

**AMN** ACADEMY FOR  
MULTIDISCIPLINARY  
NEUROTRAUMATOLOGY



FOUNDATION OF THE  
SOCIETY FOR THE STUDY OF  
NEUROPROTECTION AND  
NEUROPLASTICITY



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# 23<sup>RD</sup> AMN CONGRESS



**28-30 MAY, 2026  
ISTANBUL | TURKEY**



ACADEMY FOR  
MULTIDISCIPLINARY  
NEUROTRAUMATOLOGY



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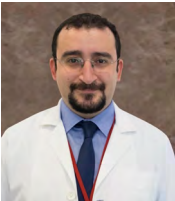
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Professor MD, Neurology Department, Department of Internal  
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**AMN**

ACADEMY FOR  
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IN CONJUNCTION WITH

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# SCIENTIFIC PROGRAM



# 23<sup>RD</sup> AMN CONGRESS

28-30 MAY, 2026 | ISTANBUL | TURKEY

## INTEGRATED PATHWAY MANAGEMENT IN NEUROTRAUMA: FROM ER AND ICU TO REHABILITATION AND MENTAL HEALTH

### DAY 1 - 3<sup>RD</sup> AMN INTENSIVES | 28 MAY, 2026

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17:00 - 20:00 **23<sup>RD</sup> AMN CONGRESS HANDS-ON TEACHING COURSE ON ACUTE AND CHRONIC STRESS, SEQUELAE AND WAYS OF RELAXATION WITH FOCUS ON AUTOGENIC TRAINING**  
**COURSE COORDINATOR:** Max Hilz (Germany)

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### DAY 2 - 29 MAY, 2026

7:45 - 8:15 **REGISTRATION**

8:15 - 8:30 **WELCOME ADDRESS**

Dafin Mureşanu (Romania), Johannes Vester (Germany),  
Volker Hömberg (Germany), Emre Adıgüzel (Republic of Turkey)

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8:30 - 10:00 **SESSION 1 - PRESIDENTIAL SESSION | KEYNOTE LECTURE**

**CHAIRPERSONS:** Johannes Vester (Germany) &  
Dafin Mureşanu (Romania)

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08:30 - 09:00 **SPECIAL KEYNOTE LECTURE**

**AMN ROLE IN THE MANAGEMENT OF NEUROTRAUMA**

Dafin Mureşanu / Johannes Vester (Romania / Germany)

Future Threads and Hopes in Neurorehabilitation after TBI  
Volker Hömberg (Germany)

The PRESENT – Registry – the First Multidisciplinary Quality  
Indicator Tool across the TBI Continuum of Care  
Peter Lackner (Austria)

Identifying and Managing Post-Traumatic Parkinsonism  
Hakan Ekmekci (Republic of Turkey)

10:00 - 10:20 **SPECIAL ADDRESS**  
**IN MEMORIAM PROF. NILDA TURGUT**  
Hakan Ekmekci (Republic of Turkey)

10:20 - 10:40 **COFFEE BREAK**

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10:40 - 11:50 **SESSION 2 - MODERN NEUROSCIENCE APPROACHES  
FOR NEUROTRAUMA: FROM BARRIER PROTECTION  
TO NOVEL THERAPEUTICS**  
**SESSION MODERATORS:** Bassem Boulos (Egypt) &  
Slawomir Michalak (Poland)

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New Insights into Brain Protection and Recovery  
after Neurotrauma  
Dafin Mureşanu (Romania)

Dampering Cerebral Neuroinflammation in TBI and  
Cytoprotection to Limit Secondary Injury  
Slavomir Michalak (Poland)

Extracellular Vesicles (EVs) in Neurotrauma and  
Stroke-Therapeutic Potential  
Michael Chopp (United States)

11:40 - 11:50 **DISCUSSIONS**

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11:50 - 12:40 **SESSION 3 | INTERACTIVE PANEL DISCUSSION -  
POLYTRAUMA AND NEUROTRAUMA:  
SEQUENCING DECISIONS THAT SHAPE  
LONG-TERM OUTCOMES**

**SESSION MODERATORS:** Rhoderick Casis (the Philippines) &  
Hakan Ekmekci (Republic of Turkey)

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Focus on Hemorrhage Control and Initial Triage  
Harald Widhalm (Austria)

Surgical Management of Spinal Cord Injuries  
Rovshan Khalilzada (Azerbaijan)

Post-Intensive Care Unit Syndrome in Trauma:  
the Burden of Survivorship (*online*)  
Dorel Săndesc (Romania)

Functional Neurological Disorders in Children and  
Adolescents – Can Rehabilitation help?  
Kristina Müller (Germany)

12:40 - 13:40 **LUNCH BREAK**

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13:40 - 14:50 **SESSION 4 | ACUTE MANAGEMENT/CRITICAL CARE:  
OVERLOOKED ACUTE COMPLICATIONS IN TBI: EARLY  
MANAGEMENT AS A DETERMINANT OF  
LONG-TERM OUTCOME**

**SESSION MODERATORS:** Tran Trung Kien (Vietnam) &  
Katrin Rauen (Germany)

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Secondary Hypoxic–Ischemic Injury and Autoregulation Failure |  
‘The Invisible Second Hit’: Preventing Secondary Brain Injury  
to Improve Lifelong Outcomes? (*online*)  
Karin Diserens (Switzerland)

From Disruption to Recovery: Neural Mechanisms  
of Post-TBI Dysphagia and Evidence-Based  
Multidisciplinary Intervention (*online*)  
Stefanie Duchac (Germany)

Acute Pituitary Dysfunction After Traumatic Brain Injury:  
An Underrecognized Cause of Poor Neurological Recovery  
Tran Trung Kien (Vietnam)

14:40 - 14:50 **DISCUSSIONS**

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14:50 - 15:30 **SESSION 5 | DEBATE 1 HIGH-TECH NEUROTRAUMA CARE VS. ROBUST PATHWAY BASICS: WHAT TRULY IMPROVES LONG-TERM OUTCOMES IN LMICs?**

**SHOULD LIMITED RESOURCES BE INVESTED IN ADVANCED NEUROMONITORING AND IMAGING—OR IN STANDARDIZED, LOW-COST PATHWAY INTERVENTIONS ACROSS THE ACUTE-TO-REHABILITATION CONTINUUM?**

**MODERATOR:** Pieter Vos (the Netherlands)

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**PRO:** Panu Boontoterm (Thailand)

Advanced Monitoring Saves Brains—and Futures

Argument: High-tech acute neurotrauma care is essential, even in LMICs.

**CON:** Dong Van He (Vietnam)

Pathway First: Why Simple, Scalable Interventions Matter More

Argument: Standardized pathways outperform technology in LMIC settings.

15:20 - 15:30 **VOTING & DISCUSSIONS**

15:30 - 15:50 **COFFEE & SNACKS BREAK**

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15:50 - 16:50 **SPECIAL SESSION AMN FOCUS GROUPS  
COUNTRY PRESENTATIONS OF MULTIDISCIPLINARY  
EXPERT GROUPS**

**MODERATOR:** Dorel Săndesc (Romania) (*online*)  
Dafin Mureșanu (Romania)

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Dorel Săndesc (Romania) (*online*)

Panu Boontoterm (Thailand)

Bassem Boulos Saad (Egypt)

Rovshan Khalilzada (Azerbaijan)

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16:50 - 18:20 **SESSION 6 | DIFFUSE AXONAL INJURY AS A TRANSLATIONAL MODEL FOR CEREBROPROTECTION IN NEUROTRAUMA**  
**SESSION MODERATORS:** Christian Matula (Austria) & Sindi Mitrovic (Serbia)

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Diffuse Axonal Injury: An Underrecognized Driver of Poor Outcome in Traumatic Brain Injury

Hesham Elsobki (Egypt)

Diffuse Axonal Injury Is an Ideal Model to Demonstrate Cerebroprotective Efficacy

Guillermo V. Liabres (the Philippines)

Diffuse Axonal Injury: Pathological and Clinical Considerations  
Pieter Vos (the Netherlands)

Optimizing Multidisciplinary Neurotraumatology Education in Thailand: Aptitude-Dependent Outcomes in Virtual Patient Simulation in Collaboration with the Academy for Multidisciplinary Neurotraumatology

Panu Boontoterm (Thailand)

18:00 - 18:10 **DISCUSSIONS**

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18:20 - 19:20 **SESSION 7 | YOUNG NEUROTRAUMA NETWORK**  
**SESSION MODERATORS:** Dragoş Corcan (Romania) & Mihail Gavriiliuc (Republic of Moldova)

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A Patient's Perspective: Recovery After Traumatic Brain Injury  
Esra de Ruiter (the Netherlands)

The Molecular Architecture of Recovery: Moving from Symptoms to Mechanisms in Traumatic Brain Injury

Dragoş Corcan (Romania)

Problem-Based Learning (PBL) Method in the Training of Neurology Residents on Traumatic Brain Disease

Mihail Gavriiliuc (Republic of Moldova)

19:20 - 19:30 **DISCUSSIONS & MAIN TAKEAWAYS**

## DAY 3 – 30 MAY, 2026

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08:30 - 10:00 **SESSION 8 | SURGICAL BRAIN INJURY (SBI): THE UNAVOIDABLE COST OF LIFE-SAVING NEUROINTERVENTIONS**

**PART I | SESSION MODERATORS:**

Lynne Lourdes Lucena (the Philippines) &  
Nikolay Gabrovsky (Bulgaria)

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The Brain on the Knives Edge – Surgical Brain Injury:  
Definition, Mechanisms, and Clinical Relevance

Christian Matula (Austria)

Advances in Spinal Cord Injury

Nikolay Gabrovsky (Bulgaria)

Quality of life in Neurosurgical patients. Multimodal Treatment  
in Tumoral and Traumatic Pathology

Salvador Ruiz González (Mexico)

Surgical Oncology as a Model – Glioma Resection: Maximizing  
Oncological Benefit While Minimizing Iatrogenic Brain Injury

Bartłomiej Sagan (Poland)

09:50 - 10:00 **DISCUSSIONS**

10:00 – 10:20 **COFFEE BREAK**

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10:20 - 11:30 **SESSION 8 | SURGICAL BRAIN INJURY (SBI): THE UNAVOIDABLE COST OF LIFE-SAVING NEUROINTERVENTIONS**

**PART II | SESSION MODERATORS:**

Luca Sebastianelli (Italy) & Panu Boontoterm (Thailand)

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Traumatic Brain Injury - A Major Burden of Neurological Disorders

Felix Brehar (Romania)

Malignant Cerebral Edema Complications during Cranial Bone Reconstruction after Decompressive Craniotomy for the Treatment of Severe Traumatic Brain Injury: 3 Clinical Cases and a Literature Review

Dong Van He (Vietnam)

Surgical Management of Drug-Resistant Epilepsy – The Ashgabat Experience

Saparov Nurgeldi (Turkmenistan)

11:20 - 11:30 **DISCUSSIONS**

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11:30 - 12:10 **SESSION 9 | DEBATE 2 IS EARLY REHABILITATION A LUXURY OR A NECESSITY IN NEUROTRAUMA PATHWAYS?**

**IN RESOURCE-LIMITED SETTINGS, SHOULD REHABILITATION AND NEUROPSYCHOLOGICAL CARE BEGIN IN THE ACUTE PHASE—OR WAIT UNTIL SURVIVAL AND STABILIZATION ARE ASSURED?**

**SESSION MODERATOR:** Peter Lackner (Austria)

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**PRO:** Volker Hömberg (Germany)

Early Rehabilitation Is Cerebroprotection

Argument: Early rehab must be integrated into acute care pathways—even in LMICs.

**CON:** Luca Sebastianelli (Italy)

Is Early Rehabilitation a Luxury or a Necessity in Neurotrauma Pathways? | Stabilize First: Rehabilitation Without Infrastructure Fails

Argument: Premature rehab diverts resources from lifesaving care.

12:00 - 12:10 **VOTING & DISCUSSIONS**

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12:10 - 14:00 **SESSION 10 | THE INVISIBLE AFTERMATH OF NEUROTRAUMA: NEUROPSYCHIATRIC SEQUELAE AND THEIR IMPACT ON RECOVERY**

**SESSION MODERATORS:** Dana Boering (Germany) & Cătălina Crișan (Romania)

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Cognitive Rehabilitation: From Traditional Therapy to Virtual Reality

Emre Adıgüzel (Republic of Turkey) (*online*)

Post-Traumatic Depression After Brain Injury: Biology, Risk Factors, and Clinical Consequences

Katrin Rauen (Germany)

Post-Traumatic Stress Disorder in Neurotrauma: When Psychological and Organic Injury Converge

Cătălina Crișan (Romania)

Attention Deficit After Neurotrauma: A Core Driver of Cognitive Disability

Sindi Mitrovic (Serbia)

Pain After Traumatic Brain Injury (TBI): Etiology and Management

Evren Yaşar (Republic of Turkey) *(online)*

13:50 - 14:00 **DISCUSSIONS**

14:00 - 15:00 **LUNCH BREAK**

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15:00 - 16:20 **SESSION 11 | ONGOING RESEARCH PROJECTS  
IN TRAUMATIC BRAIN INJURY**

**SESSION MODERATORS:** Dafin Mureșanu (Romania),  
Johannes Vester (Germany)

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Clinical Guidelines and Non-Interventional Trials in TBI (CREST)  
Johannes Vester (Germany)

An Integrated Paradigm for Molecular Profiling of Traumatic Brain Injury

Octavian Henegariu (Romania)

Controlling Traumatic Brain Injury in Africa using the Neurologic Quadrangle: Improving Surveillance, Prevention, Acute Care and Rehabilitation

Mayowa Owolabi (Nigeria) *(online)*

16:10 - 16:20 **DISCUSSIONS**

16:20 - 16:30 **CLOSING AND PICTURES**

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# ABSTRACTS



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## **COGNITIVE REHABILITATION: FROM TRADITIONAL THERAPY TO VIRTUAL REALITY**

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### ***EMRE ADIGÜZEL***

Chief Physician, Ankara Bilkent City Hospital Physical Medicine and Rehabilitation Hospital, Ankara, Turkey

Cognitive impairment is a common and functionally significant consequence of traumatic brain injury and other neurological conditions, affecting attention, memory, executive functions, information processing, communication, behavior, and participation in daily life. Cognitive rehabilitation aims not only to improve impaired cognitive functions, but also to teach compensatory strategies, modify the environment, support caregivers, enhance quality of life, and promote social and vocational participation. The heterogeneity of cognitive deficits requires an individualized and goal-oriented rehabilitation framework.

Traditional cognitive rehabilitation includes restorative, adaptive, task-oriented, metacognitive, and behavioral approaches. Restorative strategies focus on repetitive, hierarchical training of specific cognitive skills to stimulate neuroplasticity and recovery. Adaptive approaches emphasize compensation, environmental modification, external cues, routines, and functional supports to optimize daily performance. Metacognitive interventions are particularly important for executive dysfunction, helping individuals improve self-awareness, error monitoring, problem solving, goal setting, and strategy use.

In recent years, technology-supported cognitive rehabilitation has expanded the therapeutic landscape. Reminder devices, mobile applications, computer-based cognitive training, tele-rehabilitation, wearable technologies, non-invasive brain stimulation, artificial intelligence, social robots, and virtual reality systems offer new opportunities for assessment, training, feedback, monitoring, and personalization. Computer-based programs allow repeated domain-specific training, performance analysis, and hospital- or home-based use, although real-life transfer, accessibility, standardization, and therapist guidance remain important limitations.

Virtual reality provides simulated, ecologically relevant environments that may enhance motivation, engagement, and functional generalization. Evidence suggests potential benefits of virtual reality-based interventions in global cognition, executive functions, memory domains, and psychological outcomes after brain injury, although optimal treatment dose, system type, patient selection, and long-term effectiveness require further study. Current evidence supports the integration of digital interventions as complementary tools rather than replacements for clinician-guided rehabilitation.

This presentation reviews the evolution of cognitive rehabilitation from conventional therapeutic strategies to virtual reality-based applications, emphasizing individualized care, functional relevance, neuroplasticity, and the responsible integration of technology into rehabilitation practice.

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## **ADVANCED MONITORING SAVES BRAINS—AND FUTURES**

**ARGUMENT: HIGH-TECH ACUTE NEUROTRAUMA CARE IS ESSENTIAL, EVEN IN LMICs.**

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### **PANU BOONTOTERM**

Division of Neurological Surgery Unit, Department of Surgery and Division of Critical Care Medicine, Department of Medicine, Phramongkutklao Hospital, Bangkok, Thailand

The purposes of this presentation are to identify the incidence and types of traumatic brain injury (TBI) in Thailand, and recommend neuro-monitoring for limited resources in Thai patients. The monitoring methods focus on the targeted and personalized management in severe TBI such as intracranial pressure (ICP), pressure reactivity index (PRx), regional cerebral saturation (rSO<sub>2</sub>), cerebral autoregulation (CA), as well as noninvasive methods for example near-infrared spectroscopy (NIRS) and optic nerve sheath diameter (ONSD). These monitors are aimed to optimize brain oxygen delivery and prevent further neurologic deterioration in terms of increased ICP and decreased cerebral perfusion pressure (CPP). Some of these were implemented in neurological monitoring protocol and clinical practice guidelines for severe TBI. However, cost-effectiveness is concerned. Even though considering CA and the advanced monitoring methods in continuous assessment are widely used, current therapeutic interventions which appear entirely to the bedside approach for correct dysregulated CA are limited. In addition, understanding of basic molecular and cellular pathways involved in cerebral homeostasis (brain oxygen delivery, cerebral blood flow, CA and cerebral vascular reactivity to oxygen and carbon dioxide) as well as secondary brain injury prevention are still necessary for improving TBI outcomes. In summary, further study in Thailand is required to determine optimal cerebral physiologic-based technology, monitoring parameters, and individualized thresholds to optimize CA and potentially improve neurologic outcomes across a spectrum of TBI patients, which focus in Thai rural areas where invasive monitoring is not routinely performed due to resources limitation. Encouragement and training of non-invasive methods might solve these issues.

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## **OPTIMIZING MULTIDISCIPLINARY NEUROTRAUMATOLOGY EDUCATION IN THAILAND: APTITUDE-DEPENDENT OUTCOMES IN VIRTUAL PATIENT SIMULATION IN COLLABORATION WITH THE ACADEMY FOR MULTIDISCIPLINARY NEUROTRAUMATOLOGY**

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### **PANU BOONTOTERM**

Division of Neurological Surgery Unit, Department of Surgery and Division of Critical Care Medicine, Department of Medicine, Phramongkutklao Hospital, Bangkok, Thailand

Simulation-based medical education (SBME) is a key tool in developing clinical skills, particularly in neurotraumatology. This study explores how learning contexts (individual vs. team-based) and learner aptitude impact outcomes during Virtual Patient Simulation (VPS) in traumatic brain injury (TBI) diagnosis and decision-making, with a focus on AI, technology, and multidisciplinary collaboration.

Eighty-five fourth- to sixth-year medical cadets participated in VPS exercises using the Neurological Exam Rehearsal Virtual Environment (NERVE). Cadets were randomly assigned to individual or five-member team-based simulations, diagnosing virtual patients with TBI. Knowledge was assessed pre- and post-simulation via a 12-item test. Post-simulation surveys assessed confidence and system usability. Data were analyzed using ANCOVA and the Johnson-Neyman technique to assess aptitude-treatment interactions (ATI).

A significant ATI effect was observed. Cadets with lower baseline aptitude (pre-test  $\leq 50\%$ ) showed significant improvement in post-test performance and diagnostic confidence in the team-based group (83% vs. 62%,  $p = 0.02$ ). No significant differences were found for mid-range aptitude students. Both groups rated the simulation favorably.

Team-based VPS significantly enhances learning outcomes, particularly for lower-aptitude learners. These findings support integrating adaptive, team-centered simulation designs into medical curricula. The study advocates for fostering multidisciplinary teams to improve TBI care and align with the objectives of the Academy for Multidisciplinary Neurotraumatology (AMN).

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## **COUNTRY PRESENTATIONS OF MULTIDISCIPLINARY EXPERT GROUPS - EGYPT**

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### **BASSEM BOULOS SAAD**

Professor of Anaesthesia and Intensive Care, Ain Shams University, Cairo, Egypt

Traumatic Brain Injury (TBI) is a significant public health concern in Egypt and worldwide, resulting from external mechanical forces that disrupt normal

brain function. TBI ranges in severity from mild concussion to severe brain damage and death. In Egypt, road traffic accidents and falls are the primary causes of TBI, particularly among young adult males. Epidemiological studies indicate that males account for approximately 79–83% of TBI cases, with the most affected age group being 19–55 years. Road traffic accidents contribute to nearly three-quarters of reported injuries in several Egyptian studies.

Management of TBI requires rapid emergency intervention, including airway stabilization, oxygenation, and prevention of hypotension, followed by medical or surgical treatment when necessary. Rehabilitation through physical, occupational, speech, and psychological therapy plays a crucial role in improving patient outcomes.

Despite advances in trauma care, Egypt faces several challenges, including high rates of traffic accidents, limited trauma centers in rural areas, delayed emergency response, insufficient rehabilitation services, and underreporting of cases.

In Egypt we started an Egyptian Focus group (Galaxy) including 27 members with different specialties, critical care, neurosurgeons and neurologists to strengthening preventive measures, improving emergency medical systems, and increasing public awareness are essential steps to reduce the burden of TBI-related mortality and disability in Egypt.

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## **TRAUMATIC BRAIN INJURY - A MAJOR BURDEN OF NEUROLOGICAL DISORDERS**

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**FELIX-MIRCEA BREHAR<sup>1,2</sup>**

**ALEXANDRA MIHAELA PĂTRĂȘCAN<sup>1,2</sup>**

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Traumatic brain injury (TBI) is defined as an alteration in brain function caused by an external force and, even if the global incidence rate of TBI has decreased over the past 30 years, it remains one of the leading causes of mortality and long-term disability worldwide. Beyond its clinical impact, TBI represents a major socio-economic burden, requiring a multidisciplinary approach that includes acute management, long-term rehabilitation, and socio-economic reintegration.

From an epidemiological point of view, over 20 million new TBI cases occur annually, with nearly 40 million prevalent cases worldwide. In addition, TBI accounts for more than 5 million years lived with disability globally, highlighting its long-term impact. In 2021, the top three countries with the highest incidence rates (all exceeding 600 cases per 100.000 people) were Saudi Arabia, Afghanistan and Slovenia. In Europe, over 2 million individuals sustain a TBI each year, with the highest age-standardized prevalence and disability rates being reported in Eastern and Central Europe. The most common mechanisms of injury are falls and road traffic accidents. In Romania, TBI contributes significantly to this burden, with an estimated 169.000 incident cases and over 430.000 prevalent cases reported in 2016.

Notwithstanding that the primary goal of TBI management is to prevent secondary brain injury, the broader challenge lies in reducing long-term disability and socio-economic consequences. In 2010, the global economic burden exceeded €300 billion annually, while in Europe costs surpassed €30 billion per year, largely driven by indirect costs such as loss of productivity and long-term care. In Romania, the burden is also reflected in costs: a recent study from an Eastern European tertiary hospital (Cluj County Emergency Hospital) conducted in 2022, found a mean inpatient cost of €1.115.

Although the global incidence of traumatic brain injury (TBI) shows a declining trend in some regions, it remains a major public health concern worldwide and a leading cause of mortality and long-term disability. Therefore, coordinated strategies focusing on prevention, early intervention, and multidisciplinary care are essential to reduce its overall burden.

**Keywords:** traumatic brain injury (TBI), socio-economic burden, healthcare costs

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## **EXTRACELLULAR VESICLES (EVs) IN NEUROTRAUMA AND STROKE-THERAPEUTIC POTENTIAL**

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### **MICHAEL CHOPP**

Division Head for Research Department of Neurology and Zolton J Kovacs Chair in Neuroscience Research at Henry Ford Health, Detroit, Michigan, USA.

Extracellular vesicles (EVs), bilipid nanoparticles which contain biologically active components, including nucleic acids, proteins, and lipids are generated by nearly all cells; importantly, they mediate intercellular communication. We have demonstrated that select EVs have great potential as therapeutic agents for the treatments of neurological injury and neurodegenerative diseases. In this presentation, I will describe two areas of our EV research that have shown promise in preclinical studies for the effective treatment of TBI and

stroke: 1) EVs generated from healthy cerebral endothelial cells (CEC-EVs) restore vascular and neurological function post stroke and neurodegenerative diseases, and vagal nerve stimulation (VNS) greatly enhances the efficacy of CEC-EVs in the restorative treatment of stroke. The cerebral microvasculature post stroke and neural injury become procoagulant, prothrombotic and proinflammatory. CEC-EVs when administered post neural injury/stroke transform the endothelial cells and reverses these adverse vascular effects. Preclinical data will be shown demonstrating that CEC-EVs in combination mechanical thrombectomy and thrombolysis synergistically enhances the therapeutic efficacy of these interventions. VNS greatly increases selective internalization of EVs, including CEC-EVs into activated pyramidal neurons of the brain post stroke, augmenting mitochondrial integrity and function, promoting neurite extension, which collectively augments neurological recovery post stroke. 2) Using preclinical data, I will describe how TBI and stroke alter the gut microbiota, and the role of EVs generated in the altered gut microbiome post neural injury and stroke in contributing to neurological dysfunction. In addition, I will introduce the use of select probiotic EVs as effective and safe nanoparticle therapy for TBI and stroke. EVs as potent mediators of intercellular communication are poised for clinical translation as protective and restorative agents for stroke and neural injury.

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## **THE MOLECULAR ARCHITECTURE OF RECOVERY: MOVING FROM SYMPTOMS TO MECHANISMS IN TRAUMATIC BRAIN INJURY**

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### ***DRAGOȘ CORCAN***

Resident Physician in Neurology at the Emergency Clinical County Hospital in Cluj-Napoca; PhD student in Medical Sciences at the Iuliu Hațieganu University of Medicine and Pharmacy (UMF)

Although the acute clinical management of Traumatic Brain Injury (TBI) focuses on immediate survival, the chronic phase is frequently dominated by ‘invisible’ neuropsychiatric sequelae, including cognitive decline, depression, and post-traumatic stress disorder (PTSD). Traditionally regarded as subjective psychological reactions, these manifestations may instead reflect the clinical expression of an underlying biological failure: the brain’s inability to complete the process of neuronal repair.

This framework proposes a paradigm shift by situating TBI within the broader framework of Acquired Brain Injury (ABI). Emerging evidence suggests that, once the initial insult stabilizes, the injured brain engages partially conserved molecular pathways of recovery. We conceptualize this process as an ‘Architecture of Recovery’ structured around three interdependent biological pillars: neuroplasticity, neurovascular integrity, and cellular resilience.

First, synaptic reconstruction is influenced by genomic reserve, with the BDNF Val66Met polymorphism—particularly in combination with the APOE ̵4 allele—being associated with an increased risk of long-term cognitive deficits. Second, recovery after TBI also depends on the restoration of the neurovascular unit, where persistent endothelial dysfunction, inflammation, and metabolic uncoupling may contribute to maladaptive neurobehavioral states. Third, cellular resilience is challenged by mechanisms of secondary injury, including immune-mediated ferroptosis as a candidate pathway for delayed neuronal loss, alongside persistent epigenetic dysregulation that may limit adaptive recovery.

Given the limitations of peripheral blood biomarkers in reflecting central nervous system processes, this framework highlights the potential of liquid biopsies, particularly exosomal microRNAs, as dynamic indicators of ongoing molecular regulation. Decoding the individual molecular architecture of recovery may provide a foundation for integrating multi-omic data into predictive models, supporting the future development of Precision Neurorehabilitation.

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## **POST-TRAUMATIC STRESS DISORDER IN NEUROTRAUMA: WHEN PSYCHOLOGICAL AND ORGANIC INJURY CONVERGE**

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### **CĂTĂLINA CRIȘAN<sup>1,2</sup>**

1. Department of Neuroscience, Discipline of Psychiatry and Pediatric Psychiatry, Iuliu Hațieganu University of Medicine and Pharmacy Cluj-Napoca
2. Psychiatric Clinic 1, Emergency County Hospital Cluj-Napoca

Neurotraumatic brain injury is associated frequently with different psychiatric symptoms, like cognitive impairment, delirium, irritability, personality changes, sleep problems, anxiety, depression and post-traumatic stress disorder (PTSD). PTSD is characterized by a wide-ranging set of symptoms including but not limited to intrusive and distressing memories, dissociative reactions, and serious psychological distress in response to stimuli that resemble a previously experienced traumatic event. Common to all individuals diagnosed with PTSD is exposure to trauma, which can be physical or emotional. Many studies indicate a correlation between traumatic brain injury (TBI) and PTSD. Both TBI and PTSD can be produced by overlapping pathophysiological changes that disrupt neural connections termed the “connectome.” The neural disruptions shared by PTSD and TBI include asymmetrical white matter tract abnormalities and gray matter changes in the basolateral amygdala, hippocampus, and prefrontal

cortex. Due to these neural circuitry dysfunctions, some changes can appear, like behavioral changes, executive function and memory impairments, fear retention. Both conditions TBI and PTSD include neuroinflammation, excitotoxicity, and oxidative damage, which lead to neuronal death and degeneration, axonal injury, and dendritic spine dysregulation and changes in neuronal morphology. Nowadays, different pharmacological (antioxidants, anti-inflammatory medication, anticonvulsants) and psychological treatments which can reverse these processes and promote axonal repair, dendritic remodeling, and neurocircuitry reorganization are studied.

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## **SECONDARY HYPOXIC–ISCHEMIC INJURY AND AUTOREGULATION FAILURE | ‘THE INVISIBLE SECOND HIT’: PREVENTING SECONDARY BRAIN INJURY TO IMPROVE LIFELONG OUTCOMES?**

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### **KARIN DISERENS**

LLUI (Lake Lucerne Institute), Switzerland  
Professeur associé émérite, Médecin agrégé, Service de Neurologie, Responsable  
du Laboratoire de Neuroréducation Aiguë (LNRA), Département des  
Neurosciences Cliniques, CHUV (Centre Hospitalier Universitaire Vaudois)

#### **BACKGROUND:**

Brain injury is characterized not only by the primary insult but also by an ‘invisible second hit’. This phase involves secondary mechanisms—specifically neuroinflammation, neurovegetative fluctuations, and metabolic crises—that significantly hinder long-term functional recovery.

#### **OBJECTIVE:**

This presentation emphasizes the necessity of shifting toward precision medicine in neurotrauma. To deliver the right treatment to the right patient at the right time, clinical assessment must be integrated with advanced multimodal evaluations.

#### **METHODS & DISCUSSION:**

New methodologies are examined and common pitfalls in the MRI evaluation of axonal injuries for prognostication are addressed. Furthermore, the clinical impact of a neurosensorial approach on improving patient outcomes is also discussed.

#### **CONCLUSION:**

Enhancing the synergy between clinical expertise and technological assessment is vital for optimizing recovery pathways and improving the long-term prognosis of Brain injury survivors.

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## **FROM DISRUPTION TO RECOVERY: NEURAL MECHANISMS OF POST-TBI DYSPHAGIA AND EVIDENCE-BASED MULTIDISCIPLINARY INTERVENTION**

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**STEFANIE DUCHAC**

Professor of Speech and Language Therapy at SRH University, Germany

### **BACKGROUND AND RATIONALE:**

Dysphagia is one of the most clinically significant yet often underestimated complications following traumatic brain injury (TBI), with incidence rates of up to 93% in inpatient rehabilitation. Despite its association with aspiration pneumonia, malnutrition, prolonged hospitalisation, and reduced quality of life, post-TBI dysphagia remains under-researched. Clinical practice frequently equates it with post-stroke dysphagia, overlooking its distinct and complex pathophysiology.

### **OBJECTIVES:**

This lecture aims to (1) outline the neural mechanisms underlying post-TBI dysphagia, (2) examine the role of cognitive and behavioural impairments, and (3) present an evidence-based multidisciplinary treatment framework.

### **MECHANISMS:**

In contrast to the focal lesions typical of stroke, TBI involves interacting disruption mechanisms: diffuse axonal injury along corticobulbar pathways; focal cortical and brainstem lesions affecting swallowing control; tracheostomy-related laryngeal desensitisation and disuse atrophy; impaired consciousness with absent protective reflexes causing silent aspiration; and secondary injury including raised intracranial pressure and sedation. These combined effects produce highly variable, patient-specific swallowing impairments not captured by conventional classifications.

### **THE COGNITIVE-BEHAVIOURAL DIMENSION:**

Cognitive and behavioural deficits, including attentional, memory, and executive dysfunction, anosognosia, and behavioural dysregulation, are central contributors to dysphagia in TBI rather than secondary complications. Evidence shows a strong association between cognitive recovery and swallowing improvement, highlighting cognition as one key treatment target.

### **MULTIDISCIPLINARY TREATMENT:**

Management should follow a four-level framework: acute safety and stabilisation, cognitively guided compensatory strategies, neuroplasticity-based rehabilitation, and, if necessary, neurostimulation. Consistent implementation across the multidisciplinary team including speech-language pathology, neuropsychology,

physiotherapy, occupational therapy, dietetics, nursing, and family is essential. Early intervention can accelerate the return to safe oral intake.

#### CONCLUSION:

Post-TBI dysphagia requires a shift toward individualised, mechanism-based, and interdisciplinary rehabilitation grounded in neuroplasticity.

Keywords: traumatic brain injury, dysphagia, diffuse axonal injury, neuroplasticity, multidisciplinary rehabilitation, swallowing disorders, cognitive-communication

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## IDENTIFYING AND MANAGING POST – TRAUMATIC PARKINSONISM

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### **HAKAN EKMEKCI**

Professor MD, Selçuk University, Faculty of Medicine, Department of Internal Medical Sciences, Neurology Department, Turkey

Sudden acceleration-deceleration injuries and penetrating traumatic brain injury (TBI) represent fairly common medical conditions in the population. A significant component of this clinical spectrum is post-traumatic parkinsonism (PTP). While the incidence of PTP among all TBI cases is approximately 3.1%, this rate exceeds 11% in patients over 65 years of age.

In post-traumatic Parkinsonism, symptoms can appear early, delayed, or late following the injury; the average latent period is approximately 3.3 years. However, the onset of Parkinsonian symptoms after trauma is usually not significantly delayed; in fact, approximately 47% of cases develop within the first six months.

Axonal damage, contusional hemorrhage, and related pathological processes significantly affect the basal ganglia. Widespread brain damage is not limited to specific anatomical regions, and the clinical picture is not limited to parkinsonism alone. Multiple neural circuits may be affected, particularly thalamo-basal ganglion interactions. Classic Parkinsonian symptoms such as bradykinesia, hypokinesia, rigidity, and tremor are typically predominant. However, corticospinal, cerebellar, and associated neural pathways may also contribute to the clinical picture. These symptoms are often accompanied by frontal executive function impairment, non-motor symptoms, behavioral changes, and emotional dysregulation.

Following trauma, a “vicious cycle of pathological changes” can develop, characterized by hypercapnia, cerebral vasodilation, cerebral edema, significantly increased intracranial pressure, displaced or compressed

nerve tissues, and significantly decreased cerebral perfusion. Subsequent neurodegeneration initiates a process of “proteinopathic neurodegeneration and neural network dysfunction” associated with the accumulation of alpha-synuclein, beta-aggregates, and neurofilaments. As a result, a Parkinsonian disease (PD)-like pathology becomes apparent. Balance disturbances occur, accompanied by gait freezing (FoG), postural abnormalities, hyperkinetic or hypokinetic extrapyramidal motor findings, progressive cognitive impairment, autonomic symptoms, sleep disturbances, fatigue, and related signs.

The underlying immunological background of PD-like pathology and PTP also appears similar. In the susceptible brain exposed to traumatic brain injury, decreased tyrosine hydroxylase (TH) activity and loss of dopamine transporter (DAT) function contribute to the development of clinical findings. These abnormalities become more pronounced with involvement of the substantia nigra. From an associational perspective, disruption of functional neural networks ultimately predisposes patients to the development of parkinsonism.

A clearer understanding of these pathogenetic mechanisms could improve the management of both motor and non-motor symptoms in patients with PTP. While pharmacological treatment remains the primary treatment goal, the role of deep brain stimulation in PTP remains controversial. Importantly, neurorehabilitation should be emphasized as a fundamental element in achieving physical, cognitive, and functional recovery.

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## **DIFFUSE AXONAL INJURY: AN UNDERRECOGNIZED DRIVER OF POOR OUTCOME IN TRAUMATIC BRAIN INJURY**

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**HESHAM ELSOBKY**

Neurosurgery department, Mansoura University, Egypt

Diffuse axonal injury (DAI) is a severe form of traumatic brain injury (TBI) caused by rapid acceleration–deceleration or rotational forces, most commonly occurring in road traffic accidents. It is characterized by widespread axonal disruption at the gray–white matter junction, affecting key structures such as the brainstem, corpus callosum, and cerebellum.

Clinically, DAI is associated with prolonged coma exceeding 6 hours and represents a major contributor to morbidity and mortality, occurring in approximately 40–50% of severe TBI cases and accounting for nearly one-third of related deaths. Its true incidence remains difficult to determine due to frequent coexistence with other intracranial injuries.

The pathophysiology of DAI involves primary axonal damage, including stretching, swelling, and retraction bulb formation, followed by secondary injury mechanisms such as excitotoxicity, neuroinflammation, and apoptosis. Disrupted calcium homeostasis activates proteolytic enzymes, including calpain-1 and caspase-3, leading to progressive neuronal damage.

Magnetic resonance imaging (MRI) is the preferred diagnostic modality due to its superior sensitivity compared to computed tomography, particularly in detecting non-hemorrhagic lesions. DAI is classified into three grades based on lesion location, with higher grades correlating with deeper brain involvement and poorer prognosis.

In Egypt, TBI represents a significant and growing public health burden, largely driven by road traffic injuries. Limitations in access to advanced imaging and variability in neurocritical care services pose challenges to early diagnosis and optimal management.

Management focuses on early neuroprotection, prevention of secondary brain injury, and structured rehabilitation. Emerging evidence suggests that neuroprotective agents such as Cerebrolysin may reduce inflammation, inhibit excitotoxicity, and limit apoptosis, although further validation in local populations is required.

This presentation reviews the current understanding of DAI and highlights the need for region-specific research to improve outcomes in Egypt.

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## **ADVANCES IN SPINAL CORD INJURY**

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### **NIKOLAY GABROVSKY**

University Hospital Pirogov, Sofia, Bulgaria

Spinal cord injury (SCI) remains one of the most challenging and devastating conditions in modern medicine. This presentation provides a comprehensive overview of the pathophysiology of spinal cord trauma, the advancement of surgical interventions, and the latest emerging therapeutic strategies.

The evolution of surgical protocols for traumatic SCI, the development of specialized spinal instrumentation and medical devices, and the transformative role of neuronavigation and robotics in treating this pathology will be examined. Furthermore, an overview of pioneering regenerative strategies, including neural engineering, molecular signaling, stem cell therapies, neurorestoration, and neuromodulation will be presented.

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## **PROBLEM-BASED LEARNING (PBL) METHOD IN THE TRAINING OF NEUROLOGY RESIDENTS ON TRAUMATIC BRAIN DISEASE**

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**MIHAIL GAVRILIUC<sup>1,2</sup>**

1. Department of Neurology, Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova,
2. Institute of Neurology and Neurosurgery Diomid Gherman of the Republic of Moldova

Within the spectrum of postgraduate study modalities, PBL represents an educational method centered on the resident physician. In PBL, the group of resident doctors, no more than five to eight people, from the same year of study, approaches a real case prepared by the mentor. This clinical case is complex, realistic, and has the general goal of developing the diagnostic and treatment skills of emerging specialists. Residents analyze cases of focal and diffuse brain injuries, learning to differentiate the mechanisms of production and evolution of different variants of traumatic brain disease.

The objectives of this communication are to present ways to assimilate basic knowledge about brain trauma, which those who are training in neurology should achieve to work in a group, without mistakes and adapted to contemporary technological achievements.

We expanded the possibilities of the PBL method by considering the results of the project carried out jointly with colleagues from Aalborg University/ Denmark 'Introducing problem-based learning in Moldova: towards increasing the competitiveness and employability of students'. During the implementation of the method, we also faced a series of challenges created by adapting the medical curriculum to the principles of the contemporary PBL method.

The traditional training method, used for more than seventy years at our department, has proven its sustainability, but, nevertheless, problem-based learning asserts itself as a rigorous challenge for obtaining a sustainable knowledge base, confidence in one's own strengths in solving the problems presented by traumatic brain injury, contributes substantially to the development of clinical and critical thinking, especially in emergency and complicated cases.

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## **QUALITY OF LIFE IN NEUROSURGICAL PATIENTS - MULTIMODAL TREATMENT IN TUMORAL AND TRAUMATIC PATHOLOGY**

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**SALVADOR RUIZ GONZÁLEZ**

Hospital Médica Sur, Tlalpan Mexico City, Mexico

The quality of life in neurosurgical patients with brain tumors or traumatic injuries are a central issue in comprehensive management, since these pathologies not only affect survival, but also key functions such as thinking, mobility and emotions in the patient and his family and work environment.

The current trend is to achieve integral benefit in the patient in the physical, cognitive, emotional, social and even work aspects.

This talk presents some cases of treatments administered to patients with primary and secondary tumors in the central nervous system.

Some oncological treatment guidelines are briefly reviewed, and the results obtained with conventional surgical techniques and Gamma Knife Radiosurgery are shown in addition to conservative treatment and multimodal rehabilitation and family management.

A small review of traumatic spinal pathology and its multidisciplinary management is made including the neurosurgical, neurological, rehabilitation aspect and in particular family support.

The results obtained with the use of neuroprotectors and brain neurorestorators in cranial and spinal trauma, as well as in tumor pathology, are briefly shared.

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## **AN INTEGRATED PARADIGM FOR MOLECULAR PROFILING OF TRAUMATIC BRAIN INJURY**

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**OCTAVIAN HENEGARIU**

Yale School of Medicine, New Haven, United States

Early identification of individuals at risk for neurological injury remains a major challenge in clinical practice. Both Ischemic Stroke and Traumatic Brain Injury are typically diagnosed after the onset of symptoms, limiting opportunities for prevention and early intervention. Furthermore, in repetitive head trauma, only a subset of individuals develop long-term complications such as Chronic Traumatic Encephalopathy, suggesting underlying biological heterogeneity that remains poorly understood.

This work outlines a strategy to identify and validate molecular biomarkers that capture both preclinical disease states and post-injury trajectories. The focus is placed on two domains: (i) pre-stroke risk stratification in patients with cardiovascular and metabolic risk factors, particularly atherosclerosis and atrial dysfunction, and (ii) longitudinal monitoring of TBI patients to identify molecular signatures associated with injury severity and long-term neurodegeneration.

The proposed approach integrates multiple biomarker modalities, including circulating proteins, lipids, metabolites, non-coding RNAs, DNA methylation profiles, immune-cell phenotyping, and autoantibody repertoires. Blood-based sampling will be performed longitudinally, enabling the study of dynamic changes preceding clinical events and during recovery or progression.

Importantly, this work leverages multiplex assay platforms to develop targeted, high-throughput panels that capture key biological pathways, including inflammation, endothelial dysfunction, coagulation, and neurodegeneration. By combining molecular data with clinical and imaging parameters, the goal is to construct composite biomarker models that improve risk prediction and patient stratification.

Although conducted in close collaboration with clinical neurologists, this effort is driven by a strong focus on assay development and translational biomarker discovery, aiming to bridge advanced molecular profiling technologies with practical clinical applications.

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**IN RESOURCE-LIMITED SETTINGS, SHOULD REHABILITATION AND NEUROPSYCHOLOGICAL CARE BEGIN IN THE ACUTE PHASE—OR WAIT UNTIL SURVIVAL AND STABILIZATION ARE ASSURED? EARLY REHABILITATION IS NECESSARY FOR CEREBROPROTECTION**

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**VOLKER HÖMBERG**

WFNR President

Over the last decades significant progress has been made in the field of neurological rehabilitation along with the advances in neurosciences in general. Neurorehabilitation should be considered as an ongoing process to be made available to every patient with an acute brain disorder.

We generally think that early rehabilitation attempts, especially starting with simple preventive measures, should begin as early as possible in TBI patients

to avoid complications. The issue when to start with more “aggressive” training techniques is still under discussion, especially when looking at animal experimental data which have demonstrated possible harmful sequelae of too early treatments due to possible excitotoxic effects. In humans the situation is not completely clear. The AVERT trial results (in stroke) are very debatable due to only marginal contrast in the study between what is meant by early or late. A comparable study does not exist in TBI. From our experience pharmacological interventions should start early. It is however clear that rehabilitative attempts should only be done when the patient is stable. On the other hand, complication-prevention rehab strategies (positioning, contracture prevention, appropriate nutrition, dysphagia care, etc.) should start early.

I do not see a conflict of resource allocation in the very early phase provided that necessary medical measures are given priority.

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## **FUTURE THREADS AND HOPES IN NEUROREHABILITATION AFTER TBI**

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**VOLKER HÖMBERG**

WFNR President

Over the last decades significant progress has been made in the field of neurological rehabilitation along with the advances in neurosciences in general.

This is nice to notice but several caveats have to be introduced pointing to possible threads.

We have so far not yet been able to clearly differentiate aspects of restoration of function or reduction of impairment and compensation of activities when restoration is not possible. We are still in a situation where we are lacking a deeper understanding of the underlying neurological restorative processes which will in future become more and more important to shape appropriate restorative custom tailored strategies. This accounts for stroke and also traumatic brain injury. This includes our understanding of the genetic and idiosyncratic individual underpinnings for chances to respond to particular forms of treatment. This is the major obstacle to defining rehabilitation in a manner to address the individual patient’s need and come to a focal personalised form of intervention.

We have made some progress in the field of pharmacological influences on brain recovery in the immediate postacute phase after stroke and traumatic brain injury especially by using new substances with multimodal ways of action.

Also important progress was made by the application of more refined ways of biometric analyses, especially the agglutination of multiple variables to cover the wide range of possible outcomes.

Nevertheless we are still faced with the situation that hundreds of millions of people in the world do not have any access to decent rehabilitation procedures and facilities.

If we have learned anything beneficial from the bad Corona pandemic, it was an improvement in our ease to use digital communication strategies. This in future will provide new avenues for spreading in a low threshold and affordable way knowledge and skills in the field.

Over the decade high-tech and low-tech options have been described in detail to bring the efficacy and efficiency of neurological rehabilitation forward.

In this talk I will give a synopsis of available high-tech options (e.g., robots, brain computer interfaces, the VR and AR technologies, neuro modulation) and contrast them with the available low-tech options such as strategies related to motor or cognitive learning. These low-tech options have the advantage in being affordable and easily accessible as learnable also for nonprofessional caregivers and relatives.

Although every year thousands of articles with good scientific background and flawless methodology are published, nevertheless in neurorehabilitation we do not yet have real “game changers”. The question is in how far this can be attributed to a wrong epistemology or eventually to the fact that we are not doing the right trials because we are not asking the right questions.

This intellectual challenge will become even more relevant in future.

Over the last two years the development of large language AI models (LLM) was extremely rapid up to the point that chatbots have invaded almost all aspects of everyday life and are about to replace the usual information gathering and sorting strategies so that we now may even label them as “classical”. Now AI LLM has a huge power in assembling, sorting, compiling and communicating data with wide fields of application also in the medical world. This opens new and workload saving avenues for differential diagnoses and medical decisions, eases communication with patients and may also be helpful in guideline development and in designing new drugs and procedures. AI may play a pivotal role in helping to solve dramatic mankind problems such as decarbonisation, better climate and the development of nuclear fusion technology.

It is fascinating to see the AI may also develop properties like empathy when dealing with patients up to the point that patients tend to prefer the interaction with chatbots over “real” clinicians as the technical systems never tire out and are constantly nice and cooperative.

Nevertheless a lot of caveats have to be introduced. As usual with technology there are always two sides to the medal: invasion of fake or hatred information and resulting attitudes may spoil the usefulness. The systems may be depraved into possibly dangerous “big brother” like control machines endangering human freedom.

Therefore careful observation, control and containment strategies have to be developed up to the point of legal restrictions and regulations to ascertain a responsible and safe use of AI.

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## **SURGICAL MANAGEMENT OF SPINAL CORD INJURIES**

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### **ROVSHAN KHALILZADA**

Department of Neurosurgery, Azerbaijan Medical University, Baku, Azerbaijan

Spinal cord injury (SCI) remains a devastating condition associated with significant mortality, long-term disability, and substantial socioeconomic burden worldwide. Advances in modern care have improved survival; however, functional outcomes remain closely linked to early and appropriate surgical management. The primary goals of surgery in SCI include timely decompression of the spinal cord, stabilization of the spinal column, preservation of neurological function, and prevention of secondary injury.

The pathophysiology of SCI highlights the critical role of spinal cord perfusion pressure (SCPP), emphasizing the importance of reducing intraspinal pressure to optimize cord perfusion. Early decompressive surgery has been shown to improve neurological recovery, particularly when performed within a critical time window—supporting the concept that ‘time is spine’. The extent of intramedullary lesion length (IMLL) further correlates with injury severity and recovery potential, guiding surgical urgency and expectations.

Accurate assessment of spinal stability using established classification systems, including AO Spine classifications for cervical and thoracolumbar injuries, is essential for decision-making. Surgical approach and technique must be individualized based on injury pattern, neurological status, and patient-specific factors.

Optimal outcomes in SCI management require not only surgical expertise but also a multidisciplinary approach within specialized centers capable of providing continuous, high-level care. Early intervention, standardized classification use, and tailored surgical strategies are key elements in improving patient outcomes.

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## **ACUTE PITUITARY DYSFUNCTION AFTER TRAUMATIC BRAIN INJURY: AN UNDERRECOGNIZED CAUSE OF POOR NEUROLOGICAL RECOVERY**

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**TRAN TRUNG KIEN<sup>1,2</sup>,**

**DUONG DAI HA<sup>1,2</sup>, LE DUC TAM<sup>1,2</sup>, DOAN TUAN ANH<sup>2</sup>, NGUYEN THANH TAM<sup>2</sup>**

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Traumatic brain injury (TBI) remains a major cause of mortality and long-term disability worldwide. While advances in neurosurgical techniques and neurocritical care have improved survival, many patients continue to experience poor neurological recovery despite adequate structural management. Early neuroendocrine dysfunction, particularly acute post-traumatic pituitary dysfunction, represents an underrecognized and often silent contributor to unfavorable outcomes after neurotrauma.

The hypothalamic–pituitary axis is highly vulnerable to primary and secondary brain injury mechanisms, including diffuse axonal injury, vascular compromise, intracranial hypertension, systemic inflammatory response, and critical illness. Hormonal disturbances may occur within hours to days following TBI, involving adrenocorticotropic hormone, cortisol, thyroid hormones, growth hormone, gonadotropins, and antidiuretic hormone. These abnormalities can exacerbate cerebral edema, hemodynamic instability, electrolyte imbalance, impaired consciousness, metabolic dysfunction, prolonged intensive care stay, and delayed neurological rehabilitation.

This presentation reviews the current evidence regarding the epidemiology, pathophysiology, clinical manifestations, diagnostic challenges, and early management strategies of acute neuroendocrine disorders after traumatic brain injury. Particular emphasis will be placed on acute pituitary dysfunction in severe neurotrauma patients treated in neurosurgical and neurocritical care settings. The importance of early screening protocols, multidisciplinary collaboration, and individualized hormonal replacement strategies will also be discussed.

Recognizing neuroendocrine dysfunction as a potentially reversible secondary injury mechanism may improve functional recovery and long-term quality of life in patients with traumatic brain injury. Increased awareness among neurosurgeons, intensivists, and rehabilitation specialists is essential for optimizing integrated neurotrauma care pathways.

Keywords: Traumatic brain injury; neuroendocrine dysfunction; pituitary dysfunction; neurotrauma; neurocritical care; rehabilitation

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## **THE PRESENT PATIENT REGISTRY - OBJECTIVES AND PROGRESS REPORT**

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### **PETER LACKNER**

Head of the Department of Neurology, Klinik Floridsdorf, Vienna, Austria

PRESENT is an international traumatic brain injury (TBI) registry developed by the Academy of Multidisciplinary Neurotraumatology (AMN). The project aims to address the information gap between countries and facilitate multidimensional approaches for TBI care. The instrument's main purpose is the collection of quality indicators associated with TBI in order to provide valuable information for enhancing healthcare delivery and gaining a deeper understanding of brain injury as a whole at 4 different domains: Critical Care/Anesthesiology, Neurosurgery, Neurology and Rehabilitation. This transversal approach follows the patient pathway from pre-hospital to outpatient care. The mission is to provide easy, universal access to an open registry for institutions all over the world, which would allow to measure important quality indicators for TBI for their own institution and set it into context to other institutions' performance. This should ultimately lead to an improved understanding of patient pathways, and neurorehabilitation best practice after TBI on an international basis. International Multidisciplinary Teams based on their specialty clusters are currently developing this registry in a multidisciplinary Delphi process. The process will be described and the status of the project will be presented.

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## **DIFFUSE AXONAL INJURY AS AN IDEAL MODEL TO DEMONSTRATE CEREBROPROTECTIVE EFFICACY**

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### **GUILLERMO V. LIABRES**

Cerebrovascular Neurosurgeon, Makati Medical Center, Makati City, the Philippines

Diffuse Axonal Injury (DAI) is a severe form of traumatic brain injury that occurs when the brain rapidly shifts and rotates inside the skull. This shearing force tears the brain's long connecting nerve fibers (axons), disrupting communication

and causing widespread damage, often resulting in prolonged unconsciousness or coma. Diffuse axonal injury is more than just a mechanical effect. Its secondary damage is brought about by the chemical alterations and changes in neuronal metabolism which drastically affect patient outcomes and recovery. This cellular threat which leads to secondary injury will serve as the primary target of cerebroprotective agents. The physical, cognitive and emotional impairments brought about by diffuse axonal injury carry a profound global, socio-economic and long-term clinical burden. This lecture highlights the role of cerebral protection in prevention of secondary injury thus demonstrating DAI as an ideal model for future studies utilizing cerebroprotective agents and its impact in patient survival, physical, cognitive and emotional improvement post diffuse axonal injury.

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## **THE BRAIN ON THE KNIFE'S EDGE – SURGICAL BRAIN INJURY: DEFINITIONS, MECHANISMS AND CLINICAL RELEVANCE**

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### **CHRISTIAN MATULA**

Neurosurgical Department, Medical University of Vienna, Austria

Surgical brain injury (SBI) represents a distinct and increasingly recognized consequence of neurosurgical intervention, differing fundamentally from broader concepts of iatrogenic brain injury. While neurosurgery aims to restore neurological function and improve survival, unavoidable tissue manipulation during operative exposure, resection, coagulation, and retraction may initiate complex biological responses that contribute to secondary injury. This lecture will examine the evolving definition of SBI and explore its underlying cellular, molecular, and physiological mechanisms.

Key pathways implicated in SBI include mechanical tissue disruption, ischemia-reperfusion injury, neuroinflammation, blood-brain barrier dysfunction, oxidative stress, cerebral edema, and excitotoxicity. These processes may occur even in technically successful procedures and can influence both short- and long-term neurological outcomes. Experimental and translational evidence has increasingly demonstrated that perioperative injury cascades share similarities with traumatic brain injury and stroke, highlighting opportunities for targeted neuroprotective strategies.

The lecture will further discuss the clinical relevance of SBI across contemporary neurosurgical practice, including tumor surgery, vascular procedures, epilepsy surgery, and minimally invasive approaches. Particular emphasis will be placed on distinguishing unavoidable surgical injury from preventable complications, thereby refining the conceptual boundary between SBI and iatrogenic harm. Advances in intraoperative monitoring, imaging, microsurgical techniques, anesthetic management, and biomarker research will also be reviewed as potential tools to mitigate operative injury.

A deeper understanding of SBI is essential for improving surgical planning, patient counseling, perioperative care, and the development of future cerebroprotective interventions aimed at optimizing neurological outcomes after neurosurgery.

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## **DAMPENING CEREBRAL NEUROINFLAMMATION IN TBI AND CYTOPROTECTION TO LIMIT SECONDARY INJURY**

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**ŚLAWOMIR MICHALAK**

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Neuroinflammation, which develops in response to traumatic brain injury (TBI), involves the activation of resident glial cells (microglia and astrocytes), the release of inflammatory mediators within the brain, and the recruitment of immune system cells (leukocytes). TBI is a multisystem pathology characterized by complex interactions involving all cell types of the central nervous system, including neurons, astrocytes, microglia, oligodendrocytes, and endothelial cells. Microglia play a key role in neuroinflammation, serving as the first line of defense following injury. In the injured brain, microglia produce anti-inflammatory mediators, remove cellular debris, and coordinate neuroregenerative processes that support the recovery of neurological function after TBI. However, microglia may also produce excessive amounts of pro-inflammatory mediators, which exacerbate brain injury, inhibit repair mechanisms, and impair neurological recovery.

Neuroinflammation caused by TBI also disrupts the integrity of the blood–brain barrier (BBB). Dysfunction of the BBB may persist for days, months, or even years after TBI and may be associated with edema, activation of astrocytes and microglia, inflammatory responses, alterations in the extracellular matrix, and remodeling of neuronal networks. BBB dysfunction contributes to the long-term neurological complications of TBI, including accelerated brain aging, cognitive impairment, depression, and post-traumatic epilepsy. Emerging methods for assessing spreading depolarizations (SDs), mitochondrial dysfunction, inflammatory responses, and BBB integrity, as well as novel therapeutic strategies aimed at supporting repair of the neurovascular unit, provide new hope for preventing TBI-related complications. Thus, the management of neuroinflammatory mechanisms, as well as BBB protection, is primarily a method of protecting against TBI complications.

Cytoprotection is an approach aimed at protecting the key components of the neurovascular unit: neurons, astrocytes, and endothelial cells, together with the tight junctions between them. Experimental studies and the clinical CERBERUS

trial, the results of which will be presented, demonstrated that Cerebrolysin stabilizes tight-junction proteins in vascular endothelial cells, thereby reducing the risk of hemorrhagic transformation in ischemic stroke. Due to its pleiotropic anti-inflammatory, neurotrophic, antioxidant, and blood–brain barrier-stabilizing effects, Cerebrolysin fulfills the criteria of a cytoprotective agent. Numerous clinical studies have demonstrated the beneficial effects of Cerebrolysin in ischemic stroke, contributing to improved functional outcomes, reduced hemorrhagic transformation, and lower mortality.

The beneficial effects of Cerebrolysin in TBI have also been well documented. However, under clinical conditions, the impact of Cerebrolysin on the inflammatory response and the stability of the blood–brain barrier has not yet been fully determined.

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## **ATTENTION DEFICIT AFTER NEUROTRAUMA: A CORE DRIVER OF COGNITIVE DISABILITY**

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**SINDI MITROVIĆ<sup>1,2</sup>**

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Traumatic brain injury (TBI) remains a leading cause of long-term neurological disability worldwide. Despite improvements in acute care and survival, many survivors develop persistent cognitive impairments that undermine functional independence and social participation. Among these, disturbances of attention and information processing speed are particularly frequent and disabling, often co-occurring with executive dysfunction across the spectrum from mild to severe TBI. Epidemiological and meta-analytic data indicate that these deficits can persist for years, contributing disproportionately to global cognitive disability and limiting return to complex everyday roles.

A growing body of evidence from structural and functional neuroimaging, electrophysiology, and network neuroscience implicates diffuse disruption of large-scale control systems—including frontoparietal, thalamocortical, salience, and default mode networks—in post-traumatic attentional dysfunction. Secondary injury cascades, together with diffuse axonal injury, further impair network efficiency and integration, constraining adaptive neuroplastic reorganization and the brain's capacity to support recovery of goal-directed behavior.

Despite the central role of attention in learning, therapeutic engagement, and motor relearning, conventional neurorehabilitation continues to emphasize

motor and basic functional outcomes, often underrecognizing attentional control as a core driver of post-traumatic disability. Evidence-informed cognitive rehabilitation—including metacognitive strategy training, direct attention training embedded in everyday tasks, and carefully selected pharmacological agents—can improve attentional performance and processing speed and may enhance broader functional recovery. Emerging approaches such as virtual-reality-based interventions and non-invasive brain stimulation offer additional avenues for targeting attentional networks, although current evidence remains limited and mixed.

Attention therefore represents a central organizing mechanism of post-traumatic recovery, underscoring the importance of systematic assessment and targeted rehabilitation of attentional networks within multidisciplinary TBI care.

Keywords: Traumatic Brain Injury, Attentional Networks, Cognitive Disability, Neurorehabilitation, Neuroplasticity

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## **AMN ROLE IN THE MANAGEMENT OF NEUROTRAUMA**

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2. AMN President

Traumatic brain injury (TBI) remains one of the leading causes of death and long-term disability worldwide, representing a major public health and socioeconomic burden across all regions and healthcare systems. Despite significant advances in neuroscience, the translation of scientific knowledge into standardized, coordinated clinical practice continues to face substantial challenges — particularly across the continuum of care from emergency management and intensive care to rehabilitation and long-term neuropsychiatric support.

The Academy for Multidisciplinary Neurotraumatology (AMN) was established with the core mission of bridging these gaps through the promotion of integrated, evidence-based, and multidisciplinary approaches to neurotrauma management. Over more than two decades, AMN has played a pivotal role in fostering international collaboration among neurosurgeons, neurologists, intensivists, rehabilitation specialists, neuropsychologists, and allied health professionals — building a global network dedicated to improving outcomes for patients with neurotrauma.

This keynote address provides a comprehensive overview of AMN's contributions to the field, including the development and dissemination of

clinical guidelines, the establishment of multidisciplinary Focus Groups, the coordination of observational and non-interventional research initiatives, and the organization of structured educational programs including simulation-based training. Special emphasis is placed on AMN's role in advocating for pathway-based care models that address the full trajectory of neurotrauma — from acute neuroprotection and surgical decision-making through early rehabilitation and the management of neuropsychiatric sequelae.

Looking ahead, AMN remains committed to expanding its global reach, supporting low- and middle-income countries in developing scalable neurotrauma pathways, and advancing collaborative research that connects bench science with bedside practice. The vision is a future where every patient with neurotrauma receives timely, coordinated, and comprehensive care — regardless of geography or available resources.

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## **NEW INSIGHTS INTO BRAIN PROTECTION AND RECOVERY AFTER NEUROTRAUMA**

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### **DAFIN F. MUREȘANU**

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Traumatic brain injury initiates a complex, multi-layered pathophysiological cascade that unfolds across hours, days, and weeks following the primary insult. While the primary mechanical injury is irreversible, the secondary injury cascade — encompassing excitotoxicity, neuroinflammation, oxidative stress, blood-brain barrier disruption, and apoptotic cell death — represents a critical therapeutic window in which targeted interventions may substantially alter the trajectory of neurological recovery.

A central concept in understanding interindividual variability in TBI outcomes is brain reserve — the brain's structural and functional capacity to withstand injury and sustain adaptive responses. Brain reserve, shaped by genetic factors, cognitive engagement, education, and premorbid brain health, modulates both the severity of acute injury expression and the potential for long-term recovery. Integrating brain reserve assessment into clinical decision-making offers a more personalized framework for prognosis and treatment planning across the neurotrauma continuum.

Recent advances in translational neuroscience have broadened the evidence base for pharmacological neuroprotection and neurorecovery. Multimodal agents, acting simultaneously on neuroinflammation, neurotrophic signaling, excitotoxicity, and synaptic plasticity have demonstrated particular promise,

reflecting the biological complexity of TBI and the limitations of single-target approaches. Optimizing the timing, dosing, and duration of pharmacological treatment in alignment with the temporal phases of secondary injury and endogenous repair remains a key clinical and research priority.

Beyond the acute phase, recovery is increasingly understood as a dynamic, experience-dependent process that extends well into the chronic stage. Emerging rehabilitation technologies — including artificial intelligence-driven cognitive training platforms and immersive virtual reality environments — are transforming post-neurotrauma care by enabling personalized, adaptive, and engaging interventions that promote neuroplasticity across motor, cognitive, and neuropsychiatric domains. When embedded within structured care pathways, these tools extend the reach of evidence-based rehabilitation from inpatient settings into community and home-based environments.

This lecture presents an integrated vision of brain protection and recovery after neurotrauma, in which brain reserve, targeted pharmacotherapy, and technology-enhanced rehabilitation are not sequential steps but complementary pillars of a unified, continuum-based care model.

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## **FUNCTIONAL NEUROLOGICAL DISORDERS IN CHILDREN AND ADOLESCENTS—CAN REHABILITATION HELP?**

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### **KRISTINA MÜLLER**

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Prof. F. Binkofski, RWTH Aachen, Germany

Symptoms of a Functional Neurological Disorder (FND) are frequently encountered by pediatricians, neuropsychiatrists, psychologists and child psychiatrists. The concept of FND has changed during the last years. The diagnosis is made by identifying the typical clinical signs. FND also happens in patients with known neurological diseases e.g. Traumatic Brain Injury (TBI). The therapeutic approach is pragmatic and multidisciplinary. Somatic procedures (special type of physiotherapy) and psychological interventions complement one another and are individually adapted to the patients' needs. An early intervention can prevent a longstanding chronic course of FND. A rehabilitation setting is suitable to grant a multidisciplinary approach. We will report our experience and outcome data of 40 patients with functional gait disturbances.

Lendt *et al.* *Monatsschr Kinderheilkd* 2023 <https://doi.org/10.1007/s00112-023-01766-y>  
Yong *et al* *Dev Med Child Neurol.* 2023;65:1238–1246.

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## **SURGICAL MANAGEMENT OF DRUG-RESISTANT EPILEPSY – THE ASHGABAT EXPERIENCE**

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### **SAPAROV NURGELDI**

International Center for Neurology, Ashgabat, Turkmenistan

#### **OBJECTIVE:**

Drug-resistant epilepsy (DRE) remains a significant clinical challenge in Turkmenistan, with focal epilepsy comprising a substantial portion of the patient landscape. This study aims to present the standardized preoperative evaluation protocols and surgical outcomes of the International Neurology Centre in Ashgabat, highlighting the transition from medical management to successful surgical intervention.

#### **METHODS:**

We analyzed a cohort of patients undergoing Phase I evaluation for epilepsy surgery. Diagnostic protocols included high-resolution 3 Tesla MRI (Epilepsy Protocol), semiology analysis, and long-term Video-EEG monitoring. A multidisciplinary team approach was utilized to localize the epileptogenic zone, particularly in “gray zone” cases involving non-lesional (MRI-negative) epilepsy. Surgical interventions spanned a wide spectrum, including standard and selective amygdalohippocampectomy (utilizing transsylvian or subtemporal corridors), extratemporal resections, and palliative procedures (Callosotomy, VNS). Intraoperative precision was maintained through the use of neuronavigation and electrocorticography (ECoG) to confirm the elimination of epileptiform discharges.

#### **RESULTS:**

Consistent with international benchmarks (NEJM), our findings demonstrate that surgical intervention significantly outperforms continued medical therapy in DRE. While seizure freedom rates drop to approximately 3% after the failure of a fourth anti-epileptic drug (AED), our surgical cohort demonstrated high rates of seizure freedom as categorized by the Engel Outcome Scale and ILAE Classification. Case studies highlight the successful preservation of critical vascular and eloquent structures, such as the Vein of Labbé, through refined surgical maneuvers and intraoperative monitoring.

#### **CONCLUSION:**

The Ashgabat experience underscores that a rigorous, multidisciplinary preoperative protocol combined with advanced microsurgical techniques can achieve excellent seizure control in a region previously dominated by medical management. By integrating advanced imaging and intraoperative ECoG, the International Neurology Centre has established a sustainable and effective surgical pathway for patients with drug-resistant epilepsy in Turkmenistan.

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## **CONTROLLING TRAUMATIC BRAIN INJURY IN AFRICA USING THE NEUROLOGIC QUADRANGLE: IMPROVING SURVEILLANCE, PREVENTION, ACUTE CARE AND REHABILITATION**

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2. Director, Center for Genomic and Precision Medicine, College of Medicine, University of Ibadan (Presenting Author)

Traumatic brain injury (TBI) has been a major public health burden, historically, in Africa and other continents. The rising incidence of road traffic crashes, domestic violence, occupational hazards, and sports-related head injuries has increased the need for coordinated approaches to Surveillance, Prevention, Acute Care and Rehabilitation. This presentation reviews the mechanisms of secondary brain injury following a TBI, including the strategies for its care and rehabilitation in Africa, highlighting the role of neuroimaging, emergency neurocritical care, surgical interventions (when the brain is compressed from both extra-axial and intra-axial blood collections), and multidisciplinary rehabilitation models. Emphasis is placed on the challenges militating against care and rehabilitation in the African context, including a lack of ambulances, delayed hospital presentation because of a lack of funds, poor access to specialized acute care, and inadequate rehabilitation infrastructure. The presentation also discusses the importance of low-cost rehabilitation services and research networks in strengthening TBI care systems. Africa is expected to improve the outcomes of TBI if the emerging opportunities in genomics, precision medicine, digital health, and community-based neurorehabilitation are explored as potential tools. Evidence demonstrates that early intervention, integrated rehabilitation, and culturally adapted care pathways can significantly enhance functional recovery and quality of life among survivors. Therefore, by strengthening neurorehabilitation services and fostering sustainable partnerships, the long-term burden of TBI in Africa will be reduced.

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## **POST-TRAUMATIC DEPRESSION AFTER BRAIN INJURY: BIOLOGY, RISK FACTORS, AND CLINICAL CONSEQUENCES**

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2. Psychiatric University Hospital Zurich,
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Traumatic brain injury (TBI) is a major global health burden and affects predominantly the fronto-temporal brain with relevant neuropsychiatric consequences including cognitive, sleep, and affective dysfunctions. These

symptoms tridirectionally influence each other, often remain untreated and hamper complete recovery with up to half of patients suffering from depressive disorder after TBI. Recent neuroimaging studies pinpoint that brain connectivity differs between patients suffering from Major Depressive Disorder (MDD) compared to those with a traumatic affective syndrome (TAS). While the exact biology of TAS is still unknown, it is time to clinically tackle the unmet psychiatric diagnostic and treatment needs after TBI across Europe. Therefore, this talk will outline the current evidence of the biology of TAS and risk factors as well as clinical diagnostics and treatment strategies. The highlights are i.) the clinical picture of post-TBI in comparison to post-stroke depression, ii.) the diagnostic relevance of screening the TBI patient's disease-specific and health-related quality of life (HRQoL) to identify the risk of a depressive disorder early, iii.) the non-pharmacological and pharmacological treatment of post-TBI depression. Finally, the multidisciplinary acute and rehabilitative diagnostics and treatment strategies within the AMN to overcome the unmet psychiatric needs after TBI for better lives for patients and their families over the lifespan are discussed.

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## **A PATIENT'S PERSPECTIVE: RECOVERY AFTER TRAUMATIC BRAIN INJURY**

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### **ESRA DE RUITER**

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This presentation offers a unique perspective on traumatic brain injury (TBI) by integrating scientific knowledge with lived experience. Using a case of diffuse axonal injury sustained in 2016, the talk aims to provide insight into the complex and often underrecognized realities of life after brain injury.

Rather than focusing solely on clinical definitions, the presentation highlights the broad and frequently invisible consequences of TBI. These include cognitive impairments such as memory dysfunction, reduced processing speed, and executive deficits; physical symptoms including chronic fatigue, sensory hypersensitivity, and visual disturbances; as well as emotional and behavioural changes that significantly affect daily functioning. Acquired prosopagnosia is discussed as a key example of higher-order visual processing impairment. By translating extensive symptom profiles into real-world contexts, the impact of TBI is made more tangible for both clinical and research audiences.

The presentation further addresses co-occurring conditions, including functional movement disorder and visual processing impairments,

illustrating how disruptions in neural networks can give rise to complex and sometimes misunderstood symptom patterns. Diagnostic approaches, including functional MRI and eye-tracking, are discussed to highlight both the complexity and severity of these symptoms.

A central focus of the talk is the process of recovery and neuroplasticity. Recovery is conceptualized not as a return to pre-injury functioning, but as an ongoing process of adaptation, requiring therapeutic intervention, lifestyle modification, and continuous management of cognitive and physical resources.

By combining clinical insight with a patient-centred perspective, this presentation aims to deepen understanding of TBI, challenge conventional notions of recovery, and emphasize the importance of incorporating patient experience into neuroscience research and clinical practice. Opportunities for audience questions and discussion are included.

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## **SURGICAL ONCOLOGY AS A MODEL – GLIOMA RESECTION: MAXIMIZING ONCOLOGICAL BENEFIT WHILE MINIMIZING IATROGENIC BRAIN INJURY**

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***BARTŁOMIEJ SAGAN,***

***AGATA ANDRZEJEWSKA, KONRAD JAROSZ, LESZEK SAGAN***

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### **INTRODUCTION:**

Glioma surgery epitomizes the pursuit of onco-functional balance. While maximizing the extent of resection (EOR) for oncological benefit, neurosurgery must address the risk of Iatrogenic Brain Injury (IBI). Modern neuroprotective strategies minimize this risk through meticulous planning and precision techniques. However, life-saving management of critical postoperative complications carries unavoidable functional costs.

### **OBJECTIVE:**

To review IBI minimization strategies and evaluate the unavoidable functional costs associated with the emergency management of a secondary intracranial volume crisis.

### **MATERIALS AND METHODS:**

Modern IBI prevention encompasses 3D hybrid modeling, functional MRI,

tractography, intraoperative neuromonitoring, and awake craniotomy mapping. To contrast these protocols with real-world challenges, we retrospectively analyzed a case where standard radical microsurgery was complicated by a severe postoperative crisis, necessitating emergency surgery, profound sedation, and targeted pharmacological neuroprotection aimed at blood-brain barrier restoration.

#### CASE REPORT:

A 35-year-old male with an extensive WHO grade 4 glioma involving both frontal lobes underwent an uneventful supramarginal resection under general anesthesia. Initially stable, on postoperative day 4 he developed complete dysregulation of compensatory mechanisms, abrupt cerebral edema, critical intracranial hypertension, and an active herniation syndrome (progressive bilateral pupillary dilation, severely compromised cerebral hemodynamics). Aggressive salvage therapy comprised three pillars: (I) decompressive craniectomy; (II) profound metabolic suppression via deep sedation (e.g., barbiturate coma) to reduce metabolic demand; and (III) targeted pharmacological neuroprotection (e.g., cerebrolysin) to stabilize the blood-brain barrier.

#### RESULTS:

This multi-modal crisis management—combining decompression, sedation, and barrier-targeted therapy—successfully controlled the cerebral edema and preserved brainstem function, saving the patient. However, late perfusion redistribution leading to generalized edema and significant ICP elevation compromised complex frontal networks. Clinically, this manifested as a persistent frontal lobe syndrome (emotional lability, disorientation) and profound apraxia, severely impairing mobility. This represents an iatrogenic “cognitive footprint,” highlighting the unavoidable functional cost of survival.

#### CONCLUSIONS:

IBI extends beyond direct surgical trauma to the devastating sequelae of secondary intracranial decompensations. While advanced intraoperative mapping is crucial, it cannot protect against delayed volume crises. Managing such emergencies inherently relies on immediate decompression, profound sedation, and barrier restoration. The subsequent emergence of permanent cognitive deficits exposes the limitations of current prognostic capabilities. While not applicable to acute crises, future clinical implementation of AI-driven connectomics represents a crucial evolution. This “network-aware” approach holds high potential for optimizing planned surgeries and prognosticating network integrity following catastrophic iatrogenic events.

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## **POST-INTENSIVE CARE UNIT SYNDROME IN TRAUMA: THE BURDEN OF SURVIVORSHIP**

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### ***DOREL SĂNDESC***

General Manager, University County Emergency Hospital Timisoara, Romania

Critical care survivorship has emerged as one of the defining challenges of modern intensive care medicine. Advances in intensive care have significantly improved survival rates, but many survivors experience long-term physical, cognitive, psychological, and social consequences collectively described as Post-Intensive Care Syndrome (PICS). This presentation explores the “burden of survivorship” after intensive care, emphasizing both the human and systemic dimensions of recovery.

Particular attention is given to the disruption of personal identity experienced by ICU survivors, who frequently struggle to reconcile their pre-illness self-image with the profound changes caused by critical illness. Drawing on contemporary literature and qualitative studies, the presentation highlights how survivors and families navigate uncertainty, altered functionality, emotional trauma, and the challenge of rebuilding a meaningful future.

The communication gap between healthcare professionals, patients, families, and post-discharge providers is identified as a major unresolved issue. Many patients report inadequate information regarding expected recovery trajectories, long-term symptoms, and psychosocial adaptation after ICU discharge. These deficiencies may contribute to anxiety, confusion, poor reintegration, and medico-legal vulnerability.

The presentation advocates for patient- and family-centered models of post-ICU care, including structured communication strategies, ICU diaries, multidisciplinary follow-up programs, psychological support, and improved continuity between intensive care units, primary care, and rehabilitation services. ICU survivorship should therefore be addressed not only as a medical outcome, but also as a complex ethical, psychological, communicational, and societal responsibility.

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## **NEUROTRAUMA FOCUS GROUP - ROMANIA**

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### ***DOREL SĂNDESC***

General Manager, University County Emergency Hospital Timisoara, Romania

Preliminary Report – NeuroTrauma Working Group  
4<sup>th</sup> National Neurology Forum (FNN), Bucharest, April 23–24, 2026

## EXECUTIVE SUMMARY

The NeuroTrauma Focus Group, convened during the 4th National Neurology Forum in Bucharest, emphasized that neurotrauma must be recognized as a major public health issue in Romania and managed through an integrated, multidisciplinary national framework. The report proposes the creation of a national interdisciplinary commission dedicated to severe trauma and neurotrauma, with responsibilities spanning clinical care, organization, legislation, financing, rehabilitation, and social reintegration.

## NEUROTRAUMA AS A MAJOR PUBLIC HEALTH PROBLEM

The report highlights the enormous burden of neurotrauma at both European and Romanian levels. According to European CENTER-TBI data, approximately 2.5 million people suffer traumatic brain injuries annually in Europe, with around 1 million hospitalizations and 75,000 deaths each year. TBI remains one of the leading causes of death and disability among young adults.

## STRATEGIC RECOMMENDATIONS

The report proposes several strategic directions for national implementation:

- Establishment of a National Interdisciplinary Trauma Commission under the Ministry of Health.
- Development of accredited regional neurotrauma centers with advanced neurosurgical, neuro-ICU, imaging, and rehabilitation capabilities.
- Creation of standardized national clinical pathways regulating triage, transfer, ICU care, rehabilitation, and follow-up.
- Development of dedicated training and certification programs in neuromonitoring, neurocritical care, rehabilitation, and neurophysiology.
- Integration of early rehabilitation, psychiatric support, and social reintegration into the neurotrauma care pathway.
- Development of a specific Program of financing the care of Neuro-Trauma patients.

## CONCLUSION

The NeuroTrauma Working Group concludes that severe trauma and neurotrauma represent one of the most important yet under-recognized public health challenges in Romania. The burden extends far beyond acute mortality, affecting long-term disability, family stability, economic productivity, and social integration.

The report advocates a comprehensive transformation of neurotrauma care through multidisciplinary coordination, regionalized expertise centers, integrated rehabilitation pathways, dedicated financing, and stronger national policies. A validated version of the report is intended to serve as the basis for a future memorandum addressed to the Romanian Ministry of Health and the National Health Insurance House (CNAS).

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## **STABILIZE FIRST: REHABILITATION WITHOUT INFRASTRUCTURE FAILS**

**ARGUMENT: PREMATURE REHAB DIVERTS RESOURCES FROM LIFESAVING CARE**

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### **LUCA SEBASTIANELLI**

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The role of rehabilitation after neurotrauma is widely recognized. Early neurorehabilitation may contribute to improved outcomes in body functions, activities, and participation. However, in resource-limited settings, the question is not whether rehabilitation is important, but whether premature rehabilitation can divert limited resources from lifesaving care.

In many low- and middle-income countries, major challenges remain related to delayed transport, insufficient neurosurgical access, limited intensive care capacity, inadequate nursing ratios, shortages of trained personnel, and poor continuity between hospital and community services. These factors influence not only survival, but also long-term disability, caregiver burden, social participation, and return to work. In such contexts, prioritizing highly specialized rehabilitation may risk redirecting scarce staff, time, and financial resources away from essential acute interventions.

The debate is therefore not between rehabilitation and no rehabilitation, but between different priorities within fragile health systems. Some rehabilitation-oriented measures can and should begin very early, even in low-resource settings: positioning, pressure sore prevention, contracture prevention, safe mobilization when feasible, delirium prevention, communication with families, and simple strategies to preserve autonomy and interaction with the environment. More advanced multidisciplinary rehabilitation and structured neuropsychological care, however, require minimum levels of medical stability, infrastructure, workforce, and continuity of care to be effective.

Early rehabilitation should be understood not only as the treatment of impairments, but also as an effort to preserve functioning, limit activity restrictions, support participation, and strengthen environmental facilitators. To achieve these goals, rehabilitation must be embedded within a continuous and interdisciplinary pathway linking acute care, nursing, rehabilitation professionals, neuropsychological support, family involvement, and community services. Without continuity of care and coordination across settings, rehabilitation risks becoming fragmented or unsustainable. In resource-limited settings, this highlights the importance of developing rehabilitation pathways that are proportionate to available resources, while progressively strengthening acute care, interdisciplinary collaboration, and long-term follow-up.

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## **MALIGNANT CEREBRAL EDEMA COMPLICATIONS DURING CRANIAL BONE RECONSTRUCTION AFTER DECOMPRESSIVE CRANIECTOMY FOR THE TREATMENT OF SEVERE TBI: 3 CASES AND A LITERATURE REVIEW**

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### **BACKGROUND:**

Malignant cerebral edema after cranioplasty is a rare but catastrophic complication in patients who previously underwent decompressive craniectomy for severe traumatic brain injury (TBI). We report three cases and briefly review the literature.

### **CASES:**

#### **CASE 1:**

A 49-year-old man with severe TBI from a traffic accident (GCS 8) underwent bilateral frontal decompressive craniectomy with autologous bone flap cryopreservation. Three months later, he was fully conscious without motor deficit and had a sunken scalp. Autologous cranioplasty was uneventful. On postoperative day 2, he developed repeated vomiting, agitation, and rapidly deteriorated to coma. CT showed diffuse cerebral edema without intracranial hematoma. Re-decompressive craniectomy was performed, but consciousness did not improve. He died 4 days later.

#### **CASE 2:**

A 48-year-old man with severe TBI underwent right hemispheric decompressive craniectomy. Two months later, he was alert, without deficit, and had a markedly sunken flap site. After autologous cranioplasty, he initially remained well but deteriorated to a coma within 5 hours. CT revealed malignant cerebral edema without hematoma. Despite intensive medical management, he died after 2 days.

#### **CASE 3:**

A 37-year-old man sustained TBI from a fall and underwent hematoma evacuation with decompressive craniectomy. Three months later, he was alert with mild left hemiparesis. Following autologous cranioplasty, he was initially stable but developed seizures and deep coma within 1 hour, with bilateral fixed dilated pupils. CT showed diffuse bilateral edema. Emergency re-decompression was performed, but he did not recover and died after 2 days.

## DISCUSSION:

Malignant cerebral edema after cranioplasty typically occurs within hours to days postoperatively, often without hemorrhage. Proposed mechanisms include impaired cerebral autoregulation, sudden restoration of intracranial pressure dynamics, hyperperfusion ('reperfusion injury'), and venous outflow disturbance in chronically sunken brain. Risk factors may include severe initial TBI, large skull defects, rapid pressure changes, and delayed cranioplasty.

## CONCLUSION:

Although uncommon, malignant cerebral edema after cranioplasty carries extremely high mortality. Early recognition, urgent imaging, and prompt decompression are critical, but outcomes remain poor. Careful patient selection, perioperative monitoring, and gradual pressure modulation strategies may help reduce risk.

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## CLINICAL GUIDELINES AND NON-INTERVENTIONAL TRIALS IN TBI (CREST)

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### **JOHANNES VESTER**

AMN President

One of the most important steps for future research in complex fields such as neurotrauma is the shift away from the long-standing "single-criterion paradigm" and binary "success-versus-failure" thinking that has dominated clinical research on neuroprotective treatments for decades. Outcome after neurotrauma is inherently multidimensional and cannot be adequately captured by isolated single endpoints. AMN, as a dedicated multidisciplinary organization, has repeatedly emphasized the need for a multidimensional outcome assessment in TBI clinical research. Also other international organizations, research initiatives, and leading methodological experts have likewise addressed the limitations of single-measure approaches, highlighting the need for a multidimensional approach in TBI outcome assessment (Margulies, 2009; von Steinbuechel et al., 2023; Bagiella et al., 2010; Maas et al., 2010; Maas et al., 2023; Int. Biometric Soc., 2014; EANP, 2022; Leone, 2013). As emphasized by the US Traumatic Brain Injury Clinical Trials Network, multiple measures are necessary "to address the breadth of potential deficits and recovery following TBI," including neurophysical impairments, cognitive dysfunction, and challenges in social reintegration. This evolving framework is considered to more accurately reflect the complex reality of recovery after neurotrauma, while also enhancing assay sensitivity within the framework of evidence-based medicine.

To further promote these future-oriented developments, AMN initiated in collaboration with the EFNR a clinical guideline project with the aim of providing current evidence on neurorehabilitation for TBI patients across all severity levels using multifaceted outcome assessments - applying current methodological guidelines for guideline development and focusing on outcomes that are patient-centered and useful for caregivers and health professionals. The protocol is registered in PROSPERO and Covidence software will be used for the systematic review process. The guideline's main PICO question addresses whether existing interventions improve outcomes in neurorehabilitation after traumatic brain injury in general, and specifically to improve (a) the global multidimensional outcome, (b) physical functioning, (c) cognitive functioning, (d) overall functional outcome and activities of daily living, (e) emotional and mental health.

Another major challenge in neurotrauma research is the growing need for prospective observational (non-interventional) studies to complementing findings from randomized controlled trials (RCTs) by providing data on the real-world effectiveness and safety of treatments. However, methodological flaws in study design, analysis, and interpretation, as well as the absence of widely accepted standards for quality assessment, have limited the interpretability and practical value of observational research. A significant methodological milestone has been the introduction of the GRACE Principles for High-Quality Observational Studies of Comparative Effectiveness, opening a promising pathway toward improved validity, reduced bias, enhanced assay sensitivity, and more robust evidence grading. To ensure meaningful and reliable conclusions, such studies must apply rigorous data methodologies and be conducted in full accordance with good clinical practice.

As a model for future-oriented evidence generation in complex domains such as neurorehabilitation, AMN is launching a real-world high-quality comparative effectiveness research (HQCER) study, integrating the GRACE Principles in combination within a Target Trial Emulation Framework, while adhering to the most recent ICH E6(R3) principles and GCP requirements. The multidimensional approach framework of the CREST project will include comprehensive evaluation of physical, cognitive, emotional, and social domains, as well as the implementation of targeted rehabilitation strategies aimed at supporting recovery after TBI. AMN focus groups will guide the national educational activities, assessment training, and site initiation procedures.

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## **DIFFUSE AXONAL INJURY: PATHOLOGICAL AND CLINICAL CONSIDERATIONS**

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### **PIETER VOS**

Neurologist, Slingeland Hospital, Gelderland, the Netherlands

In Traumatic Brain Injury(TBI) a distinction is made between focal damage when direct collision forces on the skull result in compression of tissue causing mass lesions including contusion and hemorrhage versus diffuse injury, that can be microscopical in nature, as a result of shear, tensile forces within brain tissue.

Diffuse axonal injury (DAI) is the most common pathology in patients with severe TBI. A systematic study of 37 studies showed that in 60% of severe TBI patients MRI demonstrates evidence of diffuse axonal injury<sup>1</sup>.

Diffuse injury is also called traumatic axonal injury (TAI). DAI/TAI is clinically different from focal injuries. In contrast to focal injuries in pure DAI, raised intracranial pressure is almost never present. The duration of coma is in general longer after DAI compared to focal injuries. Persisting motor weakness after TBI occurs more often after DAI.

Traumatic axonal injury was first described in 1956 by the pathologist Strich as a devastating clinicopathological syndrome with extensive damage to the white matter. Later the term 'diffuse axonal injury' (DAI) was suggested by Adams. Prolonged coma (more than 6 hrs) and widespread injuries to white matter regions were pathoanatomically graded into three stages of increasing severity. Based on the depth of the lesions grade 1 represents a pattern of lesions confined to the lobar white matter at the grey-and-white matter interface, grade 2 revealing additional lesions to the corpus callosum and grade 3 further demonstrating lesions to the rostral lateral-dorsal brainstem. These findings were confirmed in MRI studies. Because of its microscopic nature, TAI is not detected with CT. Recent findings suggest that presence of TAI on MRI in particular at the level of the midbrain tegmentum is a strong predictor of poor outcome<sup>2</sup>.

The time course of recovery of motor functions in patients with TAI is in general slower compared to the time course in patients with focal injuries. Clinically in severe TBI, dysautonomia and spasticity occur more often in the presence of TAI compared to (multi)focal injuries<sup>3</sup>.

Outcome is considered poor. 98%. The pooled mortality in patients with severe TBI and DAI in one study was 16%.

In particular in younger patients long-term outcome however is not invariably unfavourable. In a study severe pediatric TBI with MRI verified pure diffuse

axonal injury with a follow up duration of 10 years. Among children with unfavorable outcomes at discharge, with long-term follow-up in 65%, a majority (71%) converted to a favorable outcome.

Conclusion: TAI is different from focal injuries in several ways, clinically, pathologically, pathophysiologically and on imaging, recovery trajectories and outcome.

1. Sanker V, Nordin EOR, Heesen P, et al. Frequency of Diffuse Axonal Injury and Its Outcomes in Severe Traumatic Brain Injury (sTBI): A Systematic Review and Meta-Analysis. *J Neurotrauma*. 2025 Aug;42(15-16):1243-1255.
2. Tjerkaski J, Nyström H, Raj R, et al. Extended Analysis of Axonal Injuries Detected Using Magnetic Resonance Imaging in Critically Ill Traumatic Brain Injury Patients. *J Neurotrauma*. 2022 Jan;39(1-2):58-66.
3. Hendricks HT, Heeren AH, Vos PE. Dysautonomia after severe traumatic brain injury. *Eur J Neurol*. 2010 Sep;17(9):1172-1177.
4. Lang SS, Kilbaugh T, Friess S, et al. Trajectory of Long-Term Outcome in Severe Pediatric Diffuse Axonal Injury: An Exploratory Study. *Front Neurol*. 2021 Sep 14;12:704576.

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## FOCUS ON HEMORRHAGE CONTROL AND INITIAL TRIAGE

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### HARALD WIDHALM

Orthopedics and Traumatology Department, Medical University of Vienna, Austria

The early management of patients with combined polytrauma and neurotrauma remains one of the most demanding challenges in contemporary trauma care. In this setting, the initial sequence of diagnostic and therapeutic interventions decisively influences both survival and long-term neurological recovery. Among these priorities, hemorrhage control and structured triage represent the central determinants of outcome during the first critical hour after injury.

This presentation examines current concepts in the management of severely injured patients with concomitant traumatic brain injury, with particular emphasis on the balance between rapid hemorrhage control and prevention of secondary cerebral injury. While uncontrolled bleeding remains a leading cause of preventable early mortality, even transient hypotension and hypoxia are independently associated with significantly worsened neurological outcomes in traumatic brain injury. Consequently, early decision-making requires a highly coordinated, interdisciplinary approach integrating trauma surgery, anesthesiology, emergency medicine, and neurosurgical expertise.

The lecture discusses contemporary strategies including damage control resuscitation, massive transfusion protocols, hybrid emergency room concepts, and advanced triage algorithms. Particular attention is given to the sequencing of operative versus neuroprotective interventions, the role of whole-body imaging, individualized hemodynamic targets, and the emerging application of cerebroprotective substances aimed at optimizing functional and neurological outcomes following severe injury.

Based on current evidence and clinical experience from high-acuity trauma systems, this presentation highlights how early prioritization strategies directly shape morbidity, functional recovery, and long-term quality of life. Optimizing the timing and sequence of interventions remains fundamental to improving outcomes in the complex intersection of polytrauma and neurotrauma care.

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## **PAIN AFTER TRAUMATIC BRAIN INJURY (TBI): ETIOLOGY AND MANAGEMENT**

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### **EVREN YAŞAR**

Yozgat Bozok University, School of Medicine, Department of Physical Medicine and Rehab, Yozgat, Turkiye

Chronic pain is a pervasive and debilitating consequence of traumatic brain injury, affecting more than 50% of individuals and frequently serving as a primary barrier to successful rehabilitation and community reintegration. Paradoxically, clinical data indicate a higher prevalence of chronic pain in patients with mild traumatic brain injury (approximately 75.3%) compared to those with moderate or severe injuries. This abstract examines the complex pathophysiological mechanisms and multidisciplinary management strategies required for this population. The etiology of post-injury pain is multifactorial, driven primarily by maladaptive neuroplasticity and central sensitization. This state of central nervous system hyperexcitability involves increased responsiveness of nociceptive neurons and is further sustained by persistent neuroinflammation, characterized by microglial and astrocyte activation and a “cytokine storm”. Pain phenotypes are classified into nociceptive (musculoskeletal), neuropathic (direct neural damage), and nociplastic (altered processing) mechanisms, though most patients present with mixed phenotypes. Post-traumatic headache is the most common manifestation, frequently exhibiting migraine-like features driven by trigeminovascular activation and Calcitonin Gene-Related Peptide dysregulation.

Optimal management necessitates a shift from symptom-based treatment to a multidisciplinary, biopsychosocial framework. Pharmacological strategies include anticonvulsants (such as Gabapentin or Pregabalin), tricyclic antidepressants, and targeted Calcitonin Gene-Related Peptide monoclonal antibodies for refractory

cases. Equally critical are non-pharmacological interventions, including physical and occupational therapy, Cognitive Behavioral Therapy to modulate intrinsic brain connectivity, and non-invasive neuromodulation such as repetitive Transcranial Magnetic Stimulation. Furthermore, integrated Collaborative Care models have been proven to significantly reduce pain interference and intensity. Early, aggressive, and personalized intervention is essential to disrupt the cycle of central sensitization and improve the long-term quality of life for survivors of traumatic brain injury.

**WFNR**  
World Federation for  
Neurorehabilitation

  
**World Stroke  
Organization**

 **EFNR** The European Federation  
of NeuroRehabilitation Societies

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# **CURRICULA VITAE & SHORT BIOS**





## **EMRE ADIGÜZEL**

### **TURKEY**

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Prof. Dr. Emre Adıgüzel is the Chief Physician of Ankara Bilkent City Hospital Physical Medicine and Rehabilitation Hospital, one of the major rehabilitation centers in Türkiye. He received his medical degree from Gülhane Military Medical Faculty and completed his residency training in Physical Medicine and Rehabilitation at Gülhane Training and Research Hospital.

His clinical and academic work focuses on neurorehabilitation, spinal cord injury rehabilitation, traumatic brain injury, interventional spine and pain procedures, musculoskeletal rehabilitation, and emerging rehabilitation technologies. He has a particular interest in the integration of advanced therapeutic approaches into rehabilitation practice, including ultrasound-guided interventions, orthobiologic applications, robotic and technology-assisted rehabilitation, and innovative prosthetic systems.

Prof. Adıgüzel is actively involved in clinical research, postgraduate medical education, and multidisciplinary rehabilitation programs. He has authored and co-authored numerous peer-reviewed articles published in international journals and has contributed to scientific books, educational meetings, and national congresses in the field of rehabilitation medicine.

As Chief Physician, he has played an active role in developing clinical services, strengthening academic collaboration, supporting resident education, and promoting innovation within rehabilitation care. His leadership includes initiatives in neurorehabilitation, spinal cord injury care, pediatric and adult rehabilitation services, interventional pain management, and hospital-based digital transformation projects.

He also contributes to professional organizations and scientific events, with a strong emphasis on improving the visibility, quality, and future direction of Physical Medicine and Rehabilitation in Türkiye. His work aims to combine evidence-based medicine, functional recovery, patient-centered care, and technological innovation to improve outcomes for individuals with disability and complex rehabilitation needs.



**DANA BOERING**  
**GERMANY**

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I am a German neurologist with over 30 years of expertise in the field of neurorehabilitation. My main field was in early rehabilitation of disorders of consciousness after severe TBI and spasticity management. My research focus remains on recovery after stroke, specifically on the assessment and management of motivational disorders after acquired brain injury. I am currently working as Secretary General of the European Federation for Neurorehabilitation and Chair of the Special Interest Group on Motivation in Neurorehabilitation of the WFNR.

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**PANU BOONTOTERM**  
**THAILAND**

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#### PERSONAL INFORMATION

Lieutenant Colonel Assistant Professor Panu Boontoterm

Current position: Consultant Neurosurgeon and intensivist, Head of surgical intensive care unit, Phramongkutklao Hospital, Bangkok, Thailand

Affiliation: Division of Neurological surgery unit, Department of Surgery and Division of Critical Care Medicine, Department of Medicine, Phramongkutklao Hospital, Bangkok, Thailand

Email ID: sapiens\_panu@hotmail.com

#### EDUCATION AND PROFESSIONAL TRAINING

Diploma, Critical Care Medicine, Phramongkutklao Hospital, 2021

Diploma, Neurological surgery, Phramongkutklao Hospital, 2017

M.D., Doctor of Medicine, Faculty of Medicine, Phramongkutklao college of medicine, Mahidol University, 2009

#### WORK EXPERIENCE

- Internist, Fort Prachaksilpakhom Hospital, 2009-2012

- Neurological Surgery residency training in Diplomat Thai Board of Neurological Surgery, Phramongkutklao Hospital, 2013 - 2017
- Staff Neurosurgeon, Yala Hospital, 2017-2019
- Fellowship in Diplomat Thai Board of Critical Care of Medicine Phramongkutklao Hospital, 2019 - 2021
- Staff Neurosurgeon and Intensivist, Division of Neurological Surgery Unit, Department of Surgery and Division of Critical Care Medicine, Department of Medicine, Phramongkutklao Hospital 2021 - present

Specialist: Neurosurgeon and Intensivist

Academic position: Assistant Professor

## PUBLICATIONS

1. Boontoterm P, Feungfoo P. Passive Leg Raising Effect At Resuscitation Among Patients With Vasoplegic State. *J Southeast Asian Med Res.* 2021Nov;9:5(2):67. <https://www.jseamed.org/index.php/jseamed/article/view/100> DOI: <https://doi.org/10.55374/jseamed.v5i2.100>
2. Boontoterm P, Sakoolnamarka S, Feungfoo P, Udommongkol C. Cut Off Value Of Good Pronostic Factor Outcomes In Large Territory Ischemic Stroke Undergoing Early Decompressive Craniectomy. *J Southeast Asian Med Res.* 2022Mar;17:60:e0102. <https://www.jseamed.org/index.php/jseamed/article/view/102> DOI: <https://doi.org/10.55374/jseamed.v6i0.102>
3. Fuengfoo P, Jongstapongpan A, Hansiriphan P, Srisawat N, Detporntewan P, Pinyotepratarn R, Boontoterm P, Palwatwichai A, Phancharoenkit N. Spontaneous intestinal perforation in critical COVID: A case report . *Clin Crit Care [Internet].* 2022 Jul. 17;30:2022:e0012. <https://he02.tci-thaijo.org/index.php/cc/article/view/256874>



**BASSEM BOULOS SAAD**  
**EGYPT**

## CONTACT DETAILS

Prof. Dr. Bassem Boulos Saad  
PO Box 170 Al-Obour City, Egypt  
6 Mohamed Elfateh Kareem, al-Hay  
al-Sabe'i, al Obour City, Egypt

- Prof. of intensive care, Ain Shams University
- General manager of Italian hospital
- Director of ICU, Italian hospital
- Director of ICU, EI Salam Hospital, Mohandisseen.

## TEACHING EXPERIENCE

Throughout my teaching career, I used to teach small groups as a Teaching Assistant

about energy flow through organisms. Carbohydrates, Lipids, Protein as the building blocks of life with some background around transportation through the cell membrane and nuclear division. These basic elements of science were given to medical students as research assignments in order to encourage discussion and interaction between the staff and the students.

As a lecturer, more specific information about gaseous exchange, respiratory system, smoking and its related diseases, infectious diseases, immunology, energy and respiration were main elements to prepare students to understand a lot about the circulatory and respiratory systems which are crucial to be understood for any physician during patient anaesthesia besides the main courses related to anaesthesiology. In the small group, every student should prepare his assignment and present it then it's to be discussed by his colleagues. I used to prepare my own questions aiming to improve understanding about the applied science and how can the student use this piece of information in saving lives of the anesthetised person.

## **EDUCATION**

Diploma of the EGSPEN - The Egyptian Society of Parenteral and Enteral Nutrition (2010).

Professor Degree of Anesthesia and Intensive Care (2005)

Doctorate Degree in Anesthesia and Intensive Care (MD) (1994)

Master's Degree in Anesthesia and Intensive Care (1989)

Diploma in internal medicine, with Very Good (1991)

B. Sc. MD, with very good with honor (1982)

## **CURRENT POSITION**

General manager of Ain-Shams University Specialized Hospital, Obour, 2017 till present.

Board member of the Egyptian Society of Intensive Care.

Professor of Anesthesia and Intensive Care, Faculty of medicine, Ain Shams University, Egypt.

Member of the board of Clinical Nutrition Master's degree program, Ain Shams University.

Director of ICU, Ain Shams University Specialized Hospital, Obour City

Director of ICU, El Salam Hospital, Mohandisseen.

Director of ICU, Italian Hospital in Cairo "Umberto I".

Member of the National Society of Critical Care in Egypt

## **MEDICAL CAREER**

- **Professor of Anesthesia and Intensive Care, Ain Shams University (2005-Present)**
- **Assistant Professor in Anesthesia and Intensive Care Department, Ain Shams University (1999-2004)**
- **Lecturer in Anesthesia and Intensive Care Department, Ain Shams University (1994-1999)**
- **Assistant lecturer in anesthesia and intensive care department, Ain Shams**

**University (1989- 1994)**

- Resident in Ain Shams University Specialized hospital (1984-1989)
- House officer, Al-Demerdash hospital and Ain Shams University Hospitals (1983-1984)

#### **MEMBERSHIP - SCIENTIFIC & PROFESSIONAL ORGANIZATIONS**

- Member of the Egyptian Board of Critical Care
- Board member for the Ain Shams University Master's Degree program for Clinical Nutrition
- Member of the Egyptian Society of Intensive Care and Anesthesia
- Member of ESPEN, European Society of Parenteral and Enteral Nutrition
- Member EGSPEN, Egyptian Society of Parenteral and Enteral Nutrition
- Member of the Infection Control Committee in Elsalam Hospital in Cairo
- Member of the Technical Committee in Italian Hospital in Cairo

#### **CONFERENCE PARTICIPATION AND RESEARCH WORK**

Participating in American Society of Anesthesiology (ASA) 2017 & 2018.

Participating in (ISICEM) Brussels, 2000-2019.

Participating in (ECCMID) 2008-2019.

Alexandria Society of Intensive Care and Anaesthesia Conference (ASIAC):

Annually attending 2000- In Alexandria, Egypt

Actively participating as a speaker presenting the following topics:

- New Trends In Cardiopulmonary Resuscitation
- Noncardiogenic Chest Pain
- Immunoglobulins in sepsis: When, How and Why?

**International Symposium on Intensive Care and Emergency Medicine: ISICEM**

Annually attending 2000-2011 in Brussels, Belgium

**European society of Anesthesiologists: ESA 2008** In Munich, Germany.

#### **Biotest Annual conference**

Actively participating as a speaker 2004 in Kuala Lumpur: Actively participating as a speaker 2006 in Amman, Jordan:

- The use of pentaglobin in sepsis

**Italian Conference for the Study and Research on ulcers, sores, wounds and tissue repair (Congresso Nazionale Co.R.T.®)**

Actively participating as a speaker 2008 in Rome, Italy:

- IV Ig in sepsis

#### **National Coagulopathy Conference**

Actively participating as a speaker 2008 in Sokhna, Egypt:

- Risk of Coagulopathy in Intensive Care

**Pan Arab International Conference of Critical Care and Emergency Medicine -**

## (PAICCCEM)

Actively participating as a speaker 2010 in Sharm Elsheikh, Egypt:

- Nutritional Aspects in Critically III Patients

## RESEARCH WORK

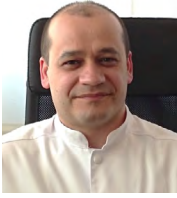
1. Efficacy and Safety of Lucifer in management of patients of different neurological disorders, Bassem said, Mary Wade & Sharif Hashem. International Journal of Internal Medicine, 2018.
2. Trancetympnic drugs for tinnitus Management: Comparative study between Lidocain and Garamycin. Published in Ain Shams medical Journal Vol. 61, No 7, 8 & 9, 2010.
3. Intra-articular Morphine, Ketamine and Neostigmine for post-operative analgesia after knee surgery. Published in the Egyptian journal of Anaesthesia Vol. 14, No 1, January 2000.
4. Comparative study between the effect of Ranitidine and Lanzoprazole on gastric secretions (PH and volume) in intensive care patients. Published in the Egyptian journal of Anaesthesia Vol. 14, No 2, July 2000.
5. Role of N-methyl D-aspartic acid receptor antagonists in post-operative analgesia: A study of the pre-emptive effects of Ketamine and Magnesium sulfate on post operative analgesic requirements. Published in the Egyptian journal of Anaesthesia Vol. 13, No 1, January 2011.
6. Effect of chronic Nicotine exposure on dose requirement of different non-depolarizing muscle relaxants. Published in the scientific journal of Girls Azhar University. Vol. 12, No 1, January 1996.
7. Study of the effect of Ketamine on the duration of action of different nondepolarizing muscle relaxants. Published in the Egyptian journal of Anesthesia Vol. 12, No 1, January 2015.
8. Comparative study between the effect of halothane and isoflorane on duration of action of different non depolarizing muscle relaxants. Published in the Egyptian journal of Anesthesia Vol. 11, No 2, July 1995.
9. The value of peri hepatic packing in major liver trauma (heamodynamic study). Published in the Scientific journal of Girls Azhar University, Vol. 17, No 1, January 2018.
10. Study of Histamine release during pediatric cardiac surgery. Journal of Egyptian society of Intensive Care Vol. 3, No. 2, September, 2020.

## SUPERVISED MSc THESES

1. Anesthesia for rapid detoxication (2011).
2. Sepsis indicators and mediators in intensive care units (2007).
3. Cytokines in intensive care units (2004).
4. Pre-emptive protection in anesthesia (2003).
5. Anesthesia and abnormal hemoglobin (2002).
6. Thermal Disturbances in critically ill patients (2000).
7. Latex allergy in anesthesia (2000).
8. Nutritional aspects in ICU patients (1999).
9. Anesthetic implications in fetal surgery (1999).
10. Life threatening bronchial asthma and its management (1998).
11. Implications of molecular biology in anesthesiology (1998).
12. Peri-operative pulmonary complications (1997).
13. Pancreatic tumors in relation to anesthesia (1995).

## SUPERVISED MD THESES

1. Intrathecal hyperbaric ropivacaine versus Bupivacaine in turp - comparative study (2007).
2. Comparative study between Isradipine and Hydralazine peri-operative cases (2007).
3. Management of preoperative hypertension (2008).
4. Comparative study between continuous epidural infusion of Bupivacaine with Sufentanyl and Fentanyl alone in treating labor pains (2011).



## **FELIX-MIRCEA BREHAR**

### **ROMANIA**

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Dr. Felix-Mircea Brehar MD, PhD (b. 1976) graduated (BSc) in Medicine in 2000 (Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca). PhD by the Carol Davila University of Medicine and Pharmacy, Bucharest, 2010. Since 2002 neurosurgeon (resident 2002 – 2008 and full neurosurgeon since 2009) at the Bagdasar Arseni Clinical Emergency Hospital, Bucharest. Since 2018 head of the Stereotactic and Functional Neurosurgery Department. Associated Professor at Carol Davila University of Medicine and Pharmacy, Bucharest.

43 indexed papers in international peer-review journals (h-index: 12), including publications in Q1 prestigious journals such as Neuro-Oncology, International Journal of Molecular Sciences, Critical Care and Neurosurgery. Reviewer for Neurological Research and Frontiers in Oncology. Presently working in stereotactic neurosurgery and neurosurgical tumour pathology, with a special interest in glioblastomas, as well vascular and traumatic neurosurgical procedures.

Granted as *scientific coordinator* in several research projects. Project director for UEFISCDI project, **A new anti-invasive experimental strategy for infiltrative malignant gliomas (2013-2016)** and for EP PerMed project, **Validating diagnostic OMICS tools for target identification and recurrence monitoring in Glioblastoma (PerCareGlio), 2025-2027**, member of the ERAPerMed project **Integrative Personal Omics Profiles in Glioblastoma Recurrence and Therapy Resistance (PerProGlio) 2019-2022**. Member of the Romanian Society of Neurosurgery (RSN), Congress of Neurological Surgeons (CNS), and member of the Executive Committee of the European Society for Stereotactic and Functional Neurosurgery (ESSFN).

Bagdasar Arseni Clinical Emergency Hospital is a reference center serving a population of 4 million inhabitants in Bucharest and neighbouring counties. Approximately hundred patients/year undergo neurosurgery for brain tumours, most of them glioblastomas. It accounts with high performant neurosurgical facilities like Zeiss Kinevo 900 microscope integrated with Stealth 8 Medtronic, neuronavigation facilities, ultrasonic aspirator, craniotome. Regarding MRI/MRS(I) equipment, a GE SIGNA Architect 3.0T is available, in addition to the Philips 1.5T, thus with capabilities to produce MRI and MRSI data from patients at diagnostic and therapy follow-up established time points.

#### **Five selected publications:**

1. Miguel Cosenza-Contreras, Agnes Schäfer, Justin Sing, Lena Cook, Maren N Stillger, Chia-Yi Chen, Jose Villacorta Hidalgo, Niko Pinter, Larissa Meyer, Tilman Werner, Darleen Bug, Zeno Haberl, Oliver Kübeck,

- Kai Zhao, Susanne Stei, Anca Violeta Gafencu, Radu Ionita, Felix M Brehar et al. Proteometabolomics of initial and recurrent glioblastoma highlights an increased immune cell signature with altered lipid metabolism. *NEURO-ONCOLOGY*. 2023, XX(XX), 1-15. <https://doi.org/10.1093/neuonc/noad208>
2. Radu R, Petrescu GED, Gorgan RM, Brehar FM. GFAP $\beta$ : A Promising Biomarker and Therapeutic Target in Glioblastoma. *Front Oncol*. 2022; 12:859247. doi:10.3389/fonc.2022.859247.
  3. Torsin LI, Petrescu GED, Sabo AA, Chen B, Brehar FM, Dragomir MP, Calin GA. Editing and Chemical Modifications on Non-Coding RNAs in Cancer: A New Tale with Clinical Significance. *Int J Mol Sci*. 2021; 22(2):581. doi:10.3390/ijms22020581. doi: 10.1080/01616412.2020.1803604.
  4. Brehar FM, Dragomir MP, Petrescu GED, Gorgan RM. Fighting Cancer Stem Cell Fate by Targeting LIS1 a WD40 Repeat Protein. *Front Oncol*. 2019; 9:1142. doi: 10.3389/fonc.2019.01142.
  5. Brehar FM, Gafencu AV, Trusca VG, Fuior EV, Arsene D, Amaireh M, Giovani A, Gorgan MR. Preferential Association of Lissencephaly-1 Gene Expression with CD133+ Glioblastoma Cells. *J Cancer*. 2017 May 11;8(7):1284-1291. doi: 10.7150/jca.17635.
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## **RHODERICK M. CASIS**

### **THE PHILIPPINES**

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#### **CURRENT POSITIONS**

President, Philippine College of Surgeons – Metro Manila Chapter  
President, Philippine Society for Neuro-Oncology

#### **HOSPITAL AFFILIATIONS**

St. Luke's Medical Center – Quezon City and Bonifacio Global City  
The Medical City – Ortigas

#### **ACADEMIC APPOINTMENTS**

Clinical Faculty, Assistant Professor  
St. Luke's Medical Center College of Medicine

Faculty, Biology Department  
School of Science and Engineering  
Ateneo de Manila University

#### **SOCIETY AFFILIATIONS**

- Philippine College of Surgeons
- Philippine Society of Neuro-Oncology
- Academy of Filipino Neurosurgeons
- Stroke Society of the Philippines
- Asian College of Neurological Surgeons



## **MICHAEL CHOPP**

**USA**

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Dr. Michael Chopp is Division Head for Research Department of Neurology and Zolton J Kovacs Chair in Neuroscience Research at Henry Ford Health. He is also a Distinguished Professor of Physics at Oakland University, and a Professor of Physiology at Michigan State University. Dr. Chopp received his PhD in Physics from New York University.

His research is primarily focused on neurovascular restorative and protective therapies for cerebrovascular disease and injury. His scientific achievements include pioneering work using pharmacological and cell-based and extracellular vesicle-based therapies for stroke, traumatic brain injury, peripheral neuropathy and neurodegenerative diseases.

He has >815 peer reviewed publications (h-index 174) and > 50 book chapters. His numerous awards include Top 10 Contributions to Medicine (2001), AHA-Thomas Willis Award (2015), WSO Lecture of Excellence (2012), and Barbro B. Johansson Award (2016).

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## **DRAGOȘ CORCAN**

**ROMANIA**

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Dragoș Mihai Corcan is a Resident Physician in Neurology at the Emergency Clinical County Hospital in Cluj-Napoca and a PhD student in Medical Sciences at Iuliu Hațieganu University of Medicine and Pharmacy (UMF). He also serves as an Associate Teaching Staff member at his alma mater, where he earned his Medical Doctor (MD) degree.

His doctoral research focuses on the neurobiological reserve in cerebrovascular diseases, exploring the molecular biomarkers and neuroplastic mechanisms that drive lesion repair. Additionally, his clinical interests include the application of electroneuromyography (ENMG) in diagnosing neuromuscular disorders.

An active contributor to the medical community, Dr. Corcan has served as a lecturer at the National Congress of Neurology and as a trainer for workshops on visual evoked potentials at medical student congresses. His professional profile is further rounded out by a strong commitment to social impact, demonstrated through his involvement in public health campaigns and international volunteering initiatives across Türkiye , Finland, and Croatia.

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## **CĂTĂLINA CRIȘAN**

### **ROMANIA**

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Cătălina A. Crișan is an Associate Professor at Iuliu Hațieganu University of Medicine and Pharmacy Cluj-Napoca and a senior Psychiatrist at the Emergency County Hospital Cluj-Napoca. Her research interests are devoted towards evaluation of the awareness of disease in psychiatric disorders and possible coping mechanisms used by patients or general population in crisis situations, forensic psychiatry and the evaluation of psychiatric symptoms in neurodegenerative disorders, especially Huntington disease and neurotraumatic brain injury.

Her expertise in the field of psychiatry is completed with courses in the field of psychosis and mood disorders at Maudsley Forum, King's College London (2007), "Mental Health Futures: Schizophrenia Masterclass", Madrid, 2013 and project "European standards for competitive postdoc formation programs in the domain of advanced research and forensic psychiatry" (2011-2013). She is a member of the New Commission of Psychiatric Forensic Expertise. Currently she is a member of the Huntington's disease (HD) service in Romania and she is actively involved in the evaluation of the patients and families with HD.

Her research includes over 55 ISI indexed articles, 28 book chapters (2 international) and 6 books in the psychiatric domain.



## **KARIN DISERENS**

### **SWITZERLAND**

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With more than 40 years of experience as a doctor and researcher in neurology, physical medicine and rehabilitation, I am still taking on new challenges. I am proactive, and currently setting up an ambitious pilot project in La Sarraz that aims to counter the lack of life possibilities after the medical neurorehabilitation phase for brain-lesioned citizens. With a mobile interdisciplinary team we want to integrate these individuals into an adapted inclusive village in the community of La Sarraz., paving the way to add other villages and other types of models.

I continue to pass on my expertise in disorders of consciousness as honorary professor at the university teaching hospital, CHUV and am an affiliated member of LLUI for consulting. Open-minded and motivated, I like to work with different people and in many environments.

Specialist in neurology, physical medicine and rehabilitation. Co-creator of the Swiss Society for Neurology. Head of the post-acute neuro-rehabilitation clinics (1996-2005), before leading a mobile neuro-rehabilitation 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 neurorehabilitation 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 potential. Cognitive approaches to creation and emotion are a central focus of the research of the Acute Neurorehabilitation (ANR) Unit. The integrated clinical research in the very acute phase allows developing clinical and multimodal evaluation of behavioral phenotyping and neurosensorial treatment after brain injury with disorders of consciousness inside and during outdoor therapy.

Teaching at the University of Lausanne, Switzerland has included integrating a specific teaching program in the domain of acute neurorehabilitation for pre-graduate and post-graduate training of medical students as well as interdisciplinary professionals. Cognitive behavioral neurology has also been created as a new discipline.

Actual focus of teaching and research concerns diagnosis and treatment of Disorders of Consciousness and the long term inclusion professionally and socially of young neurolesioned patients in the community

## CURRENT POSITIONS

Project Leader in La Sarraz

05/2025-Current

Interdisciplinary medical science project developing an inclusive health care project with a multidisciplinary mobile team with experience in rehabilitation to accompany brain-lesioned patients into their next stage of life in an adapted village setting in La Sarraz.

Associate, Professor Emeritus Licensed Physician, Neurology and Neurorehabilitation

07/2024-Current

Physician teaching and researching in Neurology, supervising PhD and Master's students  
Participating in professional conferences about disorders of consciousness (DOC) to stay informed about latest advances

Co-chairperson of the working group "Behavioural Phenotyping in DOC from September 2023 bringing international recognition

Affiliated as research consultant to LLUI (Lake Lucerne Institute), Switzerland

07/2024-Current

Providing research and medical advice

## EDUCATION AND WORK EXPERIENCE

Associate Professor, Neurology Service, Department of Clinical Neurosciences

08/2021-05/2024

Teaching and research, Neurology, acute neurorehabilitation, Neurology Service, Lausanne University Hospital (CHUV)

Senior lecturer Privat-Dozent, Neurology and Neurorehabilitation

08/2021-05/2024

Teaching and research, Neurology, acute neurorehabilitation. Neurology Service, CHUV Lausanne

Associate Physician Neurology Service, Department of Clinical Neurosciences

08/2021-05/2024

Clinical activity from 2009:

Head of the Acute Neurorehabilitation Service, Department of Clinical Neurosciences.

Outpatient activity from 2009:

Head of the interdisciplinary consultation team for neurorehabilitation of adults and young adults with neurodevelopmental disorders

Associate physician, Neurorehabilitation Service, CHUV 2006-/2008

Neurorehabilitation Service, CHUV

Lecturer and researcher, MER I, Neurology and Neurorehabilitation 2005-2015  
Neurology Service, CHUV Lausanne

Head physician, Neurology Center Plein Soleil 2002-2005  
Institute of Lavigny

FMH Physical medicine and rehabilitation 2002  
Board certification in Physical medicine and Rehabilitation, Neurology Service, CHUV  
Lausanne

Associate physician CHUV and HUG 2001-2002  
Neurorehabilitation itinerary created in CHUV Lausanne, and for outpatients HUG,  
Geneva

Deputy chief medical officer Neurorehabilitation Center, Orbe 2001-2002  
Neurology, Neurorehabilitation

Head physician and Medical director, Valmont Clinic, Glion-sur-Montreux 1996-2000  
Neurology, Neurorehabilitation

Senior resident, Neurology Department, Hospital University of Geneva (HUG) 1995-1996  
Neurology, HUG

FMH Neurology 1994  
Board certification in Physical medicine and Rehabilitation, Neurology Service, CHUV  
Lausanne

Fed MD, Federal Diploma of Medicine, University of Lausanne 1985  
MD-PhD Doctor title of Medicine

MD-PhD, Doctor title of Medicine, University of Mainz 1984

## MEMBERSHIP OF ACADEMIC INSTITUTIONS

- Past President of the Swiss Society of Cognitive and Behavioural Neurology (SSCBN)
- Member of committee of the European Federation of Neurorehabilitation Societies
- Member of scientific advisory board and Co-chair, Module 3.0 "Behavioural Phenotyping in DOC", the Curing Coma Campaign Coma Science Working Group (CSWG), Neurocritical Care Society
- Co-chair, World Federation of Neurology, Special Interest Group of Early Mobilisation
- Member, European Academy of Neurology Scientific Panel of Neurorehabilitation
- Member, European Academy of Neurology Scientific Coma Panel
- Member of the Board of the Dr. Combe's Foundation, Lausanne, Switzerland

## ACHIEVEMENTS

Obtaining external funding for own research projects including a Swiss National Science Foundation grant no 320030\_189129/CHF : 525,000.

Participating with the NRA team in the publication in the European Journal of Neurology of the 2020 European Acute Neurorehabilitation EAN Guidelines by integrating our innovative clinical approach for coma diagnosis.

Being appointed co-Chairperson of the Working group “Behavioural Phenotyping in disorders of Consciousness (DOC) in September 2023 contributing to international acknowledgement of the research in DOC of the NRA team of the CHUV and collaborators in Switzerland.

Creating and implementing a pregraduate medical school teaching course in acute neurorehabilitation and coma assessment and a postgraduate interprofessional teaching course of 6 modules in the French-speaking part of Switzerland.

Supervising 3 PhD or Master’s students a year in the context of acute neurorehabilitation (NRA unit) research and novel patient care.

Being invited to national and international research meetings as a speaker and commissions as an expert. Organizing and participating in clinical meetings.

Having a newspaper article (Journal de Cossonay) describing the ambitious pilot project of our multidisciplinary mobile team to provide a way to integrate citizens having suffered brain damage or disorder into an adapted inclusive village in the community of La Sarraz.

## ORIGINAL RESEARCH PAPERS AND REVIEWS

1. Bertoni, T. Ricci G., Jöhr J., et al.... Diserens K., Siclari F., & Serino A. (in press Jan 2026). Multisensory Integration in Peripersonal Space Indexes Consciousness States in Sleep and Disorders of Consciousness. *Cell Reports Medicine* bioRxiv DOI: 10.1101/2024.10.25.619776
2. Theiler K, Bronchain M, Grouzmann E, Duflon S, Hirt L, Du Pasquier R, Waeber G, Wuerzner G, Diserens K #, Bally JF, # (2025) Case report: Treatable immune-mediated severe orthostatic hypotension in SARS-CoV-2 infection *Front Neurosci* 7:18:1505727 doi:10.3389/fnins.2024.1505727.PMCID: PMC11746903 #contributed equally
3. Mateos Y. R.,<sup>†</sup> Karin Diserens K.,<sup>†</sup> Becquet, J., Rochat E., Jox R.J., & Meyer, I.A., (2025). The Role of Life History Questionnaires in Defining Individualised Goals of Care for Clinical Cognitive Motor Dissociation Patients: A Pilot Study. *Brain Sci.*, 15, 267. <https://doi.org/10.3390/brainsci15030267>. <sup>† †</sup> contributed equally
4. Pozeg P, Jöhr J, Prior J, Diserens K.,<sup>†</sup> & Dunet V.,<sup>†</sup> (2024). Explaining recovery from coma with multimodal neuroimaging. *Observational Study. J Neurol*, 271(9):6274-6288. Doi: 10.1007/s00415-024-12591-y. <sup>† †</sup> contributed equally
5. Diserens K., Meyer I.A., Jöhr J, Pincherle A., Dunet V., Pozeg P., Rylvlin P., Mureşanu D.F., Stevens R.D., & Schiff N.D., (2023). A Focus on Subtle Signs and Motor Behavior to Unveil Awareness in Unresponsive Brain-Impaired Patients: The Importance of Being Clinical. *Neurology*, 100 (24) pp. 1144-1150. DOI:<https://doi.org/10.1212/WNL.0000000000207067>

## THÈSES

1. E Maslias\*, IA Meyer\*, J Jöhr, M Messerer, N Ben-Hamouda, AR Luft, ND Schiff, V Dunet, K. Diserens. Posterior Fossa Syndrome in Adults as a Behavioral Phenotype of Disorders of Consciousness: Case Series and Scoping Review. \*Contributed equally Submitted *European Journal of Neurology*

2. Comparison of MRI-based traumatic axonal injury grading scores for predicting patient outcome during hospitalization and after discharge Debiolles E.<sup>1</sup>, Maslias E.<sup>2,3</sup>, Pozeg P.<sup>1</sup>, Johr J.<sup>2</sup>, Oddo M.<sup>4</sup>, Diserens K.<sup>2,3,5</sup>, Dunet V.<sup>1</sup>



## **STEFANIE DUCHAC**

### **GERMANY**

Stefanie Duchac is professor of speech and language therapy at the SRH University in Germany. She has many years of clinical experience in diagnosis and treatment of patients with dysphagia following stroke and traumatic brain injury. In addition to her clinical work, she was regularly involved in various clinical research projects. Since October 2019 she has been an active board member of the European Society of Swallowing Disorders (ESSD), where she now is the head of the ESSD Academy. In addition to her passion about lecturing, as certified business-coach she supports (interprofessional) dysphagia teams. She frequently conducts seminars and workshops, primarily in the field of evidence-based dysphagia management and videofluoroscopy of swallowing. Stefanie is co-founder of the first German-language dysphagia podcast 'IssNix!', initiator of a national VFSS-register as well as the dysphagia mentorship program. As keynote speaker (e.g. TEDx) she engages herself to raise awareness for dysphagia.



## **HAKAN EKMEKÇİ**

### **TURKEY**

Name and Surname: Hakan EKMEKÇİ

University/Institution: Selcuk University, Konya, Türkiye

Science Field: Medicine, Neurology

MD: 1983-1990, School of Medicine (English), Hacettepe University, Ankara, Türkiye

Neurology Fellowship; 1993-1998, İnönü University, Çukurova U, 9 Eylül University, Malatya, Adana, İzmir- Türkiye  
Thesis Name: Clinical and electrophysiological investigation of carpal tunnel syndrome in uremic children undergoing hemodialysis (1998)  
Tasks: Professor MD, Neurology Department, Department of Internal Medical Sciences, Faculty of Medicine, Selçuk University

## MEMBERSHIPS TO SCIENTIFIC ORGANIZATIONS

1. World Sleep Society
2. Turkish Sleep Medicine Association
3. Turkish Parkinson Association
4. Turkish Neurology Association

## Articles published in international refereed journals:

1. Relationship between dietary habits and gut metabolome profile in Parkinson's disease: a case-control study. *Nutritional Neuroscience* <https://doi.org/10.1080/1028415X.2026.2628828> (2026)
2. A database for screening and registering late onset Pompe disease in Turkey *Neuromuscular Disorders*, 28(3), 262-267. Doi: [doi.org/10.1016/j.nmd.2017.12.008](https://doi.org/10.1016/j.nmd.2017.12.008), (2018)
3. Atlas-Based Segmentation Pipelines on 3D Brain MR Images: A Preliminary Study *BRAIN Broad Research in Artificial Intelligence and Neurosciences*, 9(4), 129-140. (2018)
4. Vagal nerve stimulation has robust effects on neuropsychiatric assessment in resistant epilepsy: a clinical series with clinical experiences. *Turkish Neurosurgery*, 29(2), 213-221., Doi: [10.5137/1019-5149.JTN.23065-18.4](https://doi.org/10.5137/1019-5149.JTN.23065-18.4)
5. Behçet's disease as a causative factor of cerebral venous sinus thrombosis: subgroup analysis of data from the VENOST study. *Rheumatology*, Doi: [10.1093/rheumatology/key153](https://doi.org/10.1093/rheumatology/key153)
6. Elevated Urinary Methylmalonic Acid/creatinine ratio and Serum Sterol levels in Patients with Acute Ischemic Stroke. *Revista Romana de Medicina de Laborator*, 26(1), 51-58, Doi: [10.2478/rrlm-2018-0003](https://doi.org/10.2478/rrlm-2018-0003)
7. Parathyroid Hormone Levels in the Prediction of Ischemic Stroke Risk. *Disease Markers*, 2017, 1-8., Doi: [10.1155/2017/4343171](https://doi.org/10.1155/2017/4343171), (Kontrol No: 4333012)
8. A Multicenter Study of 1144 Patients with Cerebral Venous Thrombosis: The VENOST Study. *Journal of Stroke and Cerebrovascular Diseases*, 26(8), 1848-1857. Doi: [10.1016/j.jstrokecerebrovasdis.2017.04.020](https://doi.org/10.1016/j.jstrokecerebrovasdis.2017.04.020)
9. Arterial Stiffness and Carotid Intima-Media Thickness in Diabetic Peripheral Neuropathy. *Medical Science Monitor*, 20, 2074-2081. Doi: [10.12659/MSM.892648](https://doi.org/10.12659/MSM.892648)
10. A useful new coma scale in acute stroke patients: FOUR score. *Anaesthesia and Intensive care*, 40(1), 131-6.



**HESHAM ELSOBKY**  
**EGYPT**

Professor of neurosurgery - Mansoura University  
Specialty: Peripheral Nerve and brachial plexus Surgery

## PROFESSIONAL BACKGROUND:

2004 -2007: Resident of neurosurgery Mansoura University

2007-2014: Assistant lecturer of neurosurgery Mansoura University  
2014-2019: Lecturer of neurosurgery Mansoura University  
2019-now: Assistant professor of neurosurgery Mansoura University  
2016- 2019: Member of peripheral nerve committee WFNS  
2019-2021: Continental Chairperson of Africa peripheral nerve committee WFNS  
2023 up till now: Member of peripheral nerve committee WFNS

**PRESENCE AT SCIENTIFIC EVENTS:**

WFNS 2018 congress in China: Session Moderator and invited guest speaker  
EANS 2019 congress in Brussels: faculty  
EANS 2021 pre-congress peripheral nerve surgery course: faculty  
EANS 2022 in Belgrade pre-congress peripheral nerve surgery course: faculty  
EANS 2022 congress in Belgrade: faculty  
EANS 2023 in Barcelona pre-congress peripheral nerve surgery course: faculty  
EANS2024 in Sofia pre-congress peripheral nerve surgery course: faculty  
EANS2025 in Vienna pre-congress peripheral nerve surgery course: faculty  
WFNS 2025 Dubai: faculty and chairperson



**NIKOLAY GABROVSKY**  
**BULGARIA**



Prof. Nikolay Gabrovsky is a neurosurgeon, head of the Neurosurgery Clinic at University Hospital Pirogov – one of the main emergency and trauma centers in Bulgaria. Prof. N. Gabrovsky is Medical Director of the hospital and President of the Bulgarian Society of Neurosurgery. In 2021, he was elected as Corresponding Member of the Bulgarian Academy of Sciences. The same year, the board of the European Association of Neurosurgical Societies (EANS) appointed him as the first leader of the newly established Task Force for Emerging Technologies and Innovations in Neurosurgery (ETIN TF).

The main fields of interest of Prof. N. Gabrovsky are spinal surgery, robotisation, minimally invasive techniques, 3d printing, artificial intelligence and emerging technologies.



## **MIHAIL GAVRILIUC**

### **REPUBLIC OF MOLDOVA**

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#### PERSONAL DATA

Born 1 May 1962

#### MEDICAL CARRIER

- 1969 -1979 Middle school in the village of Susleni, Moldova (with gold medal)
- 1979 - 1985 State Institute of Medicine in Chisinau, Moldova (with mention)
- 1985-1987 Clinical Residency in Neurology at the Department of Neurology and Neurosurgery of the State Institute of Medicine in Chisinau, Moldova
- 1988 - Internship program Clinical Electromyography (Center for Myasthenia, Moscow)
- 1995 - 1996 Research Grant awarded by the German Academic Exchange Service, Department of Neurosurgery, Johannes Gutenberg University, Mainz, Germany
- 2004 - Clinical internship at St. Mary's Hospital, Kurume, Japan
- 2005 - Public Health Education Course, organized by New Kasr Al-Aini Teaching Hospital and the Egyptian Foundation for Technical Cooperation, Kairo, Egypt
- 2008 - Education Course Global Partnership in Education, Greenville, USA, East Carolina University

#### CAREER FORMATION

- 2025 – present Professor of the Department of Neurology No.1 of Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova
- 2011- 2025 Head of the Department of Neurology No.1 at Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova
- 2013 - 2018 Vice-rector for international relations at Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova
- 1994 - 2000 Lecturer of the Neurology Department at Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova
- 1991 - 1993 Assistant Professor of the Department of Neurology at Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova
- 1987 - 1991 Neurologist, Republican Clinical Hospital, Republic of Moldova



# **SALVADOR RUIZ GONZÁLEZ**

## **MEXICO**

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Date of Birth: January 3, 1961

Nationality: Mexican

Professional Address:

Hospital Médica Sur, Tower II, Office 804

Puente de Piedra 150, Tlalpan

Mexico City, Mexico

### **PROFESSIONAL SUMMARY**

Senior Neurosurgeon with over 30 years of experience in tertiary care institutions. Specialized in neuro-oncology, stereotactic radiosurgery (Gamma Knife), and image-guided neurosurgery. Extensive background in academic teaching, clinical leadership, and international collaboration. Actively involved in advanced neurosurgical techniques and multidisciplinary cancer care.

### **MEDICAL REGISTRATION & CERTIFICATIONS**

- Medical License (Mexico): 1163856
- Mexican Board of Neurological Surgery: 565
- Member, American Association of Neurological Surgeons (AANS): 155943

### **EDUCATION AND TRAINING**

MD (Doctor of Medicine)

Autonomous University of Puebla, Mexico

Residency in Neurosurgery

National Institute of Neurology and Neurosurgery

Mexico City, 1995–2000

Master's Degree in Health Care Administration

National Autonomous University of Mexico (UNAM), 1998–1999

Fellowship in Gamma Knife Radiosurgery

Erasmus Hospital, Brussels, Belgium, 2002–2003

### **PROFESSIONAL EXPERIENCE**

Attending Neurosurgeon, National Cancer Institute (INCan), Mexico, 2007 – Present

Neurosurgeon – Gamma Knife Unit, Médica Sur Hospital, Mexico, 2000 – Present

Chief of Neurosurgery, Naval Medical Center, Mexico, 2000 – 2007  
Consultant in Neuronavigation, Medtronic (Latin America), 2008 – Present

### **ACADEMIC EXPERIENCE**

Professor of Neuroanatomy and Surgical Techniques  
National Autonomous University of Mexico (UNAM)

Teaching Faculty

National Polytechnic Institute (IPN) and Tecnológico de Monterrey

Regular lecturer in neurosurgery, neuro-oncology, and radiosurgery courses.

### **RESEARCH, PUBLICATIONS & CONFERENCES**

Author and co-author of peer-reviewed publications in neurosurgery and hematology.  
Active participation as speaker, moderator, and faculty member in international congresses  
across Europe, Latin America, and North America.  
Training experience at Karolinska University Hospital (Sweden) and other international centers.

### **AWARDS & HONORS**

- National Award in Biomedical Research, Mexico (1986)
- “Dr. Jorge Rosenkranz” Biomedical Research Award (1987)
- Multiple institutional recognitions for clinical excellence

### **CLINICAL EXPERTISE**

- Neuro-oncology
- Stereotactic Radiosurgery (Gamma Knife)
- Image-Guided Neurosurgery (Neuronavigation)
- Skull Base and CNS Tumors

### **LANGUAGES**

Spanish: Native

English: Professional working proficiency



## **OCTAVIAN HENEGARIU**

### **ROMANIA**

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#### **PERSONAL STATEMENT (WITH FOCUS ON TECHNOLOGIES)**

My career in science was strongly influenced not only by the research topics pursued but also by the technologies I learned, mastered, optimized, or improved.

After finishing Medical School, my graduate training, funded by a DAAD fellowship, was in human genetics at Heidelberg University. During that time, I participated in mapping the genes responsible for azoospermia on the human Y chromosome, using molecular and cytogenetic techniques.

After moving to the US as a postdoctoral fellow in 1993, I applied molecular cytogenetic techniques, particularly multicolor FISH, to identify regions of amplification and deletion in testicular germ cell tumors (TGCTs). Our goal was to link those genetic patterns to treatment approaches and prognosis.

In 1998, I was offered a research position in the Genetics Dept at Yale to improve the versatility and reduce the costs of multicolor FISH technologies and apply them to the study of tumors and other human diseases.

In 2000, I spent about 9 months at the Yale Keck Biotech facility, where I learned to print, hybridize, and analyze DNA microarrays. I was offered a position in Dr. Charles Janeway's lab in the Immunobiology department to develop a small microarray facility for the department and to print immune cell-related arrays to study CD4-T cells and other projects. I have worked for over a decade in immunology, on projects related to Tcell function in asthma and Type 1 Diabetes (T1D). During this time, aside from working with transgenic animals (mice) and common technologies (such as FACS analysis), I worked on a two-year project to differentiate human stem cells into pancreatic beta-cells, and was introduced to the Luminex technology. I used Luminex assays with commercial multiplex kits to measure multiple cytokines in serum or cell culture media, and I developed a range of custom Luminex assays to detect intracellular proteins and protein-protein interactions. For example, custom assays were used to screen hybridoma cells and identify clones producing monoclonal antibodies or to identify circulating autoantibodies against novel antigens in the mouse T1D disease model and later in humans. During this time, I became proficient in gene/cDNA cloning (particularly Gateway technology and seamless cloning), PCR mutagenesis, and gene function analysis. I was PI or co-PI on several 2-year projects, particularly on the pathogenesis of asthma and type 1 diabetes in the NOD mouse model.

In 2011, I moved to the Neurosurgery Dept. (Dr. Murat Gunel lab), where I worked to

identify new disease pathways and mechanisms, potentially leading to new treatments for common intracranial tumors, particularly gliomas and meningiomas. Our lab identified and published the main driver/founder mutations in low-grade meningiomas. To decipher the pathways potentially affected by these gene mutations, I developed several hundred luciferase reporters for transcription factors and signaling pathways. I also subcloned, tagged, and/or mutated over 1,000 cDNAs into expression vectors and used them to investigate how various gene mutations affect signaling pathways. In addition, custom Luminex assays were used to evaluate hundreds of protein-protein interactions. My current goal is to establish a 96-well pan-genomic, multi-luciferase functional screening system to determine how mutations across a range of genes affect signaling pathways.

## POSITIONS AND EMPLOYMENT

1988-1991 Internship in General Medicine and Teaching assistant in Human Genetics; UMF Cluj; Romania.

1991-1993 Doctoral degree (Dr.Med.) in Human Genetics; Heidelberg University; Germany

1993-1998 Postdoctoral Fellow; Cytogenetics, Dept. of Med. Genet.; Indiana Univ. School of Medicine.

1998- 2001 Postdoctoral Associate; Depts. Of Genetics and MB&B, Yale University School of Medicine

2001- 2011 Associate Research Scientist; Dept. Immunobiology, Yale University, Dr. Charles Janeway lab;

2011- 2025 Associate Research Scientist, Dept. Neurosurgery, Yale University, Dr. Murat Gunel lab;

2026- Chair of Science and Technology Board, NeurotechEU @UMF Cluj-Napoca, Romania

## HONORS

1991-1993 Stipended Fellow of the German Academic Exchange Service (DAAD).

1991, 1993 Stipended Fellow of the European Society of Human Genetics.

## TEACHING

1990-1991 Teaching Assistant, Department of Biology and Genetics, University of Medicine, Cluj-Napoca,

1996-1998 Invited speaker, molecular genetics graduate course, Indiana University

March 2001 Invited speaker, National Institute for Standards and Technology (NIST), Gaithersburg, MD.

## MEMBERSHIPS:

American Diabetes Association

Peer-reviewed (sel. from 75) H-index = 35; Sum cited = 11,834; Citing articles = 10,155  
Web of Science link: <https://www.webofscience.com/wos/author/record/IXD-3677-2023>

1. Henegariu, O., Hirschmann, P. et al. (1994) Rapid screening of the Y chromosome in idiopathic sterile men,

- diagnostic for deletions in AZF, expressed during spermatogenesis. *Andrologia* 26, 97-106
2. Henegariu, O., Heerema, N. A., Bray-Ward, P., and Ward, D. C. (1999) Colour-changing karyotyping: an alternative to M-FISH/SKY. *Nat Genet* 23, 263-264
  3. Henegariu, O., Bray-Ward, P., and Ward, D. C. (2000) Custom fluorescent-nucleotide synthesis as an alternative method for nucleic acid labeling. *Nat Biotechnol* 18, 345-348
  4. Krause, D. S., Theise, N. D., Collector, M. I., Henegariu, O., et al. (2001) Multi-organ, multi-lineage engraftment by a single bone marrow-derived stem cell. *Cell* 105, 369-377
  5. Czyzyk, J\*, Henegariu, O\*, Preston-Hurlburt, P., et al. (2012) Enhanced anti-serpin antibody activity inhibits autoimmune inflammation in type 1 diabetes. *J Immunol* 188, 6319-6327
  6. Waldron-Lynch, F., Henegariu, O., Deng, S., et al. (2012) Teplizumab induces human gut-tropic regulatory cells in humanized mice and patients. *Sci Transl Med* 4, 118ra112
  7. Clark, V. E., Erson-Omay, E. Z., Serin, A., Yin, J., Cotney, J., Ozduman, K., Avsar, T., Li, J., Murray, P. B., Henegariu, O, et al. (2013) Genomic Analysis of Non-NF2 Meningiomas Reveals Mutations in TRAF7, KLF4, AKT1, and SMO. *Science*
  8. Bai, H., Harmanci, A. S., Erson-Omay, E. Z., et al. (2016) Integrated genomic characterization of IDH1-mutant glioma malignant progression. *Nat Genet* 48, 59-66
  9. Chae, W. J., Ehrlich, A. K., Chan, P. Y. Henegariu, O., et al. (2016) The Wnt Antagonist Dickkopf-1 Promotes Pathological Type 2 Cell-Mediated Inflammation. *Immunity* 44, 246-258
  10. Clark, V. E., Harmanci, A. S., Bai, H., Youngblood, M. W. et al. (2016) Recurrent somatic mutations in POLR2A define a distinct subset of meningiomas. *Nat Genet* 48, 1253-1259
  11. Barak, T., Ristori, E., Ercan-Sencicek, et al. (2021) PPIL4 is essential for brain angiogenesis and implicated in intracranial aneurysms in humans. *Nat Med* 27, 2165-2175
  12. Hai, L., Friedel, D., Hinz, F., Hoffmann, et al. (2025) Distinct epigenetic and transcriptional profiles of Epstein-Barr virus-positive and negative primary CNS lymphomas *Neuro Oncol* 27, 979-992 10.1093/neuonc/noae251
  13. Zhang, C., Liang, D., Ercan-Sencicek, A. G., Bulut, A. S., Cheng, I. Q. et al. (2025) Dysregulation of mTOR signalling is a converging mechanism in lissencephaly *Nature* 638, 172-181 10.1038/s41586-024-08341-9
  14. Palastea EA, Matache IM, Radu E, Henegariu O\*, Bucur O\*. (2026) AI-Based Prediction of Gene Expression in Single-Cell and Multiscale Genomics and Transcriptomics. *Int J Mol Sci.* Jan 13 2026;27(2)



## VOLKER HÖMBERG

### GERMANY

Prof. Hömberg 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 Heinrich Heine University in Düsseldorf. He was also founding Director of the NTC in Cologne. He was involved in the setup of many in-and out-patient rehabilitation hospitals in Germany and abroad. In 2001 he started the St. Mauritius Therapy Clinic in Meerbusch near Düsseldorf. From 2011 to February

2022 he was Medical Director and Head of Neurology of the Department of Neurology at the Gesundheitszentrum Bad Wimpfen.

He was founder, president and vice president of the German Society for Neurorehabilitation for many years. He served as Secretary General for the World Federation of Neurorehabilitation (WFNR) for more than 15 years and was elected President Elect of WFNR in 2020. He will serve as WFNR President until October 2026. He is Vice President of the European Federation of Neurorehabilitation Societies (EFNR). He received an honorary doctorate from the Medical University of Cluj in 2017. In 2022 he was elected as corresponding member by the Japanese Society of Physical Medicine and Rehabilitation. He is honorary member of The Romanian Society for Neurorehabilitation, the German Society for Clinical Neurophysiology and Neurorehabilitation, and of the Society for Neuroprotection and Neurorestoration (SSNN).

He is a regular reviewer and co-editor of many international peer reviewing journals.

He is a regular (co)-programme chairman for neurorehabilitation for major international meetings at the World- and European Neurorehabilitation Congresses (WCNR, ECNR), and the annual AMN congress.

He has published more than 300 articles in international peer reviewed journals and many book chapters and books. His primary scientific interests are the fields of motor rehabilitation, cognition, epistemology, neurological music therapy and pharmacology in neurorehabilitation.



**ROVSHAN KHALILZADA**  
**AZERBAIJAN**

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### Summary

Efficient doctor & researcher with 20 years of experience in Neurosurgery and academic leadership. Exceptional at relationship-building, agenda management and high-level decision making. Seasoned chairperson with superb critical thinking skills and background driving success for boards of varying levels.

### Skills

- Peer Collaboration
- Class Lecturing
- Academic Counseling
- Student Recruitment

- Academic Advisory
- Tutoring
- Public Speaking
- Research Writing
- Conflict Resolution

## Experience

Department of Neurosurgery, Azerbaijan, Medical University | Baku, Chairman & Ass. Prof. 03/2019 - Present

- Delivered course lectures using modern technology to enhance student comprehension.
- Administered and graded tests and assignments to evaluate student performance and monitor progress.
- Used exams, quizzes and projects to assess how well students grasped learning material and concepts.
- Supervised dissertational research work to assist research publication process.
- Directed operating room team of 17 medical staff during surgeries.
- Completed high-volume surgeries with 96% positive outcome.
- Monitored patients recovering from various treatments.

Department of Neurosurgery, Azerbaijan, Medical University | Baku, Associate Professor 12/2013 - 03/2019

- Sought training in effective teaching methods to reach upper-level undergraduate students.
- Supervised work of postgraduate students by assisting with paper publishing and supporting research.
- Maintained 45 credit hour lecturing schedule and 60 credit hour academic course load.
- Identified promising students to take on assistantships for research initiatives.
- Examined patients to check for relevant medical conditions that could pose surgical risks.
- Operated on patients to correct neurological and spinal deformities, repair injuries, restore functions and prevent and treat diseases.
- Diagnosed and treated nervous system injuries or problems and performed non-invasive, minimally invasive and invasive complex spinal surgical procedures to restore patient health.
- Continuously developed and tested surgical techniques to improve procedures and outcomes.
- Directed operating room team of 14 medical staff during surgeries.

Department of Neurosurgery, Azerbaijan, Medical University | Baku, Assistant to Neurosurgery Department, 12/2002 - 12/2013

- Undertook various administrative responsibilities as required and monitored assessments of progress, student attendance and teaching quality.
- Proposed and implemented research focused on the prognosis of outcomes for hemorrhagic stroke surgery.
- Synthesized large amounts of information to support research efforts.
- Discussed effective research protocols and procedures to minimize errors.
- Discussed research summaries with senior academic staff to monitor progress.
- Produced well-written and thoroughly vetted research papers for industry journals.

## Education and Training

Azerbaijan Medical University, Department of Neuro | Baku  
M.D.

10/2000

- Completed continuing education in Neurosurgery
- Completed professional development in Neurosurgery

Azerbaijan Medical University | Baku  
High School Diploma  
06/1995

- Cum laude graduate

### Languages

- Turkish: First Language
- English: C2, Proficient
- Russian: C2, Proficient

### Accomplishments

- Individual Member of European Association of Neurosurgical Societies
  - Member of Walter Dandy Neurosurgical Society
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## **TRAN TRUNG KIEN**

### **VIETNAM**

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Tran Trung Kien, MD, PhD  
Specialty: Neurosurgery – Cranial and Spinal Surgery

### EDUCATION

2002 – 2008: Medical Doctor, Hanoi Medical University  
2008 – 2011: Resident Physician, Hanoi Medical University  
2022: PhD in Medicine, Hanoi Medical University

### PROFESSIONAL EXPERIENCE

2011 – Present: Lecturer, Department of Surgery, Hanoi Medical University  
2011 – 2013: Neurosurgeon, Department of Neurosurgery,  
Viet Duc University Hospital  
2013 – 2023: Neurosurgeon, Department of Neurosurgery, Bach Mai Hospital  
12/2023 – Present: Neurosurgeon, Department of Neurosurgery and Spine Surgery,  
Hanoi Medical University Hospital

### AREAS OF EXPERTISE

- Clinical practice in surgical specialties: cranial and spinal neurosurgery
- Surgery for cerebral aneurysms, cerebrovascular malformations, stroke, and traumatic brain injury
- Brain tumor surgery



## **PETER LACKNER**

### **AUSTRIA**

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Prof. Dr. Peter Lackner is Head of the Department of Neurology at Klinik Floridsdorf, Vienna Healthcare Group, Vienna, Austria. He is a board-certified specialist in neurocritical care with an extensive and long-standing publication record in both clinical and experimental neuroscience research.

Prof. Lackner received his MD from the Medical University of Innsbruck in 2004. He has a strong background in experimental research, particularly in the fields of neuroinfectiology, neurotraumatology, and experimental stroke. His international research experience includes visits to the Bernhard Nocht Institute for Tropical Medicine in Hamburg, Germany; the University of the Witwatersrand in Johannesburg, South Africa; and the Department of Basic Sciences and Physiology at Loma Linda University, California, USA.

He was the founder and group leader of the Translational Neurocritical Care research group at the Medical University of Innsbruck, Austria. In addition to his translational work, Prof. Lackner has a strong focus on clinical research in severe neurological diseases, with particular expertise in traumatic brain injury and hemorrhagic stroke. He also serves as Head of the Karl Landsteiner Institute for Clinical Research in Acute Neurology.

Beyond acute neurological care, Prof. Lackner has a special interest in post-acute long-term management following critical neurological injury. In 2018, he became Head of the Department of Neurology at Klinik Penzing, Vienna, where he established a focus on early neurorehabilitation as well as long-term outpatient neurocognitive rehabilitation.

Since moving to Vienna, he has been deeply involved in the strategic planning of neurological care in Austria. In 2021, he founded the new Department of Neurology at the newly built Klinik Floridsdorf, with a strong emphasis on acute neurological care.

Prof. Lackner is an active member of several national and international societies in neurology, neurorehabilitation, and neurocritical care, and currently serves as Co-Chair of the Austrian Society of Neurorehabilitation.



## **GUILLERMO V. LIABRES**

### **THE PHILIPPINES**

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#### **EDUCATION**

2007 - 2011

University of Santo Tomas Faculty of Medicine and Surgery, Espana Manila  
Doctor of Medicine - Benemeritus

2002 - 2007

University of Santo Tomas College of Rehabilitation Sciences, Espana Manila  
Bachelor of Science in Physical Therapy

1997 – 2002

San Beda College Mendiola Manila  
High School

1992 – 1997

San Beda College Mendiola Manila  
Grade School

#### **CLINICAL EXPERIENCE**

December 2021

Inducted as Fellow, Academy of Filipino Neurosurgeons, Inc.

March 2019 – June 2020

International Fellow (Clinical and research), Cerebrovascular Neurosurgery  
Seoul National University Bundang Hospital - Gumi-dong, Bundang, Seongnam,  
Gyeonggi-do, South Korea  
*Graduated HD (Honors with Distinction)*

December 2018

Inducted as Diplomate, Philippine Board of Neurological Surgery

March – May 2018

Clinical preceptorship as Visiting Scholar Department of Neurosurgery University of California San Francisco March to May 2018: Neurosurgical Oncology and Vascular Neurosurgery

2014 – 2018

Department of Neurosciences, Section of Neurological Surgery, Makati Medical Center  
Chief Resident 2016 – 2018

*2018 Mariano M. Alimurung Most Outstanding Resident*

2013 – 2014

Medical Officer III/General Surgery Resident – Department of Surgery, Bicol Medical Center Bicol Expanded Surgical Training (B.E.S.T.) training program

2011 – 2012

Medical Internship – University of Santo Tomas Hospital

2010 - 2011

Medical Clerkship - University of Santo Tomas Hospital

## HOSPITAL AFFILIATIONS/ POSITIONS

- Makati Medical Center – Associate Active Consultant I, Quality Assurance Officer, Board of Directors Institute of Neurological and Behavioral Sciences
- Medical Center Manila – Section Chief (Neurosurgery), Active Consultant
- The Medical City Ortigas – Active Consultant 2
- Cardinal Santos Medical Center – Active Consultant, Clinical Director – Neurovascular Center
- Asian Hospital and Medical Center – Active Consultant
- Quirino Memorial Medical Center – Medical Specialist II PT, Training officer – Neurosurgery Residency Training Program
- Rizal Medical Center – Medical Specialist I PT, Member NS training committee
- St. Luke’s Medical Center – Global City – Visiting Consultant
- Lucena Doctors Hospital – Visiting Consultant
- Medical Center Western Batangas – Active Consultant
- The Medical City Clark Pampanga – Active Consultant

## SURGICAL MILESTONES

- Performed the first successful brain bypass surgery in Makati Medical Center (2020)
- Performed the first successful high flow brain bypass surgery in Quirino Memorial Medical Center (2024)
- Performed the first successful brain bypass surgery in Medical Center Manila (2021)
- Performed the first successful “double barrel” brain bypass procedure in Medical Center Manila (2021)
- Performed the first successful posterior circulation bypass surgery in Medical Center Manila (2021)
- Performed the first successful brain bypass surgery in The Medical City, Ortigas (2020)
- Performed the first successful brain bypass surgery in East Avenue Medical Center (2023)

- Performed the first successful brain bypass surgery in Asian Hospital and Medical Center (2023)
- Performed the first successful indirect bypass surgery in Rizal Medical Center (2024)
- Performed the first successful posterior circulation bypass surgery in Cardinal Santos Medical Center (2023)
- Currently, performed 60 brain bypass cases in the whole country with 100% patency rate

## RESEARCH

### Publications

1. Use of Intraoperative CO2 Laser for the Resection of a Ventral Intradural Extramedullary Cervical Spinal Tumor: 2-Dimensional Operative Video  
Joseph A Osorio, MD, PhD, Guillermo Victorino T Liabres, MD, Catherine A Miller, MD, Michael W McDermott, MD, Praveen V Mummaneni, MD  
  
Operative Neurosurgery, Volume 18, Issue 5, May 2020, Page E161, <https://doi.org/10.1093/ons/opz171>

### Ongoing Research

1. Angiographic and clinical outcomes of treatment for complex intracranial aneurysms according to treatment modalities with review of related literature
2. The RBL Tap™: Ventricle Targeting Apparatus  
Our team has devised a simple surgical apparatus that aids targeting of the ventricles using Dandy's Principle.
3. Post-craniotomy Pain: A study on the prevalence, severity and risk factors  
This study aims to determine the prevalence of post craniotomy pain on all patients operated in Quirino Memorial Medical Center from 2016 – 2017.

### Prior Research

2018

A Meta-Analysis Investigation on the Effects of Lamina Terminalis Fenestration on the Reduction of Shunt Dependent Hydrocephalus and Symptomatic Vasospasm after Aneurysmal Subarachnoid Hemorrhage

Finalist: Academy of Filipino Neurosurgeons Annual research paper presentation

2015

Endoscopic Third Ventriculostomy With Biopsy For Pineal Region Tumors: An Institutional Case Series And Review Of Literature

2014

A Retrospective study of the Incidence and Predictors of Cranioplasty Infection After Decompressive Craniectomy: The Makati Medical Center Experience

Third Place: Neurosciences research paper presentation  
Participant, Makati Medical Center Interdepartmental Research Paper presentation

2013

Ictus Apoplepticus: A case report of a convexity meningioma presenting as an acute stroke  
Finalist: Interesting case presentation Bicol Medical Center

2012

Confidence in performing core clinical skills: a survey of trainees completing post-graduate internship training at University of Santo Tomas Hospital  
*Best Paper University of Santo Tomas Post Graduate Interns' Paper presentation*

Determined the confidence that post-graduate interns of University of Santo Tomas Hospital (USTH) had in performing core clinical skills and the extent to which they had been exposed to them during training

2007

Center for Research on Movement Science  
Work-related musculoskeletal disorders in professional Filipino physical therapists working in UST-CRS affiliated centers: Prevalence, severity, risks & responses  
*Best paper and poster Annual UST PT Interns' paper presentation*

Determined the 12-month prevalence of work-related musculoskeletal disorders among professional Filipino physical therapists working in different centers affiliated to UST-CRS, their severity, the risk factors and their responses to injury.

## OTHERS

- Chapter Author: C1 – C2 Fusion, Masters of Neurosurgery – Hall of Fame Edition 2018
- Course Director – Tips And Clips of aneurysm surgery clipping, Aesculap Academy 2023

## SPECIAL TRAINING

- Minimally Invasive Parafascicular Surgery for Hematomas and Tumors, April 2024 – Singapore Tan Tock Seng Hospital
- Philippine Heart Association BLS – ACLS training course, February 16, 2021
- 4<sup>th</sup> Asia Pacific Microanastomosis workshop for Neurosurgeons – Seoul National University South Korea (October 22 – 24, 2019)
- NIDA Clinical trials network Good Clinical Practice Online Course, January 20, 2019
- American Heart Association Basic Life Support, Advanced Cardiac Life Support Training last October 24-25, 2018 by the UST – FMS Life Support Training Center done at Early Intervention Management, Inc. training site
- Good Clinical Practice Workshop and Training provided by the Philippine Clinical Research Professionals, Inc. in coordination with Makati Medical Center Department of Neurosciences held in Makati Medical Center, January 10, 2017

- 3<sup>rd</sup> Cardinal Santos Spine Center Workshop: Nuances of Spine Surgery held in Cardinal Santos Medical Center last March 31, 2017 – April 1, 2017
- The Brigham and Harvard Lectures in Clinical Neurology and Neuroanatomy 2017 at St. Luke's College of Medicine Angelo King Auditorium, September 28 – 30, 2017
- The Medical City Endoscopic Skull Base Workshop July 16 – 17, 2015

## ACTIVITIES & SERVICE

2007 - present

Sigma Beta Tau Fraternity (TITANS) – University of Santo Tomas Faculty of Medicine and Surgery Scribe – 2009

TITAN guard – 2008

A medical fraternity dedicated to helping its brothers to become competent, compassionate and committed Thomasian physicians with its ultimate goal of serving our fellow men in the art of Medicine.

2011 – present

Philippine TITANS Alumni Association

Member

An association of TITAN alumni with the same ideals and aspirations of its rooted fraternity.

2007 – 2011

UST Faculty of Medicine and Surgery Pautakan Team

Captain

A core group of selected Medical students competing on various medical and non-medical quiz bees in and out of the university.

2008 – 2011

SULO – the official publication of UST Faculty of Medicine and Surgery

Executive Editor 2008 – 2010

2008 – 2010

UST Faculty of Medicine and Surgery Student Council

2009 – 2010 – Internal Vice president

2008 – 2009 – Secretary

2003 – 2007

UST College of Rehabilitation Sciences Pautakan Team Captain

A core group of selected Rehab Science students competing on various quiz bees in and out of the university.

2003 – 2005

Therapeutic Currents – Official Publication of UST College of Rehabilitation Sciences

Section Editor

2002 – 2007

UST Physical Therapy Society

Member

A society of physical therapy students in UST driven to support and empower the students in academic and non-academic pursuits of excellence

## PROFESSIONAL AFFILIATIONS

- Fellow, Academy of Filipino Neurosurgeons, Inc
- Philippine Medical Association (Makati Medical Society)
- Philippine Association of Neurosurgical Residents
- Philippine TITANS Alumni Association
- Tomasinong Bikolano
- UST Medical Alumni Association



## LYNNE LOURDES LUCENA THE PHILIPPINES

Dr. Lynne Lourdes N. Lucena is a distinguished Filipino neurosurgeon recognized globally for her leadership and clinical expertise, particularly in the field of neurotrauma. Based in the Bicol region of the Philippines, she has spent over two decades advancing brain and spine surgery services in her community while holding high-level international and national leadership roles.

## KEY ACHIEVEMENTS IN NEUROTRAUMA

Dr. Lucena has been a pioneering force in neurotrauma care, specifically focusing on Traumatic Brain Injury (TBI) and neurorehabilitation.

- International Leadership: She currently serves as the Chair of the Neurotrauma Committee for the Asian Australasian Society of Neurological Surgeons (AASNS).
- National Advocacy: She is the Founding President of the Neurotrauma Society of the Philippines and has actively campaigned to recognize neurotrauma as a 'silent epidemic'.
- Regional Development: In 1999, she established the first Neurosurgery Section for brain and spine surgery at Bicol Medical Center, serving as the region's first board-certified neurosurgeon.
- Research & Education: A prolific researcher, she has published work on improving TBI prognosis and functionality, and she serves as a global lecturer on traumatic brain injury management.
- Health Initiatives: She has led efforts to transform the Bicol Regional Hospital and Medical Center (BRHMC) into an acute stroke-ready and Neurotrauma Center, emphasizing task-sharing to improve patient outcomes in underserved areas.

## PROFESSIONAL HONORS & LEADERSHIP

- Global Recognition: Named one of the 'Most Influential Filipina Women in the World' (2025) by the Foundation for Filipina Women's Network (FWN), receiving the Innovator and Thought Leader: Pioneer of Progress Award.
- Board Leadership: Former Chair of the Philippine Specialty Board of Neurosurgery(2015–2017) and current Vice President of the Academy of Filipino Neurosurgeons, Inc. (AFNI).
- Surgical Excellence: Recipient of the Golden Scalpel Award for her neurosurgical service to the Bicol Region.
- International Awards: Awarded the Visiting International Surgeon Award (2016) by the American Association of Neurological Surgeons (AANS).

Beyond her medical career, Dr. Lucena is a published poet (author of 'The Windows to My Soul') and an advocate for the intersection of science and the arts, a project she calls 'Brain Poetry'.

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**CHRISTIAN MATULA**  
**AUSTRIA**

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Dr. Christian Matula serves as Professor and Vice-chairman of Neurosurgery at the Neurosurgical Department, Medical University of Vienna, Austria. He is the Director of Skull Base Division, Head of the Neurotrauma and Chairman Interdisciplinary Neuroscience. Internationally within the last 5 years he is currently holding the position of Chairman of the Educational & Training Committee AMN (Academy for Multidisciplinary Neurotraumatology), the Founder, Vice President and Member of the Foundation Board of GLOBAL NEURO, an independent foundation aiming to improve quality of life for patients suffering from neurosurgical disorders. He is also holding the position of a member of the Educational Committee of the World Federation of Neurological Surgery (WFNS) and European Association of Neurological Surgeons (EANS). Most currently he serves also as the President of INRO (International Neurotrauma Research Organization). In addition to that he is the Medical Director of two private health care centers, in Vienna and another one in Lower Austria.

Dr. Matula received his M.D. degree in 1986 from the University of Vienna, Austria, completed his Ph.D. in Neuroendoscopy in 1996 and was appointed as Professor of Neurosurgery in 1997 at the same University. He has completed long-term foreign visits ("fellowships") with special focus on Neuroanatomy in Würzburg, Skull Base Surgery in

Washington and Vascular Surgery in Phoenix. Dr. Matula has developed an international reputation in Skull Base Surgery with special focus on Endoscopic Skull Base Surgery, Neuroendoscopy and in the area of Neurotrauma. In general, his major interests always have been new surgical technologies and the clinical implementation of those techniques. He has organized more than 150 workshops and courses worldwide and has given more than 1000 invited lectures as visiting professor all over the world. He is the author of more than 350 publications mostly on microsurgical techniques, skull base surgery, neuroendoscopy, neurotrauma and education and training in Neurosurgery. His scientific work includes several textbooks, atlas but also interactive electronic publications. As director of the educational program for neurosurgery at the Medical University of Vienna he has initiated a variety of well-known seminars and played a major role in developing and enhancing the neurosurgical educational program at his Medical University. He is member of several International Neurosurgical Societies, such as the Austrian, German and Swiss society and recipient of several awards and honors.

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## **SŁAWOMIR MICHALAK**

### **POLAND**

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Slawomir Michalak is a specialist in neurology, neuropathology, and laboratory medicine. Currently, he is head of the Department of Neurology and the Institute of Neurological Disorders at Poznan University of Medical Sciences. He was a fellow in Biochemisches Institut Christian Albrechts Universität in Kiel (Germany) and in Istituto di Patologia Generale Università degli Studi in Perugia. Slawomir Michalak participated in neuropathology and laboratory medicine courses in Berlin, Budapest, Lübeck, Aachen, and mitochondrial research in Schroecken (Austria). As a visiting professor, he gave lectures and was a Ph.D. theses supervisor at M.Ospanov West Kazakhstan State Medical Academy in Aktobe (Kazakhstan).

He is the author of over 550 papers focused on stroke, neurological paraneoplastic syndromes, autoimmune neurological disorders, and mitochondrial studies.



**SINDI MITROVIĆ**  
**SERBIA**

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Sindi Z. Mitrovic, MD, PhD, is an Assistant Professor of Physical Medicine and Rehabilitation at the Faculty of Medicine, University of Belgrade, Serbia. She is a specialist in Physical Medicine and Rehabilitation and Pain Medicine at the Department of Neurorehabilitation, Clinic for Rehabilitation Dr Miroslav Zotović in Belgrade, where she is involved in the rehabilitation of patients with complex neurological disorders.

Her clinical and academic work focuses on neurorehabilitation, particularly traumatic brain injury, stroke, and multiple sclerosis, with special emphasis on cognitive and motor recovery, as well as the management of pain and spasticity. Dr. Mitrovic obtained the European Board Certification in Physical and Rehabilitation Medicine in 2020.

She is actively involved in clinical research and international scientific collaboration aimed at advancing contemporary approaches in neurorehabilitation. Dr. Mitrovic is the author or co-author of approximately 80 scientific publications in peer-reviewed national and international journals and conferences.

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**DAFIN F. MUREȘANU**  
**ROMANIA**

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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), Secretary-General of the Academy for Multidisciplinary Neurotraumatology (AMN), Management Group Member EAN Neurotraumatology Scientific Panel, President-Elect of the Romanian Society of Neurology, President of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), Chairman “RoNeuro” Institute for Neurological Research and Diagnostic, Corresponding Member of the Romanian

Academy, Member of the Academy of Medical Sciences, Romania and secretary of its Cluj Branch. He is member of 17 scientific international societies 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 (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 Neurotraumatology (AMN) Congresses, Congresses of European Society for Clinical Neuropharmacology, European Congresses of Neurorehabilitation). His activity includes involvement in many national and international clinical studies and research projects, over 600 scientific participations as invited speaker in national and international scientific events, a significant portfolio of scientific articles (over 300 papers indexed on Web of Science-ISI Core Collection, H-index: 32) as well as contributions in monographs and books published by prestigious international publishing houses. Prof. Dr. Dafin F. Muresanu has been honoured with: Romanian Academy, “Iuliu Hatieganu Award”, for the contribution to the second edition of the book: “Repercusiuni miocardice și coronariene în boli cronice (Miocardic and Coronarian Repercussions in Chronical Diseases)” in 2024; Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca, “Social Responsibility Award” in 2024; „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, “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; 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. In May 2025, Prof. Dr. Dafin F. Muresanu was conferred the honorary membership of the Society of Neurologists of the Republic of Moldova in recognition of exceptional contribution to advancing academic and professional dialogue in the field of neurology. Also, in June 2025, he was conferred the “Service Award” of the European Academy of Neurology (EAN) in recognition for his contribution in his capacity as board member of EAN.



## **KRISTINA MÜLLER**

### **GERMANY**

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|----------------------|---|
| 1984                 | Training in General Pediatrics in the Department of Pediatrics at the “Heinrich-Heine“-Universität Düsseldorf, Specialization in Pediatric Neurology (Prof. H.-G. Lenard) |
| Jan. 1989-Dec. 1990: | Research Project about “Motor development in children” sponsored by the Ministry of Research and Technology of Germany.   |
| February 1993:       | Habilitation, Academic Lecturer in Pediatrics   |
| 1993-1999            | Consultant at the Department of Pediatrics at the „Heinrich-Heine-Universität“ Düsseldorf   |
| Feb.-Dec 99          | Research Project: Locomotion in Children with mit Cerebral Palsy  |
| Oct 2000-Dec 2024:   | Head of Neurorehabilitation for Children and Adolescents, St Mauritius Therapy Clinic in Meerbusch, (Teaching Hospital of the University of Düsseldorf)                   |
| Since October 2025:  | Research Assistant, Section and Chair Clinical Science of   |

Cognition, Prof. F. Binkofski, RWTH Aachen

Since January 2018

Member of the ethical committee for preimplantation diagnostics (PID) at the Nordrhein Medical Association

January 2018-June2023

Partner in the Interreg NWEurope Research project VR4Rehab  
<https://www.nweurope.eu/projects/project-search/vr4rehab-virtual-reality-for-rehabilitation>

March 2020-2024

Partner in the Horizon 2020 EU project Multitouch (multimodal haptic with touch devices)  
<https://cordis.europa.eu/project/id/860114/de>

Since summer 2023

Part of the Interreg NWEurope project Scale-up 4Rehab:  
<https://scale-up4rehab.nweurope.eu/>

Member of the Executive Committee of the XR4REHAB Collaboration & Innovation Network: for details see <https://vr4rehab.org/>

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## **SAPAROV NURGELDI**

### **TURKMENISTAN**

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Born in 06.04.1982, in Ahal region of Turkmenistan. In 2000 graduated high school with excellence. Between medical college and university went to military service as a nurse. Since graduation from medical university working as neurosurgeon. Over 4000 surgeries have been performed until now.

#### **EDUCATION**

2000-2003

Medical college, Turkmenistan, Ashgabat

2005-2011

State medical university of Turkmenistan, Turkmenistan, Ashgabat

#### **EXPERIENCE**

2011-2013

State medical university of Turkmenistan  
*Neurosurgery department - resident*

2013-2014

International Trauma Center of Turkmenistan

2014-2016	<i>Neurosurgeon</i> Emergency center of Turkmenistan <i>Chief of neurosurgery department</i>
2016-2023	International Neurology Center of Turkmenistan <i>Chief of neurosurgery department</i>
2023-until now	International Neurology Center of Turkmenistan <i>Director</i>

## LANGUAGES

- Turkmen - native speaker
- Russian - advanced
- Turkish - advanced
- English - advanced



**MAYOWA OWOLABI**  
**NIGERIA**

Professor and Head, Department of Neurology, University College Hospital, Ibadan  
 Director, Center for Genomic and Precision Medicine, University of Ibadan, Nigeria  
 Foundation Co-Chair, African Stroke Organization  
 Pioneering Regional Vice President (Sub-Saharan Africa) World Federation for  
 NeuroRehabilitation  
 Member, Presidium, World Federation for NeuroRehabilitation  
 Lead Co-Chair, WSO-Lancet Commission on Stroke  
 Chair, Lancet Commission on Neurorehabilitation  
 Member, WHO's Strategic and Technical Advisory Group on Mental Health, Brain  
 Health and Substance Use (STAG-MNS)

## BRIEF BIOGRAPHY

Professor Mayowa Ojo OWOLABI MBBS, MSc(distinction), DrM, MD, DSc, FMCP, FWACP, FRCP, FANA, FAHA, FAAN, FAAS, FAS, FAMedS ,FTWAS, is a renowned Professor of Medicine; Director, Center for Genomic and Precision Medicine; and Dean, Faculty of Clinical Sciences (2018 to 2022), University of Ibadan.

He is an eminent scholar and global leader in medicine especially neurology, brain health and global health including community-based genomic epidemiology of non-

communicable diseases, with a stroke phenotyping software patent (Reg.#: NG/PT/NC/2016/2007); over 500 peer-reviewed publications including in *The Lancet*, and *Nature*, with >260,000 citations and a Google Scholar h-index of 121. He is Associate Editor of *Stroke* journal and several other top tier Neurology and medical journals. He is a recognized global leader in medicine.

He is an outstanding scientist with several inventions/innovations including the ‘Seed of Life Model’ a conceptual model of holistic essence and quality of life; the HRQOLISP, a multiculturally-validated quality of life measure for stroke, available globally in various languages and countries; ‘stroke quadrangle’ and ‘brain quadrangle’, which are adopted globally as cardinal approaches for global interventions against stroke and for promoting brain health; ‘stroke levity scale’, a simple brief and valid stroke severity scale; ‘stroke recovery spiral’ a pathway to recovery after stroke tapping internal adaptation and psycho-spiritual wellbeing; and implementation cycle for translating evidence into policy and practice in the control of chronic diseases.

He led the largest study of stroke in Africa to unravel the dominant risk factors for stroke in Africa including dyslipidemia and discover the dose-response protective effect of green leafy vegetables against stroke and hypertension. Working with legislators, his team translated this into a stroke bill and stroke prevention manual in Oyo State. He led the discovery of the association between APOL 1 and stroke; and the genome-wide association of novel SNPs near AADACL2 and microRNA (MIR5186) genes and stroke. He led the development of prediction models for stroke and hypertension which has been developed into a mobile phone application for primary prevention of stroke in Africa.

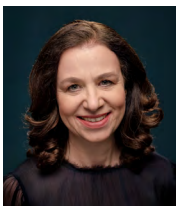
He is the principal investigator of several research and training grants and co-investigator in several (with >\$90 million) including Stroke Investigative Research & Educational Network (SIREN) grant (with the largest neurobiobank in Africa > 170,000 samples) from National Institutes of Health (NIH), USA; Systematic Investigation of Blacks with Stroke using Genomics (SIBS Genomics) R01NS107900. He is the pioneer Chair of the largest study of cardiovascular diseases in Africa (H3Africa-CVD WG with >55,000 subjects). He leads the African Biobank and longitudinal African Biobanks and Longitudinal Epidemiological Ecosystem (ABLE).

Ranked among the top 2% of scientists globally (2025), he is the most highly cited Nigerian in Scival 2021 to 2025. He is the winner of the 2021 World Stroke Organization Global Award for Outstanding Contributions to Clinical Stroke Research. He is the fifth person so far to be awarded the DSc of the University of Ibadan (since inception >75 years ago) Through his research projects and global networks he has mentored over 20 PhD/MD doctorates and Postgraduate Medical College fellowships, and professors with many international and national awards including the 2023 NAS Gold Medal Prize

He is a foremost leader in the global fight against stroke and a frontline leader in the fight against hypertension, stroke and non-communicable diseases in Africa. He is currently leading the call for action against hypertension in Africa (ACHIEVE) working with the World Hypertension League, World Health Organization and Resolve To Save Lives.

He co-founded and chairs the WSO-Lancet Commission on Stroke which characterized the state of stroke services across the globe and developed pragmatic solutions for reducing the global burden of stroke through the ‘stroke quadrangle’. He is also leading the ‘neurology revolution’ to promote brain health globally through the “neurology quadrangle” (comprising surveillance, prevention, acute care and rehabilitation). He proposed the ‘neurology revolution’ and led a position paper with about 40 neurology organizations on how to promote brain health globally. He chairs the committee for domestication of the WHO-Intersectoral Global Action against neurological disorders in Africa. He chairs The Lancet Commission on Neurorehabilitation currently developing pragmatic solutions to improve the quality of life of over 3.4 billion people with neurological conditions globally.

He is the pioneer Regional Vice-President, World Federation of Neurorehabilitation (Africa); member Board of Directors, World Stroke Organization; African Regional Director, World Hypertension League. He is foundation Co-chair African Stroke Organization; and Member/Rapporteur of the WHO Technical Advisory Group on NCD (Research and Innovation). He is co-Lead of the African Research Universities Alliance-The Guild Universities Cluster of Excellence for non-communicable diseases. He is a Fellow of the American Academy of Neurology, American Heart Association, Royal College of Physicians, Nigerian Academy of Science, African Academy of Science and Atria Academy of Science and Medicine (USA), The World Academy of Sciences (the only African elected in 2024). He was elected a member of the prestigious National Academy of Medicine (USA) in 2025. He is Chair (Scientific) Nigerian Genomics Consortium, and Member, National Health Research Committee, Nigeria. He is Academy Secretary, Academy of Medical Sciences (Nigeria).



**KATRIN RAUEN**  
**SWITZERLAND**

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Katrin Rauen is a world-known neuropsychiatrist focusing on long-term sequelae after traumatic brain injury and served as chief physician for neurorehabilitation, psychiatry, psychotherapy, and psychosomatics in Bonn, Germany, in one of the largest rehabilitation centers in Europe. Beyond that, she leads her international research group on Traumatic Encephalopathy & Neuropsychiatric Rehabilitation at the University of Zurich.

As a neurologist, psychiatrist, and psychotherapist as well as a specialist in sleep,

rehabilitation and social medicine, she combines clinical excellence with evidence-based translational research. Rauen particularly gained her outstanding international and multidisciplinary experience in the United States, South Africa, at the UCL Queen Square Institute of Neurology in London (UK), and Zurich.

Rauen put a groundbreaking focus on age- and sex-specific Quality of Life outcomes for patients and their families after brain injury over the life span. She currently serves as board member of the European Neurotrauma Organization (ENO), the Journal of Neurology, the journal Die Rehabilitation, the Theodor-Hellbrügge-Foundation (board of trustees), and as an ad hoc Reviewer for more than 30 international high-ranking peer-reviewed scientific journals. To date, she has published 34 peer-reviewed original articles, seven reviews, and five book chapters.

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. 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, thus for good quality of life in patients, families and health professionals.



## **ESRA DE RUITER**

### **THE NETHERLANDS**

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#### **PERSONAL PROFILE**

I am naturally hardworking and open minded, and I hold honesty in high regard. I believe in achieving results through the acquisition and application of knowledge and working in an interdisciplinary team.

#### **EDUCATION**

##### **Radboud University**

Donders Institute for Brain, Cognition and Behaviour

- MSc Cognitive Neuroscience (2024-Present)

##### **Utrecht University**

- BSc Biology (2018-2024)

- Safe Microbiological Techniques (SMT) level 1 (2019)
- Basic Beekeeping Course (2019)

### **KNHS**

- Instructor Competition Dressage Sports ORUN 4 (2017-2019)

### **Ghent University**

- Veterinary Medicine (2014-2016)

### **Koning Willem 1 College**

- VWO profile N&G/N&T (2012-2014)

### **Willem van Oranje College**

- HAVO profile N&G (2007-2012)

## **EDUCATIONAL BACKGROUND**

### **Radboud University**

#### **Donders Institute for Brain, Cognition and Behaviour**

#### **MSc Cognitive Neuroscience (2024-Present)**

- Lifelong Plasticity and Development Track
- Intern at RadboudUMC Movement Labs on the PATHWAYS project, investigating the role of the reticulospinal tract in lowerlimb motor control and walking recovery after stroke using combined transcranial magnetic stimulation (TMS), startle conditioning, and EMG recordings.

### **Universiteit Utrecht**

#### **BSc Biology (2018-2024)**

- Majors in Neurobiology and Cell Biology
- Additional courses in Philosophy and Bioethics
- BSc thesis on Neural Basis and Treatment Options of Prosopagnosia
- BSc internship on Statistical Analysis of Receptor Dynamics

#### **SMT level 1 certificate (2019)**

- SMT level 1 certificate for working in level 1 laboratories

#### **Beginner's Beekeeping course (2019)**

- Theoretical and practical course into Beekeeping
- In collaboration with the Dutch Beekeeping Association

### **KNHS (Royal Dutch Equestrian Federation)**

#### **Instructor Competition Dressage Sports (ORUN 4) (2017-2019)**

- Training to become a teacher/instructor in equestrian competitive sports up to Subtop level
- Annual attendance of lectures on developments within the field
- Participation in triennial refresher courses

## **UGent**

BSc Veterinary Medicine (2014-2016)

- Participated in additional microscopy and histology courses.
- Participated in various lectures on ongoing research within the Veterinary field.
- Note: Discontinued prematurely due to illness, therefore did not obtain a Bachelor's degree.

## **High school, Willem van Oranje College**

HAVO degree (2007-2012) and VWO degree (2012-2014)

- Double profile, N&G + N&T
- Double degree

## **Additional courses**

Participation in courses and lectures on;

- Communication
- Didactics
- Social media marketing
- Writing
- Parasports

## **WORK EXPERIENCE**

### **Equimedia (2014-Present)**

Small business (freelance) in online marketing strategy, equestrian product development, content

production, photography, videography

- Creating, producing, and executing social media campaigns for (equestrian) businesses
- Photography and videography for third parties.
- Organising and conducting clinics, lectures, and training sessions on Equestrian sports
- Content creation for equestrian businesses
- Manage and grow personal brand across Instagram and Facebook, reaching 85,000+ followers
- Create and publish engaging content, collaborate with brands, and analyse audience insights to drive engagement
- Small business (freelance) in online marketing strategy, equestrian product development, content production, photography, videography

### **Equestrian Athlete (2008-Present)**

Professional dressage rider

- National Grand Prix rider
- International Para-Dressage Grand Prix rider
- Training of (young) dressage horses

### **PaardenpraatTV Magazine (2024-Present)**

Editor-in-chief, Head of translations

- Responsible for writing articles and content creation
- Overseeing editorial quality
- Translating templates from English to Dutch

### **TV & Film Extra (2016-Present)**

Television Production, Studio Audience, Talkshow Guest, Film Extra

- Appeared as an audience member and guest in multiple Dutch television talk shows and entertainment programs
- Worked as a background actor (extra) in films and TV series (Whitestar (2019), Silverstar (2022), Jeroen&Sophie (2024), Zappsport (2016), Humberto (2023), Secret Duets (2022))
- Gained on-set experience and understanding of television and film production workflows

### **PaardenpraatTV (2014-Present)**

Founder Youtube channel/ Equestrian platform for youth

- Founder of the online platform PaardenpraatTV featuring informative videos about horses for youth aged between 8-16 years old
- Youtube subscribers (August 2025): 261.000
- Creating, producing, directing, and presenting informative videos and other content
- Photography and videography
- Content creation for social media
- Setting up a merchandise line consisting of clothing, horse products, books, and accessories
- Organising events
- Hosting live shows, clinics, and lectures

### **Instructor Competition Dressage Sports (2015-Present)**

Guiding students for equestrian competitive sports

- Providing lessons, training sessions, and clinics to students and their horses
- Giving theoretical lessons and lectures
- Conducting clinics and public training sessions for third parties (optional: with my own horse)

### **Dressuurstal de Ruiter (2008-2021)**

- Owner & Dressage Trainer – Yard for Dressage Horses
- Manage a full-service yard for dressage horses, providing daily care, training, and stable management
- Offer riding lessons and personalised training programs for clients of various levels
- Prepare and accompany riders and horses for competitions, offering both technical and mental support
- Train and exercise client horses to improve performance and maintain condition
- Coordinate stable rentals and ensure high-quality care tailored to each horse's needs

### **Drunens Ruiterhuis (2011-2014)**

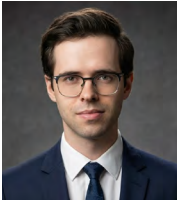
Sales associate and graphic design

- Advising customers on equestrian products
- Editing visual material required for webshop

### **SKILLS AND COMPETENCIES**

- Languages: Dutch (native), English (C2)
- Molecular biology techniques (PCR, gel electrophoresis, DNA/RNA extraction, light microscopy, fluorescence microscopy)
- Data analysis (Receptor Analysis, R, Excel)
- Experimental design and statistical interpretation
- Laboratory safety and protocol compliance
- Proficient in reading, interpreting, and evaluating (scientific) texts
- Literature review and synthesis

- Extensive experience in presenting and public speaking
  - Basic acting and on-camera performance experience
  - Experienced in writing texts for various purposes
  - Experience with Microsoft Office, Canva, Adobe
  - Lightroom, Youcut video editor, Meta Business Suite
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## **BARTŁOMIEJ SAGAN**

### **POLAND**

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Bartłomiej Jakub Sagan, MD, is a neurosurgeon based at the Department of Neurosurgery and Pediatric Neurosurgery at the Pomeranian Medical University (PUM) in Szczecin, Poland. Having recently passed the National Specialization Examination (PES) with a high score, he is currently awaiting formal board certification as a neurosurgery specialist. He is also actively advancing his clinical expertise through the comprehensive, four-year European Association of Neurosurgical Societies (EANS) training program.

Dr. Sagan continuously strives to combine his daily clinical practice with a strong passion for medical innovation and education. He has been actively involved in integrating modern technologies into surgical training, playing a key role in establishing a 3D simulation laboratory and developing the “Artemis” virtual anatomical atlas at PUM. Furthermore, he has been instrumental in advancing Virtual Reality (VR) applications in neurosurgery and organizing live surgical streaming protocols from operating theaters to enhance medical education.

Dedicated to improving trauma care standards, Dr. Sagan is a co-organizer and core faculty member of “Brain is Team,” a nationwide educational initiative that trains physicians in the practical management of acute head trauma. Alongside his clinical and technological endeavors, he is an active researcher and academic teacher, mentoring student scientific groups and regularly presenting at national neurosurgical conferences.



## **LUCA SEBASTIANELLI**

### **ITALY**

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Luca Sebastianelli is a neurologist with extensive experience in the clinical and organizational management of complex neurological conditions, with a primary focus on neurotraumatology, including severe acquired brain injury, disorders of consciousness, and spinal cord injury.

He serves as Director of the Neurorehabilitation Unit at Vipiteno Hospital (Italy), where he integrates advanced clinical care with research and service organization.

His scientific activity focuses on clinical and translational neurorehabilitation, with particular emphasis on the neurophysiology of post-injury recovery, EEG-based biomarkers, neuromodulation, and the application of neurotechnologies.

He is Co-Chair of the Scientific Panel on Neurotraumatology of the European Academy of Neurology (EAN). He is also actively involved in university teaching within the Physiotherapy degree program and has contributed as co-author to chapters in international neurology textbooks.

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## **DONG VAN HE**

### **VIETNAM**

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#### **PERSONAL INFORMATION**

Full name: DONG VAN GE Year of birth: 1966

- Scientific title:
  - Chairman of the Ethics Council of Vietnam-Germany Hospital
  - Chairman of the Vietnam Society of Neurosurgery
- Training Major: Neurosurgery
- Position:

- Deputy Director of Viet Duc University Hospital
  - Director of Neurosurgery Center, Viet Duc University Hospital
  - Director of the Vietnam National Coordinator Center for Human Organ Transplantation.
  - Working unit: Viet Duc University Hospital
  - Vietnam National Coordinator Center for Human Organ Transplantation
  - Office address: No. 40 Trang Thi Street, Hoan Kiem, Hanoi City.
- Email: dongvanhe2010@gmail.com

## TRAINING PROCESS

1984-1990	Hanoi Medical University General Medicine, Physician
1990-1994	Hanoi Medical University Neurosurgery, Residency program
1994-1995	Strasbourg, France Neurosurgery, Residency program
9-11/1998	Nagoya, Japan Neurosurgery, Microsurgery
1998-1999	Strasbourg, France Neurosurgery, Subspecialty: brain tumor
2000-2004	Hanoi Medical University Neurosurgery, PhD
9-11/2006	University of Sydney, Royal North Shore Bv Neurosurgery, Minimally invasive neurosurgery
11/2012	Denver, Colorado, United States Neurosurgery, Traumatic brain injury
9/2016	Toranomo Hospital, Tokyo, Japan Neurosurgery, Skull endoscopy

## WORK HISTORY

11/1996-02/2006	Viet Duc University Hospital University, Hanoi Medicine No. 40 Trang Thi, Hoan Kiem, Hanoi Treating Doctor, Department of Neurosurgery, Viet Duc University Hospital
02/2006-11/2008	& Lecturer of Department of Surgery, Hanoi Medical University Viet Duc University Hospital No. 40 Trang Thi, Hoan Kiem, Hanoi Deputy Head of Scientific Research Department, Viet Duc University Hospital
11/2008 - 2018	Viet Duc University Hospital No. 40 Trang Thi, Hoan Kiem, Hanoi Head of Scientific Research Department, Viet Duc University Hospital
10/2015 - present	Viet Duc University Hospital No. 40 Trang Thi, Hoan Kiem, Hanoi Director of Neurosurgery Center, Viet Duc University Hospital
09/2017 - present	Viet Duc University Hospital

06/2013 - 2022	No. 40 Trang Thi, Hoan Kiem, Hanoi Deputy Director of Viet Duc University Hospital Vietnam National Organ Transplant Coordination Center No. 40 Trang Thi, Hoan Kiem, Hanoi Deputy Director of Vietnam National Organ Transplant Coordination Center (Concurrent-Position)
08/2022-present	National Organ Transplant Coordination Center 40 Trang Thi, Hoan Kiem, Hanoi Director of National Organ Transplant Coordination Center (Concurrent-Position)

### FOREIGN LANGUAGES

- English      Level C
- French        Level C
- Russian       Level B

### RESEARCH EXPERIENCE AND ACHIEVEMENTS

The main research directions pursued by Prof. Dr. Dong Van Ge in the last 5-10 years focus on brain injury, brain abscesses, brain tumors, pituitary tumors, organ transplantation, minimally invasive surgery. He is also interested in V-nerve pain, subarachnoid fluid cyst, children's brain tumors, functional neurosurgery.

### PUBLISHED OR REGISTERED RESEARCH RESULTS

1. Research on the application of laparoscopic surgery in the treatment of craniocerebral disease, State-level, Year 2016, Project Leader
2. Research on liver and kidney transplants taken from brain-dead donors, State-level, Year 2011, Branch project manager, project secretary
3. Research on the application of pituitary tumor surgery by microsurgical incision through the butterfly sinus, Ministerial level, Year 2012, Co-chair of the project
4. Research on the application of some advanced techniques in the treatment of brain and spine injuries in Vietnam, State-level, Year 2017, Branch Project Manager, Topic Secretary
5. Research on microsurgical treatment of some prefrontal tumors of the skull base by opening a keyhole in the eyebrow arch, City level, Year 2023, Project Leader
6. Minimally invasive surgery with keyhole operation in the treatment of pre-skull floor tumors, Grassroots level, Year 2006, Project Leader
7. Treatment of V-nerve pain with Jannetta operation, Grassroots level, Year 2007, Project Leader
8. Surgical treatment and far-reaching results after treatment of patients with severe brain injury, Grassroots level, Year 2007, Project Leader
9. Ventricular laparoscopic surgery in the treatment of hydrocephalus, Grassroots level, Year 2008, Project Leader
10. Pineal gland tumor surgery by incision on cerebellar tent, Grassroots level, Year 2008, Project Leader
11. Treatment of subarachnoid cysts in the brain with laparoscopic surgery, Grassroots level, Year 2009, Project Leader
12. Evaluation of the results of deep brain stimulation electrode placement surgery for treatment of idiopathic Parkinson's disease at Viet Duc Friendship Hospital, Grassroots level, Year 2022, Co-Chair of the project

### INTERNATIONAL ARTICLES

1. Bui, H. T., Pham, A. H., Nguyen, T. A., & He, V. D. (2023). Malignant cerebral edema after cranioplasty, a rare complication: Case series and literature review. *Journal of Clinical Medicine (Vietnam)*.
2. Nguyen, V. T., He, V. D., & Nguyen, T. A. (2023). Results of decompressive craniotomy for the treatment of severe traumatic brain injury: A single-center experience in Vietnam. *Vietnamese Journal of Medicine and Pharmacy*, 521(2).

3. Tran, V. D., Nguyen, B. T., & He, V. D. (2022). Evaluation of complications after decompressive craniectomy for severe traumatic brain injury. *Journal of Vietnam National University: Medical and Pharmaceutical Sciences*.
4. He, V. D., et al. (2019). Autologous cranioplasty after decompressive craniectomy: Timing and complications. *Viet Duc Hospital Scientific Conference Reports*.
5. Nguyen, T. A., & He, V. D. (2018). Management of diffuse cerebral edema in severe traumatic brain injury patients. *Vietnam Neurosurgery Journal*.

**VIETNAMESE ARTICLES:**

- 20 articles on brain abscess
- 50 articles on brain tumors
- 20 articles on brain injury
- 30 articles on neurosurgery

**OTHERS (MONOGRAPHS, INVENTIONS/INITIATIVES, AWARDS):**

- Book: *Neurosurgery for Brain Injury* (Ed.)
- Book: *Brain abscess: Diagnosis and treatment* (Ed.)
- Book: *Brain Injury* (Editor)
- Book: *What you need to know about brain tumors* (Editor)
- Book: *Pituitary Tumor-Diagnosis and Treatment* (Editor)
- Participate in compiling books:
  - *Neurosurgery: Vietnam Neurosurgery Association*
  - *Postgraduate Syllabus of Hanoi Medical University: Neurosurgery*
- Award: *Vietnamese Talent 2013*.



**JOHANNES VESTER**  
**GERMANY**

Professor Johannes Vester has served as the President of the Academy for Multidisciplinary Neurotraumatology (AMN) since 2018. He has been the Head of Biometry & Clinical Research at the Institute for Data Analysis and Study Planning (IDV) in Germany since 2018 and Invited Associate Professor at the Department of Neurosciences at Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania, a position he has held since 2017.

With a background in medicine, Professor Vester researched pattern recognition in the visual brain and developed a pharmacodynamic Neuron Simulation Model at the Institute for Medical Documentation and Statistics (University of Cologne). He has conducted over 100 training courses on biometry for clinical research professionals and taught at

various universities and international institutions. Throughout his career, Professor Vester has planned and evaluated around 150 randomized clinical studies worldwide.

He is a member of several international Advisory Boards and Steering Committees and has contributed as a biometric expert in regulatory authority panels, including hearings with the United States Food and Drug Administration (FDA), the European Medicines Agency (EMA), and Germany's Federal Institute for Drugs and Medical Devices (BfArM). He is also involved in workshops for the International Biometric Society (IBS) and serves as a statistical peer review member for leading medical journals.

Professor Johannes Vester holds key roles in several organizations, including serving as the Statistical Expert and Elected Member of the International Scientific Committee for the Society for the Study of Neuroprotection and Neuroplasticity (SSNN) and Co-Chair of the EAN Guideline Task Force on Neurorehabilitation.



**PIETER VOS**  
**THE NETHERLANDS**

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Pieter Vos recently switched from being a clinical neurologist to independent litigation reporting in medical and liability affairs. Research activities were career long connected with traumatic brain injury. He is a member of the scientist Neurotraumatology panel of the European Academy of Neurology (EAN) and co-chair of a multidisciplinary Task Force Mild Traumatic Brain Injury that is in the process of revising the guideline Mild Traumatic Brain Injury of the EAN.



# **HARALD WIDHALM**

## **AUSTRIA**

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### **GENERAL INFORMATION**

Born: 11.5.1978

Nationality: Austrian

### **EDUCATION**

Scheibenbergasse, 1180 Vienna (elementary school)

Albertus Magnus-Schule, 1180 Vienna (grammar school), graduation: May 1996

Study at the Medical University of Vienna

Begin: September 1996, End/promotion: June 18th 2001 / July 6th 2001

### **ARMY**

October 1<sup>st</sup>, 2001 - Mai 31<sup>st</sup>, 2002 served one's time

Medical Army Service

### **CLINICAL-TRAINEESHIP**

Trauma Surgery (Klagenfurt, Voecklabruck), Internal Medicine (Eisenstadt), Gynecology (Vienna), General Medicine Praxis

(Lech/Arlberg), Teaching doctor's office for Orthopedics (Vienna)

### **VISITATIONS**

**07/1997:** Dep. of Laboratory, Janeway Child Health Centre, St.Johns, CA Leiter: Prof. Chandra

**07/2006:** Dep. of Orthopaedics, Ann Arbor University, Michigan, USA Leiter: Prof. Carpenter

**08/2006:** Dep. of Orthopaedics, Metro Health Hospital Grand Rapids, USA Leiter: Prof. Vasiu

**09/2009:** Dep. of Laboratory, Mount Sinai Hospital, New York, USA Leiter: Prof. Palese

**12/2015:** Sportsclinic Austria / Gelenkpunkt, Innsbruck, AUT Leiter: Prof.Fink, Prof. Hoser

### **SCIENTIFIC FELLOWSHIP**

2013-14: Department of Orthopaedics and Sports medicine, Medical University of Pittsburgh, US, Head: Prof Dr.Freddie Fu

Foreign languages: English

## **SPECIALIZATION**

Trauma surgery, Sports medicine Injuries, ACL-injuries  
Therapy of cartilage lesions,  
Therapy of morbidly obese persons,  
Polytrauma-management,  
Head-Trauma-Injuries  
Health Care Management

## **EDUCATION**

2022 Appointed head of the outpatient clinic for sports injuries at Medical University of Vienna  
2021 Appointment as Associate Professor (Ap.Prof.)  
2021 **Diploma:** Additional subject sports traumatology  
2021 **Diploma:** MBA-Health Care Management  
2019 Head of the acute team (team leader), senior physician in charge of the ward  
2019 nomination of medical specialist for Orthopedics and Traumatology, Med. Univ. of Vienna  
2017 – 2018 Educational training in Medical specialist for Orthopedics, Hospital Zwettl, Austria  
2016 **habilitation:** Traumatology  
2011 medical specialist for Trauma Surgery  
2007 – present: M.B.A. Health Care Management (Expected December 2016)  
1996 – 2001: M.D. (Dr.med.univ.), Medical University of Vienna, Austria  
2001 – 2002: Federal Armed Forces, Austria

## **FELLOWSHIPS**

07/1997: Janeway Child Health Centre, St.John's, Newfoundland, Canada  
Prof. Dr. Ranjit K. CHANDRA  
2013-2014: AGA-Research Fellow, Department of Orthopaedic Surgery  
University of Pittsburgh, 3471 Fifth Avenue, Kaufman Building, Suite 1011  
Pittsburgh, PA 15213  
Chairman: Freddie H. FU, MD, DSc (Hon), DPs (Hon)

## **DIPLOMAS**

Diploma for Emergency Medicine

**Research Activities:** Sports Injuries, ACL-Injuries, Cartilage, Joints, Obesity, Arthrosis, Head-Trauma

## **REVIEW WORKING**

Journal: Cartilage (2009, 2011)  
Journal of Pediatrics (2011)  
Pediatric Reports (2011)  
Obesity Facts (2013)  
Obesity Surgery (2013)  
Clinical Orthopedics and Related Research (2013)

Journal of Neurotrauma (2014)  
European Journal of Orthopaedic Surgery & Traumatology (2014)  
Knee Surgery Sports Traumatology Arthroscopy (2014, 2015, 2016)  
BMC Musculoskeletal Disorders (2015, 2016)  
Wiener Klinische Wochenschrift (2015)  
International Obesity Journal (2016)  
American Journal of Sports Medicine (AJSM)

### **SCIENTIFIC ACTIVITY**

Publications in International journals (according to list)  
Scientific lectures at home/abroad (according to list)  
Supervision of graduate students at the Medical University of Vienna  
Habilitation in trauma surgery and traumatology (June 2016)  
Work as a reviewer for highly respected scientific journals  
Editorial Board: The Journal of Cartilage & Joint Preservation

### **SCIENTIFIC PUBLICATIONS**

41 papers as first or co-author in high-ranking international journals (IF: >100)  
01 book contribution

### **FURTHER FUNCTIONS**

Member of the works council for the scientific staff of the Med. Univ. Vienna (2008 – 2012), (2021-2026)  
Co-Director / Head of the Austrian Delegation: Weill Cornell Seminar – American Austrian Foundation (AAF)  
Head of the “Non-Medical Professions” department at the Vienna Medical Association (2009-2013)  
Lecturer at the Academy for Advanced Training and Special Training, Vienna – Nursing Department (since 2016)  
Lecturer at the Karl Landsteiner University Krems  
Lecturer at the Medical University of Vienna  
Lecturer at the emergency doctor training course ANS – Schöchler Medical Education  
Member of the Future Commission of the Austrian Society for Trauma Surgery (since 2019)  
Member of the ÖGU board as a temporary advisory board (2021-2024)  
Deputy head of the polytrauma working group of the Austrian Society for Trauma Surgery  
Epidemic doctor for the city of Vienna (since 2021)  
Member of the Neurotrauma Board – Medical University of Vienna  
Member of the expert group – Federal Ministry for Social Affairs, Health, Care and Consumer Protection  
Head of the working group for pelvic and hip injuries of the Austrian Society for Trauma Surgery

### **AWARDS**

Poster-price: University-lecture, publications sponsored by Jubilaeumsfonds of the

Austrian National-Bank: € 500,-- Incipient lesions of the cartilage in the knees of morbidly obese children and teenagers H. Widhalm, S. Marlovits, A. Neuhold , A. Dirisamer , V. Vécsei, K. Widhalm, Medical University of Vienna 2.12.2011

AGA – Research Fellowship: US \$ 40.000,-- AGA-Research Fellow, Department of Orthopaedic Surgery University of Pittsburgh, Chairman: Freddie H. Fu September 2013 – 2014

JOA 2014 – Travel Award: US \$: 2.000,-- Japanese Annual Meeting Orthopedics, Kobe, Japan, May 22nd -25th, 2014

Andlinger Fellowship of the American Austrian Foundation: € 2.000,--

### **POSTGRADUATE STUDIES**

**2007:** MBA Healthcare Management studies, Medical University of Vienna, Completion: May 2020

**2009:** Ph-D studies – N790, Medical University of Vienna  
Bone & Joint Regeneration, Musculoskeletal MRI, Jaw Bone, Orthopedics & Trauma  
Completion: Planned for the end of 2021

**2011:** Medical Education Course, MedUniWien, degree with university lecturer (2011)

### **MEMBERSHIPS**

Austrian Society for Trauma Surgery (2006)

Austrian Society for Hand Surgery (2006)

Society of Physicians (2007)

International Cartilage Repair Society (ICRS) (2008)

American Academy of Orthopedic Surgeons (AAOS) (2011)

AGA – European Society for Joint Surgery and Arthroscopy (2011)

GOTS – Society for Orthopedic Traumatological Sports Medicine (2012)

ESSKA: European Society of Sports Traumatology Knee Surgery & Arthroscopy (2016)

ESTES: European Society for Trauma & Emergency Surgery (2016)

SICOT: International Society of Orthopedic Surgery and Traumatology (2017)

ÖGOuT: Austrian Society for Orthopedics and Traumatology (2021)



## **EVREN YAŞAR**

### **TURKEY**

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Prof. Dr. Evren Yaşar graduated from Gülhane Military Medical Academy (GMMA) in 1999 and completed his residency in Physical Medicine and Rehabilitation at GMMA in 2005. He served at the Turkish Armed Forces Rehabilitation Center and later worked as a Research Fellow at the University of Colorado School of Medicine, USA, focusing on pediatric rehabilitation and pain management.

He became Associate Professor in 2011 and Professor at the University of Health Sciences, Gülhane Faculty of Medicine, in 2017. He completed certified training programs at Harvard Medical School's Berenson-Allen Center for Noninvasive Brain Stimulation and Northwestern University.

His main clinical and academic interests include neurorehabilitation, adult and pediatric brain injury rehabilitation, pediatric rehabilitation, musculoskeletal pain, and interventional pain procedures.

In 2019, he was assigned to lead the establishment of Ankara Bilkent City Hospital Physical Therapy and Rehabilitation Hospital and was appointed Founding Chief Physician in 2020. He has served on national scientific boards and contributed to rehabilitation hospital planning in Türkiye.

He has authored over 150 scientific publications, including 85 SCI-indexed articles, with more than 1,400 citations and an h-index of 20.

# GENERAL INFORMATION



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## ORGANIZERS

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Academy for  
Multidisciplinary Neurotraumatology  
[www.brain-amn.org](http://www.brain-amn.org)



**UMF**  
UNIVERSITATEA DE  
MEDICINĂ ȘI FARMACIE  
IULIU HAȚIEGANU  
CLUJ-NAPOCA

Iuliu Hațieganu University of  
Medicine and Pharmacy Cluj-Napoca,  
Romania  
[www.umfcluj.ro](http://www.umfcluj.ro)



**ACADEMIA DE  
ȘTIINȚE  
MEDICALE**  
*Experiență docet*

Romanian Academy of Medical  
Sciences  
[www.adsm.ro](http://www.adsm.ro)



The Romanian Society  
for NeuroRehabilitation  
[rosnera.org](http://rosnera.org)



**EFNR** The European Federation  
of NeuroRehabilitation Societies

European Federation of  
NeuroRehabilitation Societies  
[www.efnr.org](http://www.efnr.org)



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

Fundation of the Society for the Study of  
Neuroprotection and Neuroplasticity  
[www.ssn.ro](http://www.ssn.ro)



RoNeuro Institute for Neurological  
Research and Diagnostic  
[www.roneuro.ro](http://www.roneuro.ro)



FUNDATIA JURNALULUI  
**Journal of Medicine  
and Life**

Foundation of the Journal for  
Medicine and Life  
[www.medandlife.org](http://www.medandlife.org)

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## GENERAL INFORMATION

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### LOGISTIC PARTNERS:



21 Rapsodie Street, Ap 15  
Cluj Napoca, Romania  
tel.: +40364137103  
office@global-t.ro



**SYNAPSE**  
TRAVEL

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

### SCIENTIFIC SECRETARIAT

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Neurotraumatology  
37 Mircea Eliade Street, 400364,  
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### LANGUAGE

The official language is English.  
All communications will be delivered  
exclusively in English.

### 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.

### TIME

The program hours are adjusted to  
Current Local Time in Istanbul, Turkey,  
UTC + 3.

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## NOTES

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**AMIN** ACADEMY FOR  
MULTIDISCIPLINARY  
NEUROTRAUMATOLOGY



ACADEMY FOR  
MULTIDISCIPLINARY  
NEUROTRAUMATOLOGY

