18\textsuperscript{th} AMN Congress

26–28 February
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All materials and documentation will be available at the registration desk located at SSNN booth. The staff will be pleased to help you with all enquiries regarding registration, materials and program. Please do not hesitate to contact the staff members if there is something they can do to make your stay more enjoyable.

LOGISTIC PARTNER:

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**LANGUAGE**

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

**CHANGES IN PROGRAM**

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

**NAME BADGES**

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

**FINAL PROGRAM & ABSTRACT BOOK**

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

**MOBILE PHONES**

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

**CURRENCY**

The official currency in Egypt is Egyptian pound (EGP).

**ELECTRICITY**

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

**TIME**

The time in Egypt is Eastern European Time (UTC +2).

**COFFEE BREAKS**

Coffee, tea and water are served during coffee breaks and are free of charge to all registered participants.
SCIENTIFIC PROGRAM
18TH AMN CONGRESS

26-28 FEBRUARY | SOFITEL CAIRO NILE EL GEZIRAH HOTEL
CAIRO | EGYPT

WEDNESDAY, FEBRUARY 26TH 2020
ETOILE, 02 FLOOR, SOFITEL HOTEL

18:30 – 20:30  ADVISORY BOARD MEETING - PRESENT
(Patient REgistry – Short, Essential NeuroTrauma)

THURSDAY, FEBRUARY 27TH 2020
LA GRANDE BALLROOM, 02 FLOOR, SOFITEL HOTEL

08:50 – 09:00  WELCOME ADDRESS

PRESIDENTIAL SESSION
CHAIRPERSONS: Mohamed S. El-Tamawy (Egypt), Anwar El Etribi (Egypt)

09:00 – 09:20  From TBI neurobiology to CAPTAIN concept
Dafin F. Mureșanu (Romania)

09:20 – 09:40  A new gold standard to improve TBI clinical research –
the multidimensional approach
Johannes Vester (Germany)

09:40 – 10:00  Neurology in ancient Egypt. A visit to pharaonic history
Mohamed S. El-Tamawy (Egypt)

10:00 – 10:20  Cognitive rehab after TBI
Volker Hömberg (Germany)
SESSION 1
CHAIRPERSONS: Volker Hömberg (Germany), Wai Sang Poon (Hong Kong)

10:20 – 10:35 Adjunct management of chronic subdural haematoma
Wai Sang Poon (Hong Kong)

10:35 – 10:50 CAPTAIN PH: Adaptations and cognitive rehabilitation
Jacqueline Dominguez (Philippines)

10:50 – 11:05 Neurotrophic factors in neurosurgical problems -
10 years’ experience
Essam Emara (Egypt)

11:05 – 11:10 Discussions

11:10 – 11:30 COFFEE BREAK

11:30 – 12:20 COUNTRY PRESENTATIONS PART I
CHAIRPERSONS: Johannes Vester (Germany), Ettore Beghi (Italy)

SESSION 2
CHAIRPERSONS: Karin Diserens (Switzerland), Pieter E. Vos (the Netherlands)

12:30 – 12:45 Traumatic brain injury and spinal cord injury in the world:
data from the GBD collaboration
Ettore Beghi (Italy)

12:45 – 13:00 Outcome measures on TBI | Benefits of a registry
Peter Lackner (Austria)
13:00 – 13:15   Neurorehabilitation in severe TBI
               Karin Diserens (Switzerland)

13:15 – 13:20   Discussions

13:30 – 14:30   LUNCH BREAK

14:30 – 15:30   COUNTRY PRESENTATIONS PART II
               CHAIRPERSONS:
               Christian Matula (Austria), Ignacio Previgliano (Argentina)

SESSION 3
CHAIRPERSONS: Jacqueline Dominguez (Philippines), Essam Emara (Egypt)

15:30 – 15:45   Neurotrauma – what has changed and who cares?
               Christian Matula (Austria)

15:45 – 16:00   Acute brain trauma management in the ICU
               Ignacio Previgliano (Argentina)

16:00 – 16:15   Mild traumatic brain injury: clinical decision rules and
               biomarkers to detect intracranial injury.
               Pieter E. Vos (Netherlands)

16:15 – 16:30   A retrospective multi-centric cohort study evaluating
               the effects of neurotrophic factors on outcome after
               traumatic brain injury
               Felix-Mircea Brehar (Romania)

16:30 – 16:35   Discussions
16:35 – 17:30  
**COUNTRY PRESENTATIONS PART III**  
*CHAIRPERSONS:* Peter Lackner (Austria), Dana Boering (Germany)

17:30 – 17:50  
**COFFEE BREAK**

17:50 - 18:20  
**INTRODUCTION TO PRESENT**  
(Patient REgistry – Short, Essential NeuroTrauma)

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**SESSION 4**  
*CHAIRPERSONS:* Alexandru V. Ciurea (Romania), Felix-Mircea Brehar (Romania)

18:20 – 18:35  
Neurosurgical actual status in 3D patient specific implants for cranioplasty - a Romanian multicenter study  
Alexandru V. Ciurea (Romania)

18:35 – 18:50  
Neuromodulation in neurorehabilitation  
Dana Boering (Germany)

18:50 – 19:05  
Cost-effectiveness of pharmacological intervention in traumatic brain injury: combining treatment efficacy and patient reported outcomes  
Ștefan Strilciuc (Romania)

19:05 – 19:10  
Discussions
09:00 – 10:30  
**GROUP WORK**  
**CHAIRPERSONS:**  
Dafin Mureșanu (Romania), Ștefan Strilciuc (Romania), Johannes Vester (Germany), Peter Lackner (Austria)

I. What content do we want to see on the AMN – website?  
II. How to reduce “door to treatment” time and how the AMN can support implementation?  
III. How to form a multidisciplinary team in my hospital?  
IV. Mapping care pathways for patients after TBI  
V. Center enrollment in PRESENT registry - practical aspects  
VI. Advice for the AMN - How can the society develop a strong global impact?

10:30 – 10:50  
**COFFEE BREAK**

10:50 – 12:00  
**GROUP PRESENTATIONS**

12:00 – 12:10  
**CONCLUDING REMARKS**

12:30  
**LUNCH**
ABSTRACTS
Traumatic brain injury (TBI) and spinal cord injury (SCI) are increasingly recognized as global health priorities in view of their preventability and the complex and expensive medical care they necessitate. Previous epidemiological studies of the incidence and outcomes of TBI and SCI were limited by focusing on certain subpopulations, including only select injuries, or by providing estimates only for areas of the world with accessible data. No studies had systematically measured the burden of traumatic brain injury (TBI) and spinal cord injury (SCI) globally for all countries, ages, and sexes through recent years and from all causes of injury. The data from the Global Burden of Disease are presented here to measure the worldwide, national and regional burden of TBI and SCI. The study describes nature-specific non-fatal burden estimates for all injuries and reports incidence, prevalence and years lived with disability (YLDs) for TBI and SCI, and the proportions caused by different injuries by region and country. Different sources were investigated, including published articles, surveillance studies, hospital and records, and health insurance claims. Only causes of injury requiring medical care (including outpatient visits) were considered. 29 different causes were modelled with DisMod-MR 2.1, a meta-regression tool. If more than one injury was present, the most severe was selected. Short and long-term disability were averaged and modelled separately (using one year as cut-off). The precision of the estimates was measured by 95% uncertainty intervals (UI). GBD 2016 estimated the burden of TBI and SCI in terms of incidence, prevalence, and YLDs of TBI and SCI for 195 countries and territories. Estimates were presented by socio-demographic index (a composite measure derived from income per person, educational attainment and total fertility rate) and the percentage change since 1990.

In 2016, there were 27.08 million (95% CI 24.30-30.30) incident cases of TBI and 0.93 million (0.78-1.16) incident cases of SCI, which provided, respectively, an age-standardized incidence of 369 (331-412) and 13 (11-16) per 100,000 per year. The corresponding number of prevalent cases was 55.50 million (53.40-57.62) and 27.04 million (24.98-30.15). From 1990 to 2016 there was an 8.4% increase in age-standardized prevalence and 3.6% increase in age-standardized incidence of TBI while prevalence and incidence of SCI were fairly stable. TBI accounted for 8.1 million (6.0-10.4) YLDs and SCI 9.5 million (6.7-12.4) YLDs. Age-standardized incidence and prevalence of TBI were high in Central Europe, Eastern Europe, and Central Asia; incidence and prevalence of SCI were high in North America and Western Europe. Falls and road injuries were the main underlying causes.
Addressing the global burden of TBI and SCI requires improved efforts to decrease the causes (eg, fall-prevention strategies, reducing alcohol overuse, and improving road safety). Although injury prevention efforts are key, health-care systems should also anticipate a growing burden from caring for people with TBI and SCI. Measurement of the burden of these conditions could be improved with the establishment of registries to help facilitate intervention efforts and further research.

Reference:


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**NEUROMODULATION IN NEUROREHABILITATION**

**DANA BOERING**

Department of Neurology, SRH GBW, Bad Wimpfen, Germany

Traumatic brain injury is the number one cause of death and severe disability worldwide. Therefore it is a public health concern that demands ongoing preventive efforts as well as comprehensive research to advance medical options and therapeutic interventions.

Over the last two decades there was a substantial advance in our understanding of the intrinsic ability of the CNS to reorganize its networks and reconfigure its activity in response to environmental changes or lesions, due to advances in noninvasive brain evaluation techniques, refined basic science investigations, progress in computational power and analytical approaches as well as in genetic science. The study of neuroplasticity engages nowadays scientists of a multitude of disciplines. In this context, neurorehabilitation takes advantage of the immense increase in neuroscience knowledge about mechanisms of postlesional plasticity, its different temporal scales, and sets its main emphasis on the application and refined assessment of a broad repertoire of neuromodulation forms to enhance training induced cognitive and motor learning.

The talk will give an overview of current neuromodulation strategies used in TBI early- and postacute rehabilitation like pharmacological neuromodulation, noninvasive brain stimulation, brain computer interfaces, real time fMRI neurofeedback, as well as a short glance at current behavioral neuromodulation techniques i.e. somatosensory input reduction/augmentation, combined cortical/ peripheral stimulation, virtual reality techniques, robotics, outlining benefits as well as caveats and future development fields.
A RETROSPECTIVE MULTI-CENTRIC COHORT STUDY EVALUATING THE EFFECTS OF NEUROTROPHIC FACTORS ON OUTCOME AFTER TRAUMATIC BRAIN INJURY

FELIX-MIRCEA BREHAR
M. R. GORGAN, F. STEFAN, A.V. CIUREA, B.O. POPESCU, D. F. MURESANU
Senior Neurosurgeon, Head of the Stereotactic and Functional Neurosurgery Department, “Bagdasar Arseni” Clinical Emergency Hospital, Bucharest, Romania
Associated Professor “Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

Background: Traumatic brain injury (TBI) is a leading cause of death and disability for which there is currently no effective drug therapy available. Because drugs targeting a single TBI pathological pathway have failed to show clinical efficacy to date, pleiotropic agents with effects on multiple mechanisms of secondary brain damage could represent an effective option to improve brain recovery and clinical outcome in TBI patients. The primary objective of this study was to test the outcome in Cerebrolysin treated patients compared to the control group, at 10 and 30 days post-TBI, and the secondary objective to evaluate the safety of Cerebrolysin for TBI patients.

Patients and methods: We included in this multicenter retrospective study 7769 adult patients with traumatic brain injury (TBI), admitted in 10 departments of Neurosurgery in Romania, between 2005-2010. Patients were managed according to the guidelines, part of them receiving Cerebrolysin add-on treatment, started in the first 48 hours after TBI. From the medical records, general data were collected at admission. At days 10 and 30 post-TBI patients were ranked on Glasgow Outcome Scale (GOS) and Modified Rankin Disability Score (RDS). Cerebrolysin treated patients were separated in 2 groups, according to 2 different drug regimens (20 ml or 30 ml/day) and compared to the control group. Statistical comparison (SPSS) was carried out based on the stratification of patients in subgroups, depending on GCS scores at admission (severe: 3-8, moderate: 9-12 or mild TBI: 13-15).

Results: Majority of patients included in the cohort had mild TBI (71.2%), 13% had moderate TBI and 15% had severe TBI. The Cerebrolysin group included 1618 patients and the control group included 6151 patients. In mild TBI, patients treated with Cerebrolysin (20 ml or 30 ml/day) had significantly higher GOS and lower RDS scores at 10 days post-TBI, but not at 30 days post-TBI, as compared to control. However, in moderate and severe TBI, patients treated with Cerebrolysin (20 ml or 30 ml/day) had significantly higher GOS and lower RDS scores both at 10 days and 30 days post-TBI, as compared to control. Interestingly, in moderate and severe TBI patients we also found a significant correlation between the dose of Cerebrolysin
treatment and the prognosis at both 10 and 30 days post-TBI. There was no significant adverse event in the Cerebrolysin treated patients’ group.

Conclusions: In conclusion, this large retrospective study shows significant beneficial effects on outcome of early Cerebrolysin treatment in TBI and supports the basis for conducting further Cerebrolysin prospective studies in TBI.

Keywords: TBI, neurotrophic factors, outcome

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**NEUROSURGICAL ACTUAL STATUS IN 3D PATIENT SPECIFIC IMPLANTS FOR CRANIOPLASTY - A ROMANIAN MULTICENTER STUDY**

**A.V. CIUREA**

**HORIA PLES**, **ALIN LADARU**, **AUREL MOHAN**, **A. BLAGA**, **GABRIEL DASCALU**, **HORATIU MOISA**

1. “Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania.
2. Department of Neurosurgery, Sanador Clinical Hospital, Bucharest Romania.
3. Department Of Neurosurgery, “Victor Babes” University School of Medicine Department of Neurosurgery; Timis County Emergency University Hospital, Timisoara, Romania
4. PHD Student, Doctoral School at “Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania
5. University Of Medicine and Pharmacy, Oradea, Romania.
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8. Department of Neurosurgery, Emergency University Teaching Hospital, Bucharest, Romania

The author presents a multi-center study cohort study on 50 patients with cranial defects of multiple etiologies (trauma, decompression, tumor surgery, etc.) operated in 10 hospitals in Romania. In all patients the neurosurgeon repaired the cranial defect using 3D printed and CNC milling and drilling grafts or Patient Specific Implants, from two world known manufacturers, custom made in accordance with the data obtained from the patient’s 3D CT reconstruction.

Introduction: Cranioplasty is defined as the surgical intervention performed to repair cranial defects following trauma, surgical decompression, tumor surgery, congenital anomalies or growing skull fractures. The implications of cranioplasty are psychological, aesthetic and functional. The history of cranioplasty dates back to 7000 BC with archeologic evidence supporting the use of both inorganic and organic materials. Although many methods have been described there is little consensus regarding the optimal solution for such cases.
Materials & Methods: We started a multicenter cohort study on patients with cranial defects of multiple etiologies (trauma, decompression, tumor surgery, etc.) operated in 10 Romanian hospitals having enrolled in study a total of 50 patient from which 16 were female, 34 were male, 22 from urban, 28 from rural area of Romania, age between 5-68 years old. Regarding etiologies: 31 were trauma, 16 were decompression and 3 were tumor. In all patients during the surgery were repaired the cranial defects using Patient Specific Implants made by 3D printing and Computered Aid Design (CAD) and Computer Assisted Manufacturing (CAM) (Computering Numerical Control milling and drilling) methods using specific data obtained from the patient’s 3D CT reconstruction using a very clear scanning protocol. There were used materials for implantation such as PEEK, Titanium, PMMA, Bioverit, etc.

Neurosurgical procedures: In almost all cases were used large tegument openings respecting anatomy and pedicles positioning. Dura was very well protected and only in few cases was closed and attached to implant. Timing after craniectomy was in general “early stage”, 2-3 months and we sustain surgical procedures that reconstruct intracranial volumes and respects cerebral homeostasis. In all cases main objective was quality of patient life. We had minor complications, 2 cases of suture infections. In none of the cases, material was removed.

Outcome: Cases were followed up between 6 months and 10 years. Global outcome at 6 months post-operative (GOS) is significant good in more than 92% from cases; Patients present a moderated to a good recovery with no important neurological deficit.

Cranioplasty represents a modern procedure in most cases where we have traumatic or non-traumatic defects of calvaria. Present methods and materials using CT 3D and Patient Specific Implant procedures represents a new trend in Neurosurgery. More and more surgeons and authors sustain “early approach” theory in cranioplasty.

Conclusions: Present research it is on going because of still new developing procedures that aim a perfect structure for calvaria defects and realized a perfect cranian volumetry what is very fruitful for the CSF & blood circulation.

Key words: Patient Specific Implant, trauma, tumor, decompression, neurosurgery, reconstruction, cranioplasty, Peek, Titanium, Bioverit, CNC milling and drilling, CAD, CAM, 3D printing.
Rehabilitation strategies for patients in the early phases of recovery after severe brain lesion intend in addition to prevention of complication to improve attention and stimulate the networks responsible for an individual to have conscious perception of himself and of his environment and adequately interact with it.

One type of intervention uses multisensory stimulation, which refers to a variety of methods used to stimulate the senses (sight, hearing, superficial and deep sensitivity, taste and smell) that can considerably vary in form, intensity and number of modalities implied (Oh & Seo, 2003). Multisensory environment is found in natural settings, which have been well recognized for serving as a resource for recovery and rehabilitation. Randomized control trials comparing groups receiving the usual care with a sensory stimulation program added are extremely scarce. Despite lack of recent scientific evidence (Lombardi, Taricco, De Tanti, Telaro, & Liberati, 2002), it is hypothesized that applying a sensory stimulation program will enhance the recovery process and improve the outcomes of severely brain-injured patients experiencing an alteration in consciousness. The results of a recent prospective non-randomized crossover study of the acute neurorehabilitation Unit of the Lausanne University Hospital, Switzerland, published in 2019, showing robust evidence supporting effectiveness and appropriateness of an outdoor neurosensory intervention in patients with covert cognition, to improve adaptive goal-oriented behavior will be presented.

CAPTAIN PH: ADAPTATIONS AND COGNITIVE REHABILITATION

JACQUELINE C. DOMINGUEZ
Institute for Dementia Care, St. Luke's Medical Center, Quezon City, Philippines

The CAPTAIN trials have demonstrated the benefit of Cerebrolysin in moderate to severe traumatic brain injury (TBI) not only in global outcomes but in specific measures of attention and executive function. CAPTAIN-PH (CAPTAIN-Philippines) is in development to simulate CAPTAIN with two major adaptations apropos to our diverse ecosystem of care where healthcare is not strongly socialized but out of pocket, and access to care and care practices vary in regions. The challenge of prompt medical care in TBI is a stark reality in the Philippines due to unpredictable
traffic situations and un-systematized patient transfer during emergencies.

CAPTAIN-PH is an investigator-initiated multicenter, single-blind (assessor-blinded) trial to be conducted in the Philippines with est. 5 sites to represent varying ecosystem of care, with site PI already acquainted with the CAPTAIN protocol in a previous attempt to participate in CAPTAIN-Asia. It approximates real-world experience in the Philippines. The St. Luke’s Medical Center Institute for Neurosciences (SLMC-INS, Collaborating Site) has a unit in place, the Memory Center (MC) with 10-years of experience in Cognitive Rehabilitation (CogRehab) for stroke, TBI and various neurologic conditions provided by a multidisciplinary team of psychologists, occupational therapists, and speech and language pathologists.

CogRehab will be introduced in CAPTAIN-PH in some participants supplementary to Cerebrolysin make not only a multidimensional (Cerebrolysin) but a multicomponent (Standard of care, Cerebrolysin and Cog-Rehab) intervention. SLMC-INS has also recently set-up in use functional MRI (resting state and cognitive task-based) for its Aging and Dementia research. The use of fMRI in TBI will be explored locally in selected participants of CAPTAIN-PH. In this presentation, the adaptations made in the CAPTAIN-PH protocol and introduction of Cog-Rehab to intervention will be discussed. A case experience with Cog-Rehab in TBI at SLMC-INS will likewise be presented.

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**NEUROLOGY IN ANCIENT EGYPT. A VISIT TO PHARAONIC HISTORY**

**MOHAMED S. EL-TAMAWY**  
Professor of Neurology, Cairo University, Cairo, Egypt

Most of our knowledge about the medical sciences of the ancient Egyptians is known through the principal medical papyri. The nervous system was among a wide variety of special subjects covered by the ancient Egyptian physician. Actually, the brain, meninges and CSF were all known and named. The convoluted surface of the brain was compared to beaten copper and its pulsations were known and linked to those of the child’s fontanelle. Their disappearance was considered as a bad prognostic signal. They described headache and distinguished hemicrania (migraine) from headache.

Cases of monoplegia, hemiplegia, quadriplegia, facial paralysis and what might coincide with what is known to us as aphasia were perfectly described. Whenever
trauma involved nervous system, its clinical picture and complications were clearly described. Generalized convulsions were described. It is thought that the hieroglyphic word “nsyt” is equivalent to epilepsy.

Trephine operations and the use of artificial limbs were well documented. It is difficult to escape from conclusion that the ancient Egyptian physician (or so to speak, the ancient Egyptian neurologist) clearly realized the relationship between the nervous system and voluntary movement and that the side and localization of paralysis depended on the situation of the nervous system. It is fair to state that the ancient Egyptian papyri included the first trial of functional localization of the brain.

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**NEUROTROPHIC FACTORS IN NEUROSURGICAL PROBLEMS - 10 YEARS’ EXPERIENCE**

**ESSAM EMARA**
Professor of Neurosurgery, Ain Shams University, Cairo, Egypt

Cerebrolysin is a well-known neuroprotector over the last 10 years I have used it in different neurosurgical disorders as a protective against the surgical trauma which would worsen the postoperative neurological course of the patient if it was not used, as in cases of severe cervical canal stenosis with severe cord compromise. Also, it has been used in cases of facial nerve palsy especially in diabetics with a very excellent recovery. In this lecture, we will present one case with traumatic dorsal paraplegia where dorsolumbar decompression with posterior spinal fixation.

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**COGNITIVE REHAB AFTER TBI**

**VOLKER HÖMBERG**
Head of Neurology SRH_GBW Bad Wimpfen and Neurology Coordinator for the SRH Group of Hospitals and Clinics, Bad Wimpfen, Germany

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

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

The usage of elaborate constructs in neuropsychology necessarily induces a lot of noise in studies about “memory”, “attention” or other cognitive domains increasing the heterogeneity of data even more than we know from motor rehab.

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

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

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

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

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

In the talk construct- vs. the behavioral driven concepts in neuropsychology will be discussed.
Due to the complexity of traumatic brain injury (TBI), outcome prediction for individual patients is a big challenge. To compensate for patient heterogeneity, large cohorts are needed. So far, only few solid outcome predictors have been derived from big clinical studies. Alternatively, outcome prediction models using data from national registries can be applied. A crucial point is the selection of the optimal scores for motor and non-motor, functional outcome evaluation. In addition, complexity of a registry and usability are inversely correlated. Hence, finding the right balance between these factors is one of the most difficult tasks when designing a powerful registry. This talk will focus on the possibilities and limitations of registry data analyses. In addition different approaches for identifying optimal outcome parameter sets and balancing complexity and usability will be discussed.

Since the beginning of the new millennium the paradigm for the treatment of patients with head injury has changed. Although done thousands of years ago (first reports proven from 10.000 b.c.) the real documented treatment of patients with head injury started in the 1900s as a surgical disease; craniotomy for evacuation of hematoma was the only modality available for the reduction of intracranial pressure (ICP) and the maintenance of cerebral perfusion pressure (CPP) done by special interested surgeons out of general surgery, because neurosurgery as a own standing discipline doesn’t exist at that time. The past 50 years, however, have seen the introduction of surgical modalities for the treatment of patients with traumatic brain injury (TBI), and since the beginning of the new millennium dawns, surgery has become but just one modality among others. So, what has changed in what is now seen as the resuscitation of the injured brain?

An explosion of research has driven this paradigm shift on the physiology of healthy and injured brains. The understanding of ICP reduction by mass removal was supplemented by the awareness of the role of ischemia in what has come to be known as secondary injury. Exploring the mechanisms of cerebral edema
and ischemic brain injury has led to an understanding of secondary injury that was based on cellular physiology. All that opened the door for introduction of pharmacologic therapies for TBI. Studies light the CAPTAIN Study could help to solve the problem why so many trails in TBI have failed and offered a new understanding for cerebral protection and recovery after neurotrauma and has become one of the pillars of the treatment of patients with head injury. ICP monitoring is nowadays supplemented by more sophisticated measurement of cerebral blood flow (CBF) and multimodal monitoring systems have overtaken the field. Local micro dialysis catheters monitor the neurochemical environment for products, such as lactate and glutamate. Metabolic maps of the injured brain are available via positron emission tomography (PET) scans that monitor the use of glucose and other substrates by the brain. All that have changed the concept of the treatment of the injured brain and opened doors for new treatment concepts in Neurotrauma.

Hand in hand with all that question has been raised up, who cares for Neurotrauma? Many other disciplines among Neurosurgery have entered the field doing a very successful job. We have seen a dramatic evolution and increase in the neurologic ICU. We have seen a completely new emphasis on outcomes. Payers, the public, politicians, governments, and the research community are asking about the efficacy of therapies. Emphasis on better rehabilitation strategies and on pharmacologic approaches to better cognitive outcomes have proven to be very much important for the next decades.

Modern Neurotrauma nowadays has proven to be a real team approach of multidisciplinary teams consisting experts from different disciplines with the clear mission to significantly advance health worldwide in brain injured patients. The overall goal nowadays is to provide the highest level of neurotrauma care for our patients and their families, translate basic neuroscience into clinical practice and train the next generation of neurotrauma clinician-scientist in the highest possible level based on clear structured neurotrauma programs and curricula’s.
Traumatic brain injury (TBI) is a multifaceted condition that encompasses a broad clinical and disability spectrum, determined by a myriad of potential injuries, cellular pathways, genetic phenotypes, and environmental factors. Previous clinical trials have failed to highlight the efficacy of pharmacological interventions. The complexity of TBI is reflected in the low assay sensitivity for conventional research methods that involve arbitrary dichotomization of outcome scales. We explored the efficacy of the multimodal agent Cerebrolysin for recovery after TBI using a multidimensional approach. CAPTAIN I and CAPTAIN II are randomized, double-blind, placebo-controlled trials that enrolled patients with moderate to severe TBI (Glasgow Coma Scale score 6-12). Meta-analysis was performed using stochastic ordering, fixed effects, random effects and a combined model using the Wei-Lachin pooling procedure. Both trials results reveal high assay sensitivity of the multidimensional approach, indicating benefits of Cerebrolysin at Day 30 and 90 intention-to-treat populations. The baseline prognostic risk score shows excellent comparability between treatment groups (median = 2.0; MW = 0.4883). A meta-analysis of the trial series shows statistical significance superiority of Cerebrolysin at 30 and 90 days after TBI regardless of methodology (stochastic ordering, fixed and random effects), indicating no observed heterogeneity (I-Square=0.0%). The CAPTAIN trial series and meta-analysis indicate the efficacy of Cerebrolysin for moderate to severe TBI recovery and confirm the agent’s excellent safety profile. We discuss these results to showcase major clinical implications for treatment and methodological breakthroughs in TBI research.
CHRONIC SUBDURAL HAEMATOMA

WAI SANG POON

Professor Emeritus, Division of Neurosurgery, Prince of Wales Hospital, The Chinese University of Hong Kong, Hong Kong

Chronic subdural haematoma (CSDH), a common stroke-like illness of the elderly, is traditionally treated with surgical drainage in symptomatic cases. However, recurrence after surgical treatment varies between 9-24%. Adjuvant management strategies such as the post-operative subdural drain, steroid, statin, ACE inhibitor and embolization of the external carotid territories have been suggested to reduce surgical recurrence. A review of the literature of all these treatments will be presented.

ACUTE BRAIN TRAUMA MANAGEMENT IN THE ICU

IGNACIO J. PREVIGLIANO

Director of the Hospital General “De Aquidos Juan A. Fernandez”, Buenos Aires, Argentina

Traumatic Brain Injury (TBI) is the first cause of death and disability in the population above 40 years old. Although Intensive Care management has changed mortality and morbidity there are great disparities in outcomes according each country development status as well as differences between regions in the same country. As an example in Argentina there are hospitals with mortality near 80% who live with hospitals that have 23% while mean country mortality is near 40%. The lower the mortality rate the greater the compliance with TBI guidelines. The 4th edition of the Guidelines was launched in 2016 and updated treatment, monitoring and thresholds recommendations. In this presentation I will give the most relevant updates. I will also present the role of the Point of Care Ultrasound concept in TBI management as a strategy for low income/low resources ICU or ER. The ReCCUs protocol for emergency room TBI resuscitation is based in Transcranial Doppler (TCD) diastolic blood flow velocities as well as in the Pulsatile Index. Fluid expansion, noradrenaline, hypertonic saline and mannitol are given according these variables in an aim to improve cerebral perfusion pressure (CPP). The TECCUs protocol is based in CPP evaluation by means of TCD complemented with Optic Nerve Sheath (ONS) measurement and Transcranial Brain Ultrasound (TBU). Different treatment options, including emergency surgery, are indicated among the relationship between these different assessment findings.
Neurotrauma is a significant public health problem, resulting in death, impairment, and permanent disability in alarmingly large numbers worldwide. The United States alone has had over 2.5 million TBI-related emergency department visits per year. TBI requires long-term care, incurring high economic cost to healthcare systems. Neurotrauma patients follow the evolution and pathways of chronic diseases, spanning well beyond initial injury. The U.S. Centers for Disease Control and Prevention has estimated a lifetime economic cost of TBI of approximately $76.5 billion. TBI is associated with high long-term mortality, reduced life expectancy, increased incidences of seizures, sleep disorders, neurodegenerative diseases, neuroendocrine dysregulation, psychiatric diseases, sexual dysfunction, bladder and bowel incontinence, and systemic metabolic dysregulation.

From pathophysiology to care access, heterogeneity of all types greatly influences outcome after TBI. Worldwide, outcomes research has shown that health systems with very similar levels of health expenditure per capita show wide variations in TBI outcomes. Outcome inequality, which translated to overall health inequality, is hence attributable to suboptimal resource allocation. Some systems may devote resources to more expensive interventions with small effects on population health. At the same time, low-cost interventions with potentially more significant benefits are not fully implemented.

Due to the increasing scarcity of health resources, the critical question of cost-effectiveness arises in the context of novel TBI interventions. Despite the cost per quality-adjusted life-years (QALYs) having become the dominant outcome of interest in pharmacoeconomic evaluations, an instrument designed specifically developed to assess health-related quality of life (HRQoL) of individuals after traumatic brain injury. QOLIBRI (Quality of Life after Brain Injury) is assumed to be more sensitive to particular health conditions and therefore give more focused and more precise information than generic ones. Nevertheless, the problem of comparability across diseases, interventions, health technology assessment (HTA) systems, countries, and other factors involved in health system decision-making and resource allocation remains an issue. This talk explores the feasibility and implications of using combined outcome measures to produce an aggregated cost-effectiveness indicator for pharmacologic intervention after TBI.
A NEW GOLD STANDARD TO IMPROVE TBI CLINICAL RESEARCH – THE MULTIDIMENSIONAL APPROACH

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

Groundbreaking developments often start with small steps.

After decades of one-dimensional clinical research in TBI, relying more or less solely on the Glasgow Outcome Scale, leading interdisciplinary research groups recently highlighted the multidimensional nature of TBI, such as, e.g., the International Mission on Prognosis and Clinical Trial Design in TBI (IMPACT), stating that “outcome after TBI is by definition multidimensional” or the US Traumatic Brain Injury Clinical Trials Network Group, pointing out that “multiple measures are necessary to address the breadth of potential deficits and recovery following TBI”. It became clear that the classic, one-dimensional approach in clinical TBI trials cannot capture all clinical relevant functional information in survivors of any kind of TBI. Even survivors of mild to moderate TBI may experience lifelong disturbances in the physical, behavioral, emotional, cognitive (memory, attention, reasoning, communication and planning), motor, sensory, perception and social domains of life that may affect specific or global functioning.

Unfortunately, statistical methods for handling a multidimensional approach with multiple outcome scales were not yet available to TBI researchers. Thus, workarounds such as dichotomization dominated the first steps towards a multidimensional methodology. It is thus fortunate that groundbreaking data analysis procedures such as the Wei-Lachin procedure are now available that allow multidimensional analyses based on full outcome scales of any type.

Currently, one of the most promising TBI clinical trial approaches, with cutting edge state of the art methodology, is the series of CAPTAIN trials - the first true multidimensional approach in TBI history based on full outcome scales. The Wei-Lachin procedure was implemented here for integrating the multiple outcome dimensions. This highly efficient procedure was also most recently implemented as key methodology for differentiation of Health-Related Quality of Life after Traumatic Brain Injury. Furthermore, it plays an important role in current TBI multidimensional initiatives.

All in all, the overdue shift of paradigm in TBI is now well underway. Multidimensional analysis opens a completely new direction for clinical and statistical thinking and is perhaps much closer to the complicated reality of outcome after traumatic brain
injury than the previous “one-criterion paradigm” which ruled clinical research on neuroprotective treatments for the last decades.

Key Words: Clinical Research, TBI, Multidimensional, Methodology

MILD TRAUMATIC BRAIN INJURY: CLINICAL DECISION RULES AND BIOMARKERS TO DETECT INTRACRANIAL INJURY

PIETER E. VOS
Department of Neurology, Santiz Slingeland Hospital, Doetinchem, Netherlands

Mild Traumatic Brain Injury (MTBI) in the acute phase is characterized by a low but significant risk (1%) for life threatening intracranial hematoma (epidural, subdural, intraparenchymal) and a low case fatality rate (0.1%). To accurately identify patients with an increased risk for intracranial hematoma, by means of CT, formal decision rules exist. However the use of clinical rules is associated with a low specificity for intracranial findings meaning that many MTBI patients undergo CT scanning. In addition variation exists among different rules.

It has been proposed that the identification of patients at increased risk for injury, by checking clinical risk factors, can be improved when in addition also certain proteins in peripheral blood that are released upon brain damage are taken into account.

1. In this overview the strengths and limitations of various decision rules will be discussed as well as aspects of acute management in MTBI. Acute management can be improved by applying the CT rule and limit the number of CT scans but maintaining maximum sensitivity for detecting intracranial abnormalities.

2. Over the past 20 years studies have shown that blood-based brain injury biomarkers (i.e. astroglial markers like S100B and GFAP) predict the absence of intracranial injury after MTBI. In recent years new interesting studies have added other biomarkers including fatty acid binding protein, Ubiquitin C terminalhydrolase-L1 and tau protein.

The current role of blood-based biomarkers in emergency triage in particularly the sensitivity and negative prediction for traumatic intracranial findings will be discussed. Better triage and a reduction in unnecessary head CT in MTBI can be achieved when clinical signs and symptoms are combined with blood-based biomarkers.
CURRICULUM VITAE
ETTORE BEGHI
ITALY

Head of the Laboratory of Neurological Disorders (since 1996) at the Institute Mario Negri IRCCS, Milano. Associate Editor of EPILEPSIA. Former Research Fellow at the Department of Medical Statistics and Epidemiology, Mayo Clinic, Rochester, MN (1982-83). Member of the Editorial Board of the journals Neuroepidemiology, Epilepsia Open, Clinical Neurology & Neurosurgery, Clinical Drug Investigation, ALS & Frontotemporal Dementia, and referee of more than 20 journals. Past or current member (or chair) of the following scientific societies/groups: Mayo Alumni Association, Italian Neurological Society (INS), Italian League against Epilepsy (LICE), Neuroepidemiology Section of the INS, Neuroepidemiology Section of the American Academy of Neurology (AAN), Commission on the Epidemiology of Epilepsy of the International League Against Epilepsy (ILAE), Commission “Epilepsy, Risks, and Insurance” of the International Bureau of Epilepsy (IBE), ILAE Commission “Antiepileptic Drugs”, Cochrane Epilepsy Group, ILAE Commission on the Burden of Epilepsy, International Subcommittee of the AAN, Course Director at the AAN, European ALS registry, Italian Epilepsy Study Group, Epilepsy and Quality of Life Study group, Italian Drug Agency (AIFA)(consultant), European Medicines Agency (consultant), Fellow of the AAN (FAAN) and European Academy of Neurology (EAN), Co-Chair of the Epidemiology Panel of the EAN, Past President of the LICE, member of the ILAE Task Forces on the Global Cost of Epilepsy, Epilepsy and Driving and Epilepsy in the Elderly.

Author of more about 400 indexed scientific publications in the field of epilepsy (epidemiology, prognosis, treatment), peripheral neuropathy (epidemiology, prognosis, treatment), amyotrophic lateral sclerosis (ALS) (epidemiology, prognosis, treatment), myasthenia gravis (MG) (epidemiology, prognosis), Parkinson’s disease (epidemiology), headache (epidemiology), and stroke (epidemiology).
EDUCATION:
1. Secondary School I. Slavici Arad, Romania
2. Medical School: Facultatea de medicina si Farmacie I.M.F. Cluj-Napoca, Romania

ACADEMICAL QUALIFICATIONS:
1. Dr. medic: I.M.F. Cluj Napoca  1981
2. German acknowledgement as Dr. med.  1987

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

PROFESSIONAL APPOINTMENTS, SCIENTIFICAL ACTIVITIES:
1994-2002 Collaboration with the University of Essen in the field of plasticity after stroke, with an emphasis on the role of the cerebellum in motoric learning tasks
Since 2002 Collaboration with the University of Düsseldorf in the field of plasticity after stroke
Since 2009 Collaboration with the Coma Science Group Liege Belgium
Member of the DOC special interest group of the IBIA
POSITION
Felix-Mircea Brehar, MD, PhD, Senior Neurosurgeon, Head of the Stereotactic and Functional Neurosurgery Department, “Bagdasar Arseni” Clinical Emergency Hospital, Bucharest, Associated Professor “Carol Davila” University of Medicine and Pharmacy, Bucharest.

EDUCATION:
2006-2010 – PhD thesis (The role of cellular and molecular therapies within the multimodal therapy of glioblastoma) - University of Medicine and Pharmacy “Carol Davila”, Bucharest
1994-2000 – University of Medicine and Pharmacy “Iuliu Hatieganu”, Cluj-Napoca

MAIN PUBLICATIONS:


• A retrospective, multi-center cohort study evaluating the severity-related effects of cerebrolysin treatment on clinical outcomes in traumatic brain injury, Muresanu DF,


AFFILIATIONS

• Romanian Society of Neurosurgery (RSN)
• Congress of Neurological Surgeons (CNS)
• European Association of Neuro-Oncology (EANO)
• European Society for Stereotactic and Functional Neurosurgery (ESSFN) – Member of the Executive Committee

ALEXANDRU V. CIUREA
ROMANIA

PROFESSIONAL EXPERIENCE

1997-Prezent Profesor of Neurosurgery
University of Medicine and Pharmacy “Carol Davila” Bucuresti
Doctorate Coordinator (11 finished PhDs and seven ongoing, unfinished doctorates)

2004-2008 Pro Dean
University of Medicine and Pharmacy “Carol Davila” Bucuresti, Decision 15209/07.07.2004
Member of the University Senate (2004-2008)
2009-Prezent  Scientific Researcher First Degree (by national neurosurgical competition)

EDUCATION AND TRAINING

1974  Doctorate in Medicine – PhD.
1979-Prezent  MD Neurosurgeon (National neurosurgical competition)
2007  Master of Science degree in the Management of the Health System (M.Sc.)

PUBLICATIONS
149 articles published with ISI Thompson indexing ;119 published with PubMed indexing and 57 indexed BDI
Main author of 35/ team of authors 18 treatises and monographs, published in Romania

SPECIAL PUBLICATIONS
• Tratat de neurochirurgie, Ciurea AV, Editura Academiei Romane, 2007
• Intracranial Hypertension, M. St. Iencean, Ciurea AV, Nova Biomedical, New York, 2009

RESEARCH
18 finished research projects

IMPORTANT AWARDS
“Avicenna” award, granted by Prof. Dr. M. Samii on the occasion of the 5th WFNS Symposium, Teheran, 2016
“Excellence in Health” award granted by the Ministry of Health 2015
Health Gala Trophy for “Innovation in Medical Education”, 2011
The “Health Merit” Medal awarded by the President of Romania, Ion Iliescu by decree 1090 din M. Of. No. 1179 from 13.12.2004
The Medal “Merit for Education” Class II, granted by the President of Romania, Ion Iliescu by Decree 1097 M. Of. Nr. 1181 din 13.12.2004

DR. HONORIS CAUSA
Nominated at five universities (Oradea, Galati, Chisinau, Iasi, Constanta)

VISITING PROFESSOR
11 Universities (ex: Harvard University - Boston; INI - Hannover; Mercer University – Atlanta)

MEMBER OF EDITORIAL BOARDS AND SOCIETIES
16 important speciality Journals (ex : World Neurosurgery – USA ; Neurosurgery - USA)
21 memeberships (World Federation of Neurosurgical Societies, Romanian Academy of
SPECIAL SCIENTIFIC CONTRIBUTIONS
Unitube drain – Registered patent at OSIM with no. 00994 / 2005
Coordination of construction of the Center of Excellence in Neurosurgery 2005 (under the Ministry of Health’s patronage)
Hidden Anatomy of Michelangelo (Certificate of Innovation registered at OSIM, 2012)

KARIN DISERENS
SWITZERLAND

Specialist in neurology, physical medicine and rehabilitation. Co-creator of the Swiss Society of Neurology. Head of the post-acute neurorehabilitation clinic Valmont, Montreux (1996-2005), before leading a mobile team of neurorehabilitation in the University Hospital (2006-2009) and becoming head of the Transversal Acute Neurorehabilitation Unit of the division of Neurology, Department of Clinical Neurosciences, University Hospital in Lausanne. After contributing to quality criteria of 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 via a brain-computer interface in the acute phase. As a Private Docent created the teaching program in this domain for the pre-graduate and post-graduate training of medical students and interdisciplinary professionals. Cognitive approaches to creation and emotion is a central focus of my research for development of treatment techniques and motivation of the acute neurorehabilitation teams.

EDUCATION
2014-present CHUV, Lausanne: Médecin adjoint, Department of Clinical Neurosciences (Prof. R. Frackowiak, 2016 Prof Ph Ryvlin) /Neurology (2016 Prof R du Pasquier)
2009 – 2014: CHUV, Lausanne : Médecin associé, Department of Clinical Neurosciences(Prof. Frackowiak)
2006 – 2008: CHUV, Lausanne : Médecin associé, Maître de Recherche et Enseignement, cMER I, Neurology (Prof. Bogousslavsky, Prof. a.i.) Neuropsychology and Neurorehabilitation (Prof. Clarke)
2002 – 2005: CHUV, Médecin associé, Neurology, “FNR” (Filière de Neuroréhabilitation) (Prof. c. Bogousslavsky, Prof. Clarke, Prof. So)
2001 – 2002: CHUV, Lausanne (Médecin associé) and HUG, Geneva (Medecin adjoint): Project Manager for the creation of a neuro re-education itinerary in hospitals (CHUV) and for out-patients (Geneva)
1996 – 2000: Clinique Valmont, Glion s/Montreux : Médecin chef and medical director

PROFESSIONAL AND ACADEMIC EXPERIENCE

ACADEMIC DEGREES

PD, Privat Docent, 2015 (University of Lausanne)
Maître d’Enseignement et Recherche, 2005 (University of Lausanne)
Doctorate, 1984 (University of Mainz, Germany)
Federal Diploma of Medicine, 1985 (University of Lausanne)
Diploma of Medicine, 1984 (University of Mainz, Germany)

SPECIALIST QUALIFICATIONS

Board Certification Swiss Medical Society (FMH): Neurology, 1994; Physical Medicine and Rehabilitation, 2002; Certificate in Electrophysiology (EMG)

DISTINGUISHED MEMBERSHIPS

2019 Management Member of Coma Panel EAN and Co-Chair of Neurorehabilitation Scientific Panel EAN
2016- 2019 Co-chair of Coma Panel EAN
2015 Committee member of EFNR
November 2014 member of the Academy for Multidisciplinary Neurotraumatology Committee of Neurological Behaviour Society

GOVERNING ACTIVITIES

Co-creator of the Swiss Neurorehabilitation Society (1997)
Co-creator of the quality organisation in this domain (APEQ, KIQ)
Expert in the Swiss National group on acute neurorehabilitation, DRG in Bern: definition of standards and acceptance of “Acute Neurorehabilitation” in the University Hospital of Lausanne as quality reference to analyse the cost weight of “acute neurological and neurosurgery rehabilitation”
Creation of the first convention between invalidity insurance and University hospital for the reinsertion of the adolescents with neurological deficits.

MAIN PUBLICATIONS CONCERNING COMA 2019/2020


JACQUELINE C. DOMINGUEZ
PHILIPPINES

Dr. Jacqueline Dominguez is a neurologist with special interest in cognitive impairment and aging. She graduated from the St. Louis University College of Medicine and trained in Adult Neurology at the St. Luke’s Institute for Neurosciences. She pursued training at Washington University in St. Louis, MO under Prof. John Morris. She was former Research Chair in Neurosciences at St. Luke’s The longitudinal cohort of the Marikina Memory and Aging Project (MMAP) which she established in 2010 is a resource for the epidemiological data in dementia and aging in the Philippines and the base for the development of community and family-based non-pharmacologic interventions like dancing to prevent cognitive decline in aging. Her collaborations globally (COSMIC) and in Asia on aging and cognition research has brought gains towards the advancement of neuroscience services at St. Luke’s in biomarkers and neuroimaging, and in the improvement dementia care in the Philippines.
Mohamed S. El-Tamawy is Emeritus Professor of Neurology at Cairo University, Cairo, Egypt. He received his Master’s degree in Neurology and Psychological Medicine from Cairo University in 1980, and his Doctorate in Neurology from the same institution in 1984. He worked as a Consultant Neurologist in Jeddah, Saudi Arabia from 1984 to 1986, and was a Research Fellow at Wake Forest University, Winston-Salem, North Carolina, USA from 1989 to 1990, during which time he worked in the Primary Stroke Center. Professor El-Tamawy was the Chairman of the Department of Neurology at Cairo University from 2009 to 2012, and since 2010 has been the President of the Supreme Council of Neurology at the Egyptian Ministry of Health.

Professor El-Tamawy is the former president of the Pan Arab Union of Neurological Societies, and Honorary President of the Egyptian Society of Neurology, Psychiatry and Neurosurgery. He has authored many articles in national and international journals of neurology, and from 2008 to 2012 was the Editor-in-Chief of the Egyptian Journal of Neurology, Psychiatry and Neurosurgery.

Prof El-Tamawy is currently Chairman of the Supreme Council for promoting neurology staff in Egyptian Universities. He is delegate of Egypt in the World Federation of Neurology and Fellow of the American Academy of Neurology.
Qualifications:
1-MBBcH of Medicine and Surgery 1980, Faculty of Medicine, Eon Shams University
2-Master degree of general surgery 1985, Faculty of Medicine, Ein Shams University
3-M.D of Neurosurgery 1990, Faculty of Medicine, Ein Shams University

Basic Academic Career:
2-Military service: 1981-1982, Neurosurgery department in Almaadi Military Hospital
3-Residency: 1982-1985, basic neurosurgery training, Ain Shams University Hospitals
4-Associate Lecturer: 1985-1990, advanced neurosurgery training in Ain Shams University Hospital
6-Associate Professor: 1998-2003, Ain Shams University Hospitals.
7-Professor neurosurgery: 1-1-2003, currently
8-Head of neurosurgical unit, neurosurgery department Ain Shams University 2007,

Training Career:
2-1981-1982: working as junior resident in neurosurgery department in Almaadi Military Hospital (75 neurosurgery beds, and 12 beds in the neurosurgical ICU, 4 FRCS neurosurgeons, 2 qualified neurosurgeons with Egyptian M.D qualifications and 6 neurosurgery residents). Special training program in neurosurgical trauma, brain tumors, aneurysm surgery, and spine surgery.
3-1982-1985: 1982 till 1983 as junior resident and 1983-1985 as senior resident. Basic neurosurgical training in neurosurgical department in Ain Shams university Hospitals (120 bed, 6 ICU NS beds, 6 professors 4 FRCS qualifications and 2 M.D Egyptian qualifications, 3 lecturers, 6 Ass.lecturers (senior registrars). This training included spine and head injury trauma, disc surgery, shunt surgery and nerve repair. Performing 50 shunt operations, 80 lumbar disc surgery and 25 microscopic nerve repair surgeries. Working as the second assistant with other senior staff members and the professors in 120 cervical canal decompression laminectomies, 55 spinal cord tumors, 85 skull base tumors, 140 supratentorial S.O.Ls. 25 aneurysmal surgeries, 48 AVMs surgeries.
1985-1990: Ass.lecturer: Special training program to perform brain tumors brain vascular surgery and spine tumors. Working as the first assistant with department senior staff and professors. Performing 120 head injury operations, 160 post-traumatic spine injuries with spine posterior fixations in 92 patients and anterior cervical fixations in 68, elective 65 brain tumors, elective 74 pediatric neurocongenital operations, 44 nerve repair operations, 86 elective spine cervical and lumbar operations and 4 posterior communicating aneurysm surgeries.

1990-1992: Lecturer: Involved in the teaching programs of both the medical students and nurses. Performing 22 brain tumors, 12 lumbar disc surgery, 16 cervical disc surgeries, 8 Anterior Co. aneurysm surgeries, and 12 AVMs surgeries. Assisting and teaching the residents staff in different surgeries. Daily ward round in the neurosurgical wards examining and checking our patients with basic scientific teaching and training of the junior staff.

1992-currently: Head of neurosurgery department and deputy chief spine unit in Saudi German Hospital Groups. 1992-1998, there are two consultants and three residents. Since 1998 and currently the head of the neurosurgical units in the Saudi German Hospital groups. Since 1992 till now, 5 residents were trained and passed the Egyptian M.D qualification exam and became qualified neurosurgeons. They were:
- Dr. Abdallah Abdelazim was qualified in 1995. Head of N.S department in Egypt Air Hospital
- Dr. Mostafa Arafa was qualified in 1997. Head of N.S department in the Insurance hospitals in Egypt
- Dr. Samir Abdelrahman was qualified in 1999. Head of N.S department in the Electricity Hospital in Cairo.
- Dr. Samy Gouda was qualified in 2001. Consultant Neurosurgeon in Albahrain international Hospital in Bahrain.
- Dr. Mohamed M. Elnajjar was qualified in 2002. Consultant neurosurgeon in Saudi German Hospdital Almadinah, KSA.
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 outpatient rehabilitation hospitals in Germany. In 2001 he started the St. Mauritius Therapy Clinic in Meerbusch near Düsseldorf and since 2011 he is Director of the Dept. of Neurology at the Gesundheitszentrum Bad Wimpfen and works as senior neurology group leader for the SRH-Group, one of the biggest hospital groups in Germany.

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

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

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

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

Assoc.-Prof. PD Dr. Peter Lackner is head of the Department of Neurology at Otto-Wagner-Hospital, Vienna, Austria. The focus of the Department is post-acute long term care after critical neurological insults (stroke, traumatic brain injury) as well as long term neurocognitive rehabilitation in an outpatient setting. Prof. Lackner is a trained specialist in neurocritical care and has a long lasting publication record in clinical and experimental research done in the field.

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**CHRISTIAN MATULA**
**AUSTRIA**

Dr. Christian Matula serves as Professor of Neurosurgery at the Neurosurgical Department, Medical University of Vienna, Austria. He represents the position as the director of Skull Base Division and Head of the Neurotrauma. From an international perspective he is currently holding the position of a Vice President and one of the Founders of 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 is also actively involved in the European Association of Neurological Surgeons (EANS). 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, fulfilled his Ph.D. in Neuroendoscopy in 1996 and has been 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 120 workshop and courses worldwide and has given more than 400 invited lectures as visiting professor all over the world. He is the author of more than 300 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 electronical 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 so as the Austrian, German and Swiss society and recipient of several awards and honors.

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), Chair of the EAN Communication Committee and EAN Board Member, Co-Chair EAN Scientific Panel Neurotraumatology, Past President of the Romanian Society of Neurology, President of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), Member of the Romanian Academy, Member of the Academy of Medical Sciences, Romania, secretary of its Cluj Branch. He is member of 17 scientific international societies (being Member of the American Neurological Association (ANA) - Fellow of ANA (FANA) since 2012) and 10 national ones, being part of the executive board of most of these societies.

Professor Dafin F. Muresanu is a specialist in Leadership and Management of Research and Health Care Systems (specialization in Management and Leadership, Arthur Anderson Institute, Illinois, USA, 1998 and several international courses and training stages in Neurology, research, management and leadership). Professor Dafin F. Muresanu is coordinator in international educational programs of European Master (i.e. European Master in Stroke Medicine, University of Krems), organizer and co-organizer of many educational projects: European and international schools and courses (International School of Neurology, European Stroke Organisation summer School, Danubian Neurological Society Teaching Courses, Seminars - Department of Neurosciences, European Teaching Courses on Neurorehabilitation) and scientific events: congresses, conferences, symposia (International Congresses of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), International Association of Neurorestoratology (IANR) & Global College for Neuroprotection
and Neuroregeneration (GCNN) Conferences, Vascular Dementia Congresses (VaD), World Congresses on Controversies in Neurology (CONy), Danube Society Neurology Congresses, World Academy for Multidisciplinary 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 400 scientific participations as “invited speaker” in national and international scientific events, a significant portfolio of scientific articles (209 papers indexed on Web of Science-ISI, H-index: 22) as well as contributions in monographs and books published by prestigious international publishing houses.

Prof. Dr. Dafin F. Muresanu has been honoured with: „Dimitrie Cantemir” Medal of the Academy of The Republic of Moldova in 2018, Ana Aslan Award 2018 - “Performance in the study of active aging and neuroscience”, for the contribution to the development of Romanian medicine, National Order “Faithful Service” awarded by the President of Romania in 2017; “Iuliu Hatieganu” University of Medicine and Pharmacy Cluj-Napoca, Faculty of Medicine, the “Iuliu Hatieganu Great Award 2016” for the best educational project in the last five years; the Academy of Romanian Scientists, “Carol Davila Award for Medical Sciences / 2011”, for the contribution to the Neurosurgery book “Tratat de Neurochirurgie” (vol.2), Editura Medicala, Bucuresti, 2011; the Faculty of Medicine, “Iuliu Hatieganu” University of Medicine and Pharmacy Cluj-Napoca “Octavian Fodor Award” for the best scientific activity of the year 2010 and the 2009 Romanian Academy “Gheorghe Marinescu Award” for advanced contributions in Neuroprotection and Neuroplasticity.
Academic Qualifications: MBChB (Glasgow), FRCS (Glasgow & Edinburgh), FHKAM (Surgery)

Previous Academic Positions:
Research Fellow in Department of Neurosurgery, Massachusetts General Hospital, Harvard Medical School, Boston, USA (1990-1991)

Present Academic Positions:

• Chair Professor & Academic Chief, Division of Neurosurgery, Department of Surgery, The Chinese University of Hong Kong (2003 – present)
• Director, Otto Wong Brain Tumour Centre, The Chinese University of Hong Kong
• Professor (by courtesy), The Theme of Regenerative Medicine, School of Biomedical Sciences, The Chinese University of Hong Kong

*August 2019: Professor Emeritus
Clinical Professional Consultant in Neurosurgery

Previous Relevant Research Work:
Clinical and experimental aspects of brain tumors, stroke, and traumatic brain injury.

Representative Publications in Recent 10 Years (out of a total of 430):


Others:
• Member of the Editorial Board of Surgical Practice, Korean Journal of Neurosurgery, British Journal of Neurosurgery, Neurosurgery (USA), World Neurosurgery, Journal of Clinical Neurosciences
• Vice-President, International Society of Reconstructive Neurosurgery
• Chairman of The Committee of Neuro-rehab and Reconstructive Neurosurgery, World Federation of Neurosurgical Societies
• Visiting Professor of Neurosurgery of The Fourth Military Medical University, Shandong University, Sun Yat Sen University
• State Scientific and Technological Progress Award (SSTPA): second-class award 2010 for a research project on traumatic brain injury
• National Chinese Medical Association: first-class award for a research project on acute stroke
IGNACIO J. PREVIGLIANO
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Prof. of Neurology - Maimónides University
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ȘTEFAN STRILIUC
ROMANIA

Ștefan Strilciuc, a public health expert, is the Executive Director of the RoNeuro Institute for Neurological Research and the Society for the Study of Neuroprotection and Neuroplasticity. An active faculty member at Babeș-Bolyai University and Iuliu Hațieganu University of Medicine and Pharmacy in Cluj-Napoca, his research track is multidisciplinary, focused on clinical research, experimental medicine and public health.

As core member of the Romanian Health Observatory, Strilciuc has delivered valuable contributions for evidence-based policy-making through comprehensive analysis of the dynamics of Romania’s healthcare system.
Born, 1952, he specialized in Veterinary Medicine between 1971 and 1974 at the University in Munich, then changed to the University in Cologne in 1974 and specialized in Human Medicine from 1974 to 1980. In 1976 to 1979, he additionally completed the curriculum on biostatistics for pharmacology and clinical research at the Institute for Data Analysis and Study Planning in Munich.

While studying human medicine, he completed research work on pattern recognition in the visual brain and developed a pharmacodynamic Neuron Simulation Model at the Institute for Medical Documentation and Statistics of the University at Cologne. Since 1982 he holds > 100 advanced training courses on biometry for professionals in clinical research as well as teaching courses for universities institutions and international societies.

From 1985 to 1995, he was member of the Ultrahigh Dexamethasone Head Injury Study Group and the leading biometrician of the German GUDHIS trial in Traumatic Brain Injury. Since 1995 he is Senior Consultant for Biometry & Clinical Research at the Institute for Data Analysis and Study Planning (IDV). He planned and evaluated about 150 randomized clinical studies worldwide and is member of various international Advisory Boards and Steering Committees including participation as biometric expert in regulatory authority panels, in FDA, EMA, and BfArM hearings, and in workshops of the International Biometric Society (IBS).

Statistical peer reviewer for leading medical journals such as Stroke (American Heart Association).
Since 2013 Statistical Expert and Elected Member of the International Scientific Committee of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN).
Since 2013 Statistical Expert and Elected Member of the World Academy for Multidisciplinary Neurotraumatology (AMN).
Since 2015 Member of the PhD Neuroscience International Faculty, “Iuliu Hatieganu” University of Medicine and Pharmacy, Cluj-Napoca, Romania.
Since 2017 Invited Associate Professor, Department of Neuroscience, “Iuliu Hatieganu” University of Medicine and Pharmacy, Cluj-Napoca, Romania.
Since 2018 Co-Chair EAN Guideline Task Force Neurorehabilitation.
Since 2018 Head Biometry & Clinical Research at the Institute for Data Analysis and Study Planning (IDV).
Since 2018 President of the Academy for Multidisciplinary Neurotraumatology (AMN).
Pieter Vos is a neurologist at the department of Neurology at Santiz Slingeland Hospital in Doetinchem in the Netherlands. Research activities on traumatic brain injury focus on the clinical, biochemical and genetic determinants of neuroplasticity and recovery after mild, moderate and severe traumatic brain injury. Member expert panel in the 5th international conference on concussion in sport held in Berlin in 2016 and since 2014 member of a quality-committee of the Dutch Society of Neurology for peer reviewing neurological boards in the Netherlands. In 2020 I will be co-chairman of the scientist panel on neurotraumatology residing under the European Academy of Neurology.