians and neuroscientist in the field of Neurotrauma:

- TBI epidemiology and the lifetime risk of dementia
- TBI outcome trajectories and viewing TBI as a chronic neurodegenerative disease
- Neuropathology after a single TBI or repetitive concussions
- TBI injury patterns and the relevance of the prefrontal cortex
- Cognitive dysfunction after a single mild or repetitive TBI (concussions)
- Clinical assessments to identify TBI patients at risk of an unfavorable outcome early
- Current knowledge on fluid biomarkers
- State-of-the-art neuroimaging and advanced imaging techniques after TBI
- Perspectives on cognitive neurorehabilitation after TBI

ALL ARE BRAIN DISORDERS: THE PATHOLOGY OF MENTAL SYMPTOMS

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

- Can there be a serious mental disorder with a normal brain?
- How precise are we in diagnosis both in Psychiatry and Neurology?
- Comorbidity, co-existence or causality?
- Has the time come for precision medicine to prevail?

The answers are becoming clearer with a closer look at major psychiatric disorders such as schizophrenia, bipolar disorder and severe depression. Functional neurological disorders, Alzheimer's disease and Parkinson's disease have major psychiatric components with known brain pathology. The molecular basis of all brain disorders are being clarified.

SELECTED OUTCOMES AFTER TRAUMATIC BRAIN INJURY (TBI), THEIR ASSESSMENT, AND THERAPY

NICOLE VON STEINBUCHEL
Director of the Institute of Medical Psychology and Medical Sociology of the University Medical Center, Georg-August-University of Goettingen, Germany

The Collaborative European NeuroTrauma Effectiveness (CENTER-TBI) is a large European prospective, observational cohort study, designed to improve disease characterization, clinical, neuropsychological, and psychosocial outcome and care after traumatic brain injury (TBI). For this purpose we validated clinician-reported outcome instruments linguistically and psychometrically to assess outcome after TBI. The aim of the present talk is to summarize the most important findings on selected outcomes after TBI, their assessment, and therapy.

The talk is focusing on the clinical utility (i.e., the sensitivity) of the outcome instruments, recovery patterns of anxiety, depression, post-traumatic stress disorders, post-concussion symptoms, and disease-specific health-related quality of life (HRQOL) within one year after TBI. Also factors associated with unfavorable outcomes and therapy and rehabilitation after TBI will be tackled.

The Glasgow Outcome Scale – Extended (GOSE) followed by the physical component summary score (PCS) of the long and short version of the Short Form Health Survey (SF-36v2/12v2), the Quality of Life after Traumatic Brain Injury (QOLIBRI and its overall scale) as well as the Rivermead Post-Concussion Symptoms Questionnaire (RPQ) are the most sensitive instruments to detect differences between patient groups based on sociodemographic, premorbid, and injury related factors.

Most outcomes showed small but significant improvement between 3 and 6 months after TBI with little change thereafter. Overall, follow-up interventions, psychiatric and psychological therapy, and rehabilitation need further development.

EPILEPSY AND NEUROREHABILITATION

NIRMAL SURYA
President, Indian Academy of Neurology

According to WHO, Epilepsy affects an estimated 50 million people worldwide, which is a major health concern for all the countries. Developing countries have a higher prevalence of Epilepsy due to malnutrition, traumatic events, obstetric complications, drug abuse and infections. The life time prevalence rate for epilepsy in developing countries varies from 1.5 - 14 per 1000 in Asia to 5.1 - 57.0 per 1000 in Latin America and 5.2 - 74.4 per 1000 in sub Sahara Africa. In India, the prevalence studies of Epilepsy suggests that there are approximately 20-25 million people. In India, and majority of the developing countries there is a wide treatment gap, which increases in the rural population.

With an increase in prevalence and an increase in the treatment gap, the disability associated with Epilepsy is not discussed in literature. Approximately 30% patients with epilepsy have significant neurological co-morbidity (ID, CP, Autism, ADHD, Stroke, Head injury and Encephalitis. In the developing world, epilepsy is associated with many disabilities particularly in children. In children with Epilepsy, 30 - 40% have ID and 7 - 42% have autism. In a population based study, 38% of children with CP has epilepsy. ADHD, ASD are more common with epilepsy.

The more serious the neurological co-morbidity, the higher the incidence of epilepsy, each disability needs to be addressed separately besides the disability related to epilepsy itself. There is paralysis seen due to hypoxic brain injuries causing secondary epilepsy. Trauma and burns due to seizure related activities also contribute to the stigma and misconceptions. In some patients, social stigma can pose a greater challenge than the epilepsy itself. People with epilepsy have an increased risk of poor self-esteem, depression, and suicide.

A multidisciplinary team approach for a proper management of an epilepsy patient should be done as epilepsy is more then just a seizure and PWE suffer from motor dysfunction or speech disturbance due to structural lesion. Neurodisability with epilepsy could lead to cognitive and learning disability therefore a MDT consisting of physiotherapist, occupational therapist, speech and language therapist, neuropsychologist is needed to deal appropriately. Lastly, many Antiepileptic drugs themselves can cause cognitive and behavioral disturbances and one needs to identify those at the earliest and treat them accordingly.

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

JOHANNES VESTER
President of the Academy for Multidisciplinary Neurotraumatology, Associate Professor, Department of Neuroscience, "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania

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.

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.

Current perspectives of evidence-based medicine, classic and modern approaches to comparative effectiveness research, future pathways to improve the quality of CE trials, are discussed with examples from different fields of neurorehabilitation.

CURRICULUM VITAE

IRINA BENEDEK
ROMANIA

I am a third-year Neurology Resident Doctor at the Emergency County Hospital in Cluj-Napoca and a Volunteer at the RoNeuro Institute for Neurological Research and Diagnosis since 2021. My main interests concern the comprehensive management and research of cerebrovascular and neurodegenerative diseases, as well as the appliances of Neurosonology as a diagnosis tool.

WORK EXPERIENCE:

Neurology Resident Doctor, Emergency County Hospital Cluj-Napoca, Romania [31/01/2020-current]

VOLUNTEER:

RoNeuro Institute for Neurological Research and Diagnosis [01/03/2021-current]

EDUCATION & TRAINING:

Medical Doctor
"Iuliu Hatieganu" University of Medicine and Pharmacy [2013-2019]

PUBLICATIONS:

Clinical neurology during the COVID-19 pandemic – physicians in training perspective series.
Benedek I, Hapca E, Vacaras V, Mureșanu D.
J Med Life. 2022 Jan;15(1):1-3. doi: 10.25122/jml-2022-1001.
The Effect of Cerebrolysin on Anxiety, Depression, and Cognition in Moderate and Severe Traumatic Brain Injury Patients: A CAPTAIN II Retrospective Trial Analysis.
Mureșanu IA, Grad DA, Mureșanu DF, Hapca E, Benedek I, Jemna N, Strilciuc Ș, Popescu BO, Perju-Dumbravă L, Cherecheș RM.
Medicina (Kaunas). 2022 May 9;58(5):648. doi: 10.3390/medicina58050648.

HEINRICH BINDER
AUSTRIA

1965 – 1972	Faculty of Medicine at University Vienna; MD since doctorate at 1972, June 6th
1972 – 1978	University Hospital for Neurology, Vienna – residency
1975 – 1990	Neurological consultant in 5 Viennese pediatric hospitals, in the interim also in one orthopedic hospital
since 1978	Neurologic and psychiatric specialist
1982	Lecturer for neurology, ("venia docendi")
1984 – 1989	Senior staff member at the Viennese University Neurological Clinic
1985 – 2008	Founding member and Secretary General of the Austrian Society for Neurorehabilitation
since 1988	Professor for Neurology, University Vienna
1989 – 2016	Head of the Neurological Hospital "Maria Theresien-Schlössel", from 2002 transferred to the Otto Wagner Spital, now named "Neurological Center MariaTheresien-Schlössel"
1194 – 2007	Head of Ludwig Boltzmann Institute for Restorative Neurology and Neuromodulation together with Franz Gerstenbrand
2008 – 2017	Deputy Head of Landsteiner Institute for Neurorehabilitation and Space Medicine
2009	Founding member and Founding President of European Federation neurorehabilitation Societies
2008 – 2015	President of the Austrian Society for Neurorehabilitation
2010 – 2019	Chairman of the WFNR-SIG "Early Neurorehabilitation"
Since 2017	Director, Health Policy Group AOER-Organization for Economic Relations
Since 2019	Neurological consultant ADELI Rehabilitation Center Piestany/Slovakia
Since 2021	Chairman of the Special Interest Group/WFNR "Neurophilosophy" together with Giorgio Sandrini

Memberships

- Member of the Management Committee of the World Federation NeuroRehabilitation (WFNR)
- Member of the Executive Board of the European Federation of Neurorerahbilitation Societies (EFNR)

- Vice-President of the Scientific Advisory Board of the Austrian Neurorehabilitation Society (OEGNR)
- Member of the Managing Board of the International Danube Symposium
- Member of the Editorial Board of "Journal of Medicine and Life":
- Member of the Advisory Board of "Confinia Cephalalgica et Neurologica"

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 BelgiumMember 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)

KARIN DISERENS
SWITZERLAND

Specialist in neurology, physical medicine and rehabilitation. Co-creator of the Swiss Society of Neurology, head of post-acute neuro-rehabilitation clinics (1996-2005), before leading a mobile neurorehabilitation team at the University Hospital (2006-2009) and becoming head of the Acute Neuro-rehabilitation Unit of the Neurology service (NRA), in the Department of Clinical Neurosciences, Lausanne University Hospital. After contributing to quality criteria for acute and post-acute neuro-rehabilitation in Switzerland, my current research goals concern the evaluation of diagnosis of disorders of consciousness and the effect of neurosensorial stimulation and hyper-acute mobilization using robotic mobilization on rehabilitation. Cognitive approaches to creation and emotion is a central focus of the research of the NRA Unit for developing treatment techniques inside and during outdoor therapy. As a University lecturer (Privat docent), I created the teaching program in the domain of acute neuro-rehabilitation for pre-graduate and post-graduate training of medical students and interdisciplinary professionals. I was nominated Professor at Lausanne University, Switzerland in 2021.

MAIN ASSOCIATION MEMBERSHIPS:

- Co-chair, World Federation of Neurology, Special Interest Group of Early Mobilization
- Management group, European Academy of Neurology Scientific Panel of Neuro-rehabilitation
- Member, European Academy of Neurology Scientific Coma Panel
- Member of committee, European Federation of Neuro-rehabilitation Societies

HANNA-MARIA DRAGOS
ROMANIA

I am a third-year neurology resident at the Emergency County Hospital of Cluj-Napoca and volunteer at RoNeuro Institute for Neurological Research and Diagnostic. I have a master's degree in Clinical Pharmacology and an ongoing master's degree in Public Health. I am interested in cerebrovascular and neurodegenerative diseases as these are the most challenging fields in neurology in terms of early diagnosis, therapeutic management and neurorehabilitation. Also, I am enthusiastic to learn about the applications of modern technology in neuroscience such as quantitative EEG or machine learning algorithms.

WORK EXPERIENCE

Neurology Resident, Clinical Recovery Hospital [31/01/2020 – Current]
Cluj-Napoca, Romania

Volunteer
RoNeuro Institute for Neurological Research and Diagnostic [10/2017 – Current]
Cluj-Napoca, Romania

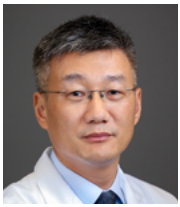
EDUCATION AND TRAINING

Master Degree in Public Health
"Babes-Bolyai" University of Cluj-Napoca [2020 – Current]
Cluj-Napoca (Romania)

Master Degree in Clinical Pharmacology
"Iuliu Haţieganu" University of Medicine and Pharmacy [2018 – 2020]
Cluj-Napoca (Romania)

Medical Doctor
"Iuliu Haţieganu" University of Medicine and Pharmacy [2012 – 2019]
Cluj-Napoca (Romania)

Bachelor in Communication Sciences. Journalism
"Babes-Bolyai" University of Cluj-Napoca [2013 – 2017]
Cluj-Napoca (Romania)



WAYNE FENG
USA

Dr. Wayne Feng is the Chief for the Division of Stroke & Vascular Neurology, Stroke Director of Duke Comprehensive Stroke Center, and tenured Professor of Neurology and Biomedical Engineering. Dr. Feng is a physician scientist and his research portfolios include developing imaging biomarker for post-stroke motor outcomes prediction, and use of non-invasive brain stimulation tools, such as, transcranial direct current stimulation (tDCS), vagus nerve stimulation, low intensity focused ultrasound and transcranial light stimulation to enhance post-stroke motor recovery. His research has been actively funded by National Institute of Health, American Heart Association/American Stroke Association and industry. He is currently leading an NIH funded 8.1 million U01 15-center, phase II study called TRANSPORT 2 (TRANScranial direct current stimulation for POst-stroke motor Recovery – a phase II sTudy) – on the NINDS stroke trial network.

Dr. Feng has published 100+ peer reviewed manuscripts and numerous book chapters. He recently co-edited a book –" Cerebral Venous System in Acute and Chronic Brain Injuries". Dr. Feng received several prestigious awards for his research work in stroke and stroke recovery including the First "Rehabilitation Award" from American Heart/Stroke Association in 2015, "Franz Gerstenbrand Award" from World Federation of Neurorehabilitation (WFNR) in 2016, Arthur Guyton New Investigator Award, Consortium for Southeastern Hypertension Control (COSEHC) in 2016 and "Clinical Investigator Award" from the Society of Chinese American Physician Entrepreneur (SCAPE). He is the Section Chair of Neural Repair & Rehabilitation, American Academy of Neurology. He is one of six at-large members supporting the Presidium of WFNR and the North America Vice President. He is the scientific program committee member of the world congress of neurorehabilitation 2022. He is the associate editor-in-chief for Translational Stroke Research from 2019 to 2021.

WOLFGANG GRISOLD
AUSTRIA

Prof. Wolfgang Grisold is a specialist for neurology and psychiatry. In neurology he has a background in neuropathology and neurophysiology.

Special interests are general neurology, neurooncology, neuromuscular disease, education and patient related issues as pain, palliative care and advocacy.

He is involved education, and has been the initiator of the UEMS European board examination in neurology.

He has experience in hospital practice, research and private practice. He has participated in EU projects on paraneoplastic syndromes. The scientific focus is the effect of cancer on the peripheral nervous system, in particular in peripheral neurotoxicity and the direct effects of cancer.

In regard to neuromuscular disease, he has experience with autoimmune diseases, in particular myasthenia gravis and inflammatory neuropathies. He works in an interprofessional setting in diagnosis and treatment of mononeuropathies including imaging (ultrasound) electrophysiology and also plastic and reconstructive surgery.

He has authored and edited 20 books, and his pubmed count is presently 265.

He is involved in several international neurological societies and has organized several international neurological congresses, among the EANO congress in 2006 in Vienna, the ICNMD 2018 in Vienna , and was involved in the organization of the World Congress of Neurology 2013, in Vienna, as the congress secretary.

He has become an elected trustee of the World federation of Neurology in 2009, and has started his term as the WFN president in 2022.

VOLKER HOEMBERG
GERMANY

Prof. Hoemberg had his medical education at the Universities of Düsseldorf, Freiburg and Boston Massachusetts. After spending electives in Neurology at Boston City Hospital and the National Hospital for Nervous 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 General for the World Federation of Neurorehabilitation (WFNR) for more than 12 years and is Vice President of the European Federation of Neurorehabilitation Societies (EFNR).

He is regular reviewer and co-editor for many international peer reviewing 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.

MARTA IMAMURA
BRAZIL

Marta Imamura, MD PhD is Associate Professor at the University of São Paulo School of Medicine, Department of Legal Medicine, Bioethics, Labour Medicine, and Physical Medicine and Rehabilitation. Prof Imamura received her medical degree at the University of São Paulo School of Medicine in São Paulo, Brazil in 1987. She specialized in Physical and Rehabilitation Medicine after completing a three-year residency programme at University of São Paulo School of Medicine (1988-1990) in 1990. She received her master and doctorate degree at the same University in 1994 and in 1998 respectively. She coordinates the Pain Laboratory at the Clinical Research Center of the institute of Physical Medicine and Rehabilitation, Hospital das Clinicas, University of Sao Paulo School of Medicine. Her research focuses on functional assessment and rehabilitation management of chronic disabling pain. She is member of the Pan American Health Organization Collaborating Center for Rehabilitation. Prof Imamura coordinates the medical undergraduate Rehabilitation discipline in the core curriculum at the University of Sao Paulo School of Medicine and the post-graduation disciplines entitled "Functional Assessment in Rehabilitation" and "Clinical Trials Designs in Rehabilitation Research". She is currently the Associate Editor of the Acta Fisiatrica Journal. Prof Imamura has authored and co-authored more than 70 peer-reviewed publications. She has served as President of the Brazilian Association of Physical Medicine and Rehabilitation for two consecutive terms: 2008-2010, 2010-2012. Dr Imamura has also served as President of the International Society of Physical and Rehabilitation Medicine in 2012-2014 and currently serves as member at large of the World Federation for NeuroRehabilitation.

MICHAEL KALDACH
GERMANY

Dr. Michael J. Kaldasch is medical doctor, the CEO and cofounder of Aimedis. He studied medicine and graduated from the Heinrich-Heine- University in Duesseldorf. He has 12 years of clinical experience in internal medicine. Besides, he has been working as a drug safety officer in a CRO.

SUDHIR KOTHARI
INDIA

ACADEMICS

- First in Pune in SSC and Predegree exams
- Gold Medals in Physiology, Biochemistry, Pathology and Medicine
- Best Outgoing student B.J.Medical College, 1980.

PRESENT POSITIONS

- HOD Neurology at Poona Hospital
- Member of the Barany Society
- Editorial Board of "Audiology Research" journal.

TEACHING ACTIVITIES

- Conducts various courses in Neurology through FINE
- Invited speaker on vertigo, in and outside India

PUBLICATIONS:

- contributed chapters on vertigo in and outside India
- Dizziness and vertigo; Michael Strupp (Kontentworks)
- Neuro-otology; Sergio Carmona (AKADIA, Buenos Aires)

MATILDE LEONARDI
ITALY

CURRENT AFFILIATIONS:
Director of Neurology, Public Health, Disability Unit and Coma Research Centre and Director of the Italian WHO Collaborating Centre-Research Branch
Fondazione IRCCS Istituto Neurologico Carlo Besta, Milan, Italy

QUALIFICATIONS AND MEMBERSHIPS:
Neurologist, Paediatrician, Neonatologist, Child neurologist. Specialized in Bioethics. WFNR Presidium member, EAN board member, EFRR board member, WHO expert on disability and neurology, Corresponding member of the Pontificia Academia Pro Vita. FEAN, Fellow of the European Academy of Neurology. From June 2020 nominated Co-chair of the WHO NeuroCovid Forum–essential neurological services Group, and member of Neuro Covid Global Research Coalition.

AREAS OF INTEREST:
Developing and carrying out national and international research projects related to burden of diseases, neurology (in particular disorder of consciousness and headaches), neurocovid, neurorehabilitation, disability, ageing, chronic non communicable diseases, public health, employment and NCDs, ICF (WHO's International Classification of Functioning, Disability and Health) and related instruments.

PUBLICATIONS:
more than 270 publications on related topics
Awards: Italian excellence for research 2019 – one of the 100 Italian Excellences

HADI MANJI
UK

Dr Hadi Manji was appointed Consultant Neurologist at the National Hospital, Queen Square London in 1997. In 2022, he was appointed Associate Professor at University College, London. He studied medicine at Trinity Hall, Cambridge and the Middlesex Hospital. After qualification in 1982, he trained as a General Practitioner and subsequently in Neurology at the National Hospital and Hospital Kremlin Bicetre, Paris.

His specialist interest is in Neuro-infections (including HIV, Tropical Disorders and now Covid-19) as well as Peripheral Nerve disorders. He is part of the MRC Centre for Neuromuscular Diseases at the National Hospital.

In 2018, he set up a monthly "Encephalitis: infection and immunological" MDT which had to be upgraded from monthly to a weekly virtual meeting because of the increasing number of referred cases related to COVID 19.

Dr Manji was President of the Neurosciences Section of the Royal Society of Medicine in 2019/2020.

He is Chairman of the Medical Committee at Queen Square.

Other interests include teaching – he has taught and lectured in Kenya, Mozambique, Nigeria and India.

He is Senior author and editor of the Oxford Handbook of Medicine (3rd edition now in preparation).

DAFIN MURESANU
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), Chairman of the EAN Communication Committee and Member of the Board, Co-Chair EAN Scientific Panel Neurotraumatology, Past President of the Romanian Society of Neurology, President of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), Corresponding 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 also a specialist in Leadership and Management of Research and Health Care Systems (specialization in "Management and Leadership, Arthur Anderson Institute, Illinois, USA, 1998"; "MBA – Master of Business Administration - Health Care Systems Management, The Danube University - Krems, Austria, 2003"). He has performed valuable scientific research in high interest fields such as: neurobiology of central nervous system (CNS) lesion mechanisms; neurobiology of neuroprotection and neuroregeneration of CNS; the role of the Blood-brain barrier (BBB) in CNS diseases; developing comorbidities in animal models to be used in testing therapeutic paradigms; nanoparticles neurotoxicity upon CNS; the role of nanoparticles in enhancing the transportation of pharmacological therapeutic agents through the BBB; cerebral vascular diseases; neurodegenerative pathology; traumatic brain injury; neurorehabilitation of the central and peripheral nervous system; clarifying and thoroughgoing study on the classic concepts of Neurotrophicity, Neuroprotection, Neuroplasticity and Neurogenesis by bringing up the Endogenous Defense Activity (EDA) concept, as a continuous nonlinear process, that integrates the four aforementioned concepts, in a biological inseparable manner.

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 500 scientific participations as "invited speaker" in national and international scientific events, a significant portfolio of scientific articles (209 papers indexed on Web of Science-ISI, H-index: 22) as well as contributions in monographs and books published by prestigious international publishing houses.

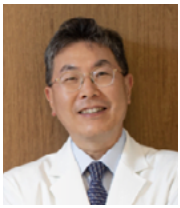
Prof. Dr. Dafin F. Muresanu has been honored with: „Dimitrie Cantemir" Medal of the Academy of The Republic of Moldova in 2018, Ana Aslan Award 2018 - "Performance in the study of active aging and neuroscience", for the contribution to the development of Romanian medicine, National Order "Faithful Service"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

MAYOWA OWOLABI
NIGERIA

Mayowa OWOLABI, MD, DrM, FAAN, FANA, FRCP, FAS, FAAS, FAMedS is a Professor of Neurology, and pioneer Director, Center for Genomic and Precision Medicine, University of Ibadan, Nigeria. He is a Fellow of the American Academy of Neurology, Royal College of Physicians, Academy of Medical Specialties, the Nigerian Academy ofScience and African Academy of Sciences. He is an outstanding scientist with several inventions and innovations including the 'Seed of Life Model', 'stroke quadrangle', and 'brain quadrangle', 'stroke levity scale', 'stroke recovery spiral', and 'implementation cycle'. He developed the first holistic

health-related quality of life in stroke patients questionnaire (HRQOLISP) which is in use across the globe including in Nigeria, Colombia, Germany, Spain, etc. He has over 330 publications with over 77,100 citations with a Google Scholar h-index of 70. He has led over 20 funded research and training grants in stroke including THRIVES, SIREN – the largest study of stroke in Africa, ARISES, SIBS-Genomics, and TALENTS.

He is the pioneer Regional Vice-President, World Federation of NeuroRehabilitation (Africa) and member of the Presidium (WFNR, African Regional Director, World Hypertension League, Foundation Co-Chair, African Stroke Organization and Rapporteur of the World Health Organization (WHO), Technical Advisory Committee on Non-Communicable Diseases (Research & Innovation). He is the Lead Co-Chair, WHO-World Stroke Organization (WSO)-Lancet Commission on stroke. He is the winner of the 2021 WSO Global Award for Outstanding Contributions to Clinical Stroke Research.



NAM-JONG PAIK
SOUTH KOREA

Currently, I am the President & CEO of the Seoul National University Bundang Hospital, and the Professor of the Department of Rehabilitation Medicine, Seoul National University College of Medicine.

I received my M.D. from Seoul National University and Ph.D. in preventive medicine from Seoul National University. I did my residency training in rehabilitation medicine at the Seoul National University Hospital. At SNUH I did a 2-year clinical fellowship, studying neurorehabilitation and clinical neurophysiology. I also studied at the Human Cortical Physiology Section of the NIH/NINDS as a visiting fellow for the year 2005-2006. I became an assistant professor at Seoul National University in 2001 and a tenured professor in 2010. As a hospital administrative track, I had been in positions of Chief Public Health Officer, Chief Finance & Strategic Officer, Chief Communications Officer, the Director of the Referral Center, and the Department of Rehabilitation Medicine.

At medical college, I served as the Chair of the Department of Rehabilitation Medicine between 2020-2021.

Academically, I am the Chair of the Research Committee of the World Federation for

NeuroRehabilitation. I am also serving as the Editor for 'Annals of Physical and Rehabilitation Medicine'.

Now, I am a member of the National Academy of Medicine of Korea, and serving as a board of directors for the Korean Academy of Rehabilitation Medicine, the Korean Society for NeuroRehabilitation, the Korean Geriatric Society, and the Korean Telemedicine Society.

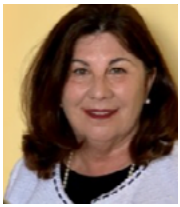
I was the member-at-large of the World Federation for NeuroRehabilitation between 2016-2020, the first president of the Asia-Oceanian Society for NeuroRehabilitation between 2015-2019, and the Chair of the Korean Society for NeuroRehabilitation between 2019-2021. I received the 2019 'Seok-Jeon' Lifetime Achievement Award and the 2014 Scientific Award from the Korean Academy of Rehabilitation Medicine, the Fletcher H. McDowell Award from the American Society for Neurorehabilitation in 2007 and the first Place Poster Award from the American Congress of Rehabilitation Medicine in 2009.

RESEARCH INTERESTS

My research interests are to develop novel therapeutic approaches for the restoration of function in humans and to understand these mechanisms. I am also interested in improving the function of the elderly. The principal diseases studied are stroke, dementia, and aging, and the principal symptoms I am studying are weakness, sensory loss, dysphagia, spasticity, cognitive dysfunction, excretory dysfunction, pain, etc.

My work recently focuses on developing rational therapeutic strategies to improve function and learning ability in stroke patients. I employ neuromodulation techniques such as transcranial magnetic stimulation (TMS), transcranial direct current stimulation (tDCS), and neuroimaging. I am also interested in robotic rehabilitation and mobile-health application in neurorehabilitation adopting virtual reality and mobile device technologies.

Selected Recent Publications: https://pubmed.ncbi.nlm.nih.gov/?term=Paik+NJ&sort=date
Invited Lectures: http://hosting03.snu.ac.kr/~rehabdoc/lecture.htm



CATERINA PISTARINI
ITALY

WFNR General Secretary

Director of Scientific Rehabilitation Institute Salvatore Maugeri Genoava-Italy

Director of Neurorehabilitation Department of Salvatore Maugeri Clinical and Research Institutes -Italy

Professor of Physical and Rehab Discipline University of Genova

Past President of Italian Society of Neurorehabilitation(SIRN)

Presidium Member of European Society of Neurorehabilitation (EFNR) Chair of WFNR SIG on Mild and Severe Brain Injury

KATRIN RAUEN
SWITZERLAND

Katrin Rauen, MD, FEBN Consultant in Neurology, Psychiatry & Psychotherapy

- Group leader: Traumatic Encephalopathy & Neuropsychiatric Rehabilitation Department of Geriatric Psychiatry, University Hospital of Psychiatry Zurich, Switzerland
- Visiting consultant, Sleep Medicine Center, Departmentof Neurology, University Hospital Zurich, Switzerland
- Visiting scientist, Institute for Stroke and Dementia Research (ISD), University Hospital, Ludwig Maximilian University Munich (LMU), Germany

Katrin Rauen is a Fellow of the European Board of Neurology (FEBN) and consultant in Neurology, Psychiatry & Psychotherapy—holding a dual affiliation to the Universities of Zurich and Munich. Being supported by the Betty & David Koetser Foundation for Brain Research, she is striving to better understand the link between post-traumatic neuro-inflammation and neurodegeneration over the lifespan. Her clinical and scientific focus are the neuropsychiatric long-term sequels after brain injuries with a special focus on age, sex- and gender-relevant factors that led her to develop a new diagnostic algorithm by using clinical, fluid, and multimodal imaging biomarkers for personalized medicine, thereby providing best medical practice and quality of life for patients and their relatives.

Dr. Rauen received her M.D. in 2011 from Ludwig Maximilian University (LMU), Munich, Germany, and gained international experience at the Queens Square Institute of Neurology, UCL London, England, at the Kaiser Permanente Rehab Center, Vallejo, California, USA, and at the University of Stellenbosch in South Africa. Her doctoral thesis "Influence of vasopressin receptors and aquaporins on secondary brain injury following experimental TBI" at Prof. Plesnila's laboratory at LMU Munich was honored summa cum laude in 2014.

Dr. Rauen received honors and awards from national and international societies such as the German Society of Neurology, the German Society of Neurosurgery, the German Society of Neuroscience, the European Academy of Neurology, the European Brain Injury Consortium, and the International Neurotrauma Society. She is part of the ERA-Net Neuron CnsAflame TBI consortium on neuroinflammatory mechanisms following TBI, member of the management groups "Neurotrauma" and "Neurorehabilitation" of the European Academy of Neurology, head of the Outcome Section of the European Neurotrauma Organization and member of the advisory board of the Women's Brain Project. As a leading Neurotrauma expert with a profound background in basic and clinical brain research, she advances scientific and clinical careers of young scientists and medical doctors in neuropsychiatric brain research and clinical practice.

RAAD SHAKIR
UK

President South of England Neurosciences Association 2019-.

President, World Federation of Neurology 2014-2018.

Chief of Head and neck Services Imperial NHS Trust 2005-2016.

Secretary-Treasurer General, World Federation of Neurology 2006-2013.

Chair, ICD11 Neuroscience Topic Advisory Group WHO 2009-2019.

Chair Tournament of the mind, WFN 2006-2014.

Honorary consultant neurologist, Charing Cross Hospital, London.

NICOLE VON STEINBUCHEL
GERMANY

Since 2004, Prof. Dr. Nicole von Steinbuechel is director of the Institute of Medical Psychology and Medical Sociology of the University Medical Center, Georg-August-University of Goettingen.

2001-2004	Associate Professor of Gerontopsychology at Geneva University and Head of the Neurogerontopsychology Unit, Department of Psychogeriatrics, Geneva University Hospital, Switzerland
1999-2000	Research Professor of the Dorothea-Erxleben Foundation, Magdeburg

	University, Germany
1993-1997	Professor of Medical Psychology, Institute of Medical Psychology (IMP), Ludwig Maximilians University of Munich (LMU)
1987-1993	Graduation (Dr. rer. biol. hum.) and scientific researcher at the IMP, LMU
1985	Diploma in psychology, philosophy, and history of art at the Institute of Psychology, LMU, Munich, Germany

Main areas of work (Selection): Neuropsychology (aging, dementia, stroke, TBI), cognition, health-related quality of life research (intercultural), outcome work package leader of the EU-project CENTER-TBI (5000 patients after TBI), project leader of the Quality Of Life after Brain Injury in children, adolescents (QOLIBRI-Kiddy/Kid/Ado) and adults projects.

Offices (Selection)

1998-2002	Vice-Chair of the German Society of Medical Psychology
2001-2005	Board member of the Swiss Society of Psychology
Since 2003	Board vice-treasurer of the Academia Multidisciplinaria Neurotraumatologica (AMN)
2007-2010	Board member of the European Brain and Behaviour Society (Scientific Committee)
2008	Founding member of the International Society for Clinical Neuromusicology
2008-2011	President of the QOLIBRI Society
2016-2018	President of the AMN
Since 2021	Board member of the administration of the Senkenberg`sche Foundation

Current projects (Selection)

2017-2024 "International development of an instrument for the assessment of quality of life after traumatic brain injury, QOLIBRI-KIDS/ADOS (Quality of Life after Brain Injury / Kids and Adolescents), for self-report and proxy report by affected children, adolescents and their relatives" Dr. Senckenbergische, Dr. Christ'sche Stiftung, Unscientia Vaduz, Deutsche gesetzliche Unfallversicherung

2013-2020 Work Package Leader: EU-Health 2013.2.2.1-1: Prospective longitudinal data collection and Comparative Effectiveness Research (CER) for traumatic brain injury (TBI). Assessment and Classification of outcome: Towards a multi-dimensional approach. *FP7-Health-2013-Innovation 1*

NIRMAL SURYA
INDIA

WORKPLACE & AFFILIATIONS:

- Bombay Hospital & Medical Research Centre, Mumbai
- Saiffee Hospital, Mumbai
- Northcot Police Hospital, Nagpada, Mumbai

PROFESSIONAL EXPERIENCE:

- Chairman: Surya Neuro Centre, Mumbai
- Founder Trustee & Chairman: Epilepsy Foundation India
- Founder President: IFNR – Indian Federation of NeuroRehabilitation (2012 Onwards)
- President : IAN – Indian Academy of Neurology
- Treasurer, NATAI-Neuroscience Academy of Tele-care and Artificial Intelligence
- President: 10th WCNR (2018), Mumbai, India
- Regional Vice President: WFNR – World Federation for NeuroRehabilitation (since 2006)
- President Elect: Asia-Oceanian Society for Neurorehabilitation
- Member at Large, Presidium, WFNR
- Member, Digital strategy Subcommittee, AAN
- Chair: Developing World Forum, WFNR
- Chair, ICHA Telemedicine Academy
- Past Presidents: MAN & BNA

AWARDS

- Kenneth M Viste, Jr., Patient ADVOCATE OF THE YEAR Award by American Academy of Neurology 2022
- Association of Indian Neurologist of America (AINA) Award for his outstanding contribution to the fields of Neurology, 12th Sep 2020
- "Lifetime Achievement Award" by National & International Compendium, New Delhi 21st Mar 2020
- "Samaj Ratna Samman" Award by Jodhpur Association, Mumbai 10th Nov, 2019
- "Vijay Ratan Gold Medal Award" by International Business Council 2019, New Delhi for outstanding Achievements on 29th May 2019
- "Dr A P J Abdul Kalam Sadbhavna Award" by International Business Council 2019, New

Delhi for outstanding achievements.

- Bhai Ghannaiya Award 2018, By Red Swastik Society: In the services to Mankind.
- TIME Cybermedia Pvt. Ltd, International Health Care Awards 2017. Among Best NGO-Epilepsy in Maharashtra.
- Navbharat Healthcare Summit & Awards 2017, Best Neuro Physician in Maharashtra, 2017
- "Vaish Sanman"in the field of Medical and Health by Mumbai Pradesh Vaish Federation on Vaish Divas , 27th March 09, Mumbai

PUBLICATIONS

- Approximately 70 publications in various National and International Journals
- 7 chapters in Books, including in Text book of Neurology by IAN
- On Editorial Board of 7 international Journal

PAUL VERSCHURE
THE NETHERLANDS

Dr. Paul F.M.J. Verschure (1962) is ICREA Research Professor and director of the Center of Autonomous Systems and Neurorobotics at Universitat Pompeu Fabra where he runs the Laboratory of Synthetic Perceptive, Emotive and Cognitive Systems (SPECS). He received both his MA and PhD in Psychology and pursued his research at different leading institutes: the Neurosciences Institute and The Salk Institute, both in San Diego, the University of Amsterdam, University of Zurich and the Swiss Federal Institute of Technology-ETH and currently with ICREA and Universitat Pompeu Fabra. Paul's research group comprises a multidisciplinary team of 25 doctoral and post-doctoral researchers including psychologists, engineers and biologists. He is a consultant for the European Commission regarding the integration of Neuroinformatics in the 5th-6th & 7th FP and a referee for Science, Nature, Royal Society London, Trends in Neuroscience, IEEE neural networks, PLoS Computational Biology and PLoS ONE.

His scientific aim is to find a unified theory of mind, brain and body through the use of synthetic methods and to apply such a theory to the development of novel technologies and

quality of life enhancing applications. Paul has organized SPECS along three dimensions: 1) computational models of neuronal mechanisms underlying perception, cognition, emotion and behavior, including: the cerebellum and motor learning, the hippocampus, ventral striatum and prefrontal cortex in decision making and the amygdala and cortex in emotional learning. 2) robotics and avatars as artificial bodies for neuronal models. 3) the application of the technologies developed in 2) combined with the theories from 1) to the enhancement of the quality of life.

JOHANNES VESTER
GERMANY

Born in 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. From 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. 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).

GENERAL INFORMATION

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Neuroplasticity
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Mr. Ovidiu Selejan: +40745255311
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Contact Details

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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.

FINAL PROGRAM & ABSTRACT BOOK

Available online here

TIME

The program hours are adjusted to Current Local Time in Bucharest, Romania, Eastern European Summer Time, UTC/GMT +3 hours

THIS MEETING IS ENDORSED BY:

EFNR The European Federation of NeuroRehabilitation Societies

WFNR
World Federation for NeuroRehabilitation

ORGANIZERS

Institute for Neurological Research and Diagnostic
www.roneuro.ro

Foundation for the Study of Nanoneurosciences and Neuroregeneration

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

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

World Federation for NeuroRehabilitation
www.wfnr.co.uk

Tel Aviv University
www.tau.ac.il

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

ACADEMIC PARTNERS

Romanian Society
of Neurology
www.neurology.ro

Romanian Academy
www.acad.ro

Academia de
Științe Medicale
din România

Romanian Academy of
Medical Sciences
www.adsm.ro

NOTES


FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEUROPROTECTION AND NEUROPLASTICITY •