EUROPEAN NEUROREHABILITATION CONGRESS
in conjunction with the
3rd EUROPEAN TEACHING COURSE ON NEUROREHABILITATION

June 26-28 | 2013 | Intercontinental Hotel
Bucharest | Romania

Congress Website: www.ecnr2013.eu
The European Federation of Neurorehabilitation Societies is proud to announce its Second European Congress for Neurorehabilitation in conjunction with the 3rd European Teaching Course on Neurorehabilitation to be held in Bucharest, Romania in June 2013.

The Congress is endorsed by the World Federation of Neurorehabilitation (WFNR) and many European Neurorehabilitation Societies.

After the successful First European Congress in Merano in autumn 2011 the meeting in Bucharest will again present a platform for exchange of newest scientific information as well as providing ample space for teaching oriented workshops and seminars. We try to reach an audience of all colleagues with an interest in this steadily expanding and exciting field (physicians, nurses therapists, basic scientists etc.)

A major topic will be to come to a resume where neurorehabilitation in Europe stands today and where future perspectives in science and education as well as in optimizing services shall go.

The formats used in the meeting (workshops, symposia, plenary lectures, oral communications, posters and breakfast seminars) as well as the selected main thematic areas will certainly have a chance to be of interest to a wide audience.

The venue in the centrally located and easily reachable city of Bucharest will furthermore allow a good exchange between colleagues from all over Europe and the Middle East.

Looking forward to seeing You in Bucharest!

Invitation
Local Committee
Co-President

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The University of Medicine and Pharmacy "Carol Davila" (UMFCD), Bucharest, Romania

GELU ONOSE
The University of Medicine and Pharmacy "Carol Davila" (UMFCD), Bucharest, Romania
The Teaching Emergency Hospital "Bagdasar-Arseni" (TEHBA), Bucharest, Romania

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Co-President

Gelu Onose
/Romania

Alexandru Vlad Ciurea
/Romania

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/Romania

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2nd EUROPEAN NEUROREHABILITATION CONGRESS
in conjunction with the
3rd EUROPEAN TEACHING COURSE ON NEUROREHABILITATION
June 26-28 | 2013 | Intercontinental Hotel Bucharest | Romania

ORGANIZERS

WFNR
World Federation for NeuroRehabilitation

EFNRS
European Federation Neurorehabilitation Societies

The Romanian Society for NeuroRehabilitation

Academia de Stiinte Medicale din Romania
CONGRESS SPEAKERS

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Heinrich Binder /Austria
Dana Boering /Germany
Rudolph Castellani /USA
Stephanie Clarke /Switzerland
Karín Diserens /Switzerland
Wagih El Masry /United Kingdom
Klemens Fehdoroff /Austria
Franz Gerstenbrand /Austria
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Mohamed S. El-Tamawy /Egypt
Paolo Tonin /Italy
Pieter E. Vos /The Netherlands
Johannes Vester /Germany

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Heinrich Binder /Austria
Dana Boering /Germany
Angelo Bulboacă /Romania
Delia Cinteza /Romania
Volker Hömberg /Germany
Dațin F. Mureșanu /Romania
Adriana Sarah Nica /Romania
Gelu Onose /Romania
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Stephen Skaper /Italy
Cristina Tiu /Romania
Johannes Vester /Germany
CONGRESS INFORMATION

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Mob: +40 731 038 429
Fax: +40 21 312 08 85

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Society for the Study of Neuroprotection and Neuroplasticity
Cluj-Napoca, Romania, 33A Teleorman Street, Office phone:
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E-mail:office@ssnn.ro

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

Participants Registration Fee Includes:
Admission to all scientific sessions
during the congress
Conference materials (delegate bag,
final program and abstract book etc.)
Admission to Lunches, Dinners,
Coffee Breaks and Social Program

On-Site Registration
On-site registration will be processed
on a first-come, first-served basis.
Priority will be given to pre-registered
delegates.
Depending on the number of on-site
registered delegates, availability of
congress bags may be limited.

Opening Hours
Wednesday – 26th of June 2013
18:30 – 20:00
Thursday – 27th of June 2013
08:30 – 18:00
Friday – 28th of June 2013
08:00 – 19:00

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

Speaker Ready Room
Speakers are requested to visit the
preview room prior to their lecture and
upload their presentation. Speakers
should bring their slide presentations to
be uploaded for their sessions no later
than 4 hours prior to the session, in
which they are scheduled.

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

Congress Language
The congress language is English.
Simultaneous translation will not be
provided.

Currency
The official Romanian currency is RON

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

Time
The time in Bucharest is
Central European Time (GMT+2)
NEUROREHABILITATION IN EUROPE: WHERE ARE WE?

CONGRESS SPEAKERS

Congress Programme Structure

Wednesday, June 26th, 2013

18.00-19.30  Board meeting of EFNRS /CONCERTO ROOM

Thursday, June 27th, 2013

08.30-09.00    Opening Ceremony
   Address of Romanian Ministry of Health
   Address of the Congress President
   Dafin F. Mureșanu
   Address of the EFRNS President
   Heinrich Binder
   Address of the Program Chairman
   Volker Hömberg

Opening lectures

09.00-09.30  What is neurorehabilitation?
   Attempts of a definition  /David Good (USA)

09.30-10.00  Cognitive Rehabilitation:
   Where are we, where to go?  /Stephanie Clarke (Switzerland)

10.00-10.30  Coffee break
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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>10.30-11.00</td>
<td>Diminished states of consciousness&lt;br&gt;Stephanie Clarke (Switzerland), David Good (USA)</td>
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<td>Nomenclature and Assessment of Diminished States of Consciousness&lt;br&gt;Dana Boering (Germany)</td>
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<tr>
<td>11.00-11.30</td>
<td>Severe disorders in consciousness: diagnosis with fMRI&lt;br&gt;Franz Gerstenbrand (Austria)</td>
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<td>11.30-12.00</td>
<td>Coffee break</td>
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<tr>
<td>12.00-12.30</td>
<td>What are suitable statistical methods in Neurorehabilitation?&lt;br&gt;Is there something beyond conventional RCTs?&lt;br&gt;Johannes Vester (Germany)</td>
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<tr>
<td>12.30-13.00</td>
<td>Stem Cells Alone: The dogma of regenerative medicine challenged by telocytes&lt;br&gt;Laurenţiu M. Popescu (Romania)</td>
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<td>13.00-14.00</td>
<td>Lunch</td>
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<tr>
<td>14.00-15.00</td>
<td>SATELLITE SYMPOSIUM&lt;br&gt;Metabolic modulators in central and peripheral neurological disorders&lt;br&gt;Ovidiu Băjenaru (Romania), Dafin F. Mureşanu (Romania)</td>
</tr>
<tr>
<td>15.00-15.30</td>
<td>Insulin resistance and neurological disorders&lt;br&gt;Ovidiu Băjenaru (Romania)</td>
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<tr>
<td>15.30-16.00</td>
<td>Pleiotropic metabolic modulators – mechanism of action and principles of treatment in neurological disorders&lt;br&gt;Dafin F. Mureşanu (Romania)</td>
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<tr>
<td>16.00-16.30</td>
<td>Coffee break</td>
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<tr>
<td>16.30-17.00</td>
<td>Treatment of moderate severe Traumatic Brain Injury&lt;br&gt;The role of the neurologist in TBI management&lt;br&gt;Pieter E. Vos (The Netherlands)</td>
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<tr>
<td>17.00-17.30</td>
<td>Endeavors and trends in spinal cord injury repair&lt;br&gt;Gelu Onose (Romania)</td>
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<td>17.30-18.00</td>
<td>Multiple Sclerosis: New trends in rehabilitative treatment&lt;br&gt;Józef Opara (Poland)</td>
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<tr>
<td>18.00-18.30</td>
<td>The role of Botox (botulinum toxin type A) in oromandibular dystonia&lt;br&gt;Mohamed S. El-Tamawy (Egypt)</td>
</tr>
<tr>
<td>18.30-19.30</td>
<td>General assembly</td>
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<tr>
<td>20.30-20.30</td>
<td>Dinner</td>
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**Session 2**<br>Chaired by: Franz Gerstenbrand (Austria), Nicola Smania (Italy)

<table>
<thead>
<tr>
<th>Time</th>
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<tr>
<td>15.00-15.30</td>
<td>Rehabilitation of dystonias: pharmacological and non-pharmacological approach&lt;br&gt;Giorgio Sandrini (Italy)</td>
</tr>
<tr>
<td>15.30-16.00</td>
<td>How real is virtual reality for rehabilitation?&lt;br&gt;Friedemann Müller (Germany)</td>
</tr>
<tr>
<td>16.00-16.30</td>
<td>Coffee break</td>
</tr>
</tbody>
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Friday, June 28th, 2013

Session 4
Chaired by: Pieter E. Vos (The Netherlands), Friedemann Müller (Germany)

09.30-09.50
Early Mobilisation out of bed after acute neurological lesion in intensive and intermediate care: options and confines /Karin Diserens (Switzerland)

09.50-10.10
What is the impact of acute treatment on repair/restoration of brain and spinal cord /Heinrich Binder (Austria)

10.10-10.30
Coffee break

10.30-12.00
SATELLITE SYMPOSIUM
The role of multimodal molecules in brain protection and recovery
Chaired by: Dafin F. Mureșanu (Romania), Raul Arizaga (Argentina)

Is there a chance to integrate acute and long term rehabilitation treatment in CNS disorders? /Dafin F. Mureșanu (Romania)

Rethinking Alzheimer’s disease /Raul Arizaga (Argentina)

Chronic traumatic encephalopathy: a case series with review of current understanding /Rudolph Castellani (USA)

12.00-13.00
Lunch

Session 5
Chaired by: W. D. Heiss (Germany), Rudolph Castellani (USA)

13.00-13.20
Motor control and muscle synergies: perspectives for stroke rehabilitation /Paolo Tonin (Italy)

13.20-13.40
Is neuromodulation a useful concept? /Volker Hömberg (Germany)

13.40-14.00
Opening Lecture
Prognostic indicators of neurological recovery following traumatic spinal cord injuries: the role of the neurologist /W. El Masry (United Kingdom)

14.00-14.20
Early Neurorehabilitation
Pieter E. Vos (The Netherlands), Friedemann Müller (Germany)

09.30-10.10
Early Mobilisation out of bed after acute neurological lesion in intensive and intermediate care: options and confines /Karin Diserens (Switzerland)

10.10-10.30
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13.00-13.20
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W. D. Heiss (Germany), Rudolph Castellani (USA)

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Is neuromodulation a useful concept? /Volker Hömberg (Germany)
# Module 1
**Principles of reorganisation and recovery of the nervous system and ways to influence these processes, elementary assessment tools and epistemology of neurorehabilitation**

1. The concept of neuromodulation
   /Dafin F. Mureșanu, Romania

2. The role of theory versus evidence based medicine in advancing rehabilitation science
   /Dafin F. Mureșanu, Romania

3. Basic principles of learning
   /Volker Hömberg, Germany

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# Module 2
**Special aspects in various diseases an nursing**

1. Functional rehabilitation in the management of patients with Parkinson’s disease
   /Ovidiu Băjenaru, Romania

2. Rehabilitation nursing - main integrative approaches - in patients with subacute conditions following severe Central Nervous System lesions
   /Gelu Onose, Romania

3. Effect of functional electrical stimulation on cortical excitability in Parkinson’s disease and chronic stroke
   /C.D. Popescu, Romania

4. Medical rehabilitation for neurogenic bladder after spinal cord injury
   /Delia Cinteza, Romania

5. Therapeutic exercise and fatigue of neurological patient in rehabilitation
   /Adriana Sarah Nica, Romania

6. Voluntary motor control – dysfunction and neurorehabilitation
   /Angelo Bulboacă, Romania

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# Module 3
**Basic structure of rehabilitation, Goal finding and monitoring processes and the health model of rehabilitation**

1. The comprehensive approach of rehabilitation medicine, ethical and legal aspects
   /Volker Hömberg, Germany

2. The bio-psycho-social paradigm of disease understanding and ICF
   /Volker Hömberg, Germany

3. Organisation of the rehabilitation team
   /Dana Boering, Germany
1. Neurological diagnostic tools (neurophysiological, neurosonological imaging) for prognosis and goal definition in neurorehabilitation
   /Heinrich Binder, Austria

2. The peripheral nerve microenvironment: physiology, pathology and therapeutic perspectives
   /Stephen Skaper, Italy

3. Assessment tools and treatment goals for neurorehabilitation in multiple sclerosis
   /Cristina Tiu, Romania

4. The concept of evidence based medicine and design for clinical studies and elementary biometrics
   /Volker Hömberg, Germany; J. Vester Germany

5. Assessment tools for special nursing problems
   /Dana Boering, Germany

4. Goal setting and monitoring of the rehabilitation process
   /Dana Boering, Germany

Lunch

Module 4
Principles of reorganisation and recovery of the nervous system and ways to influence these processes, elementary assessment tools and epistemology of neurorehabilitation

1. Neurological diagnostic tools (neurophysiological, neurosonological imaging) for prognosis and goal definition in neurorehabilitation
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5. Assessment tools for special nursing problems
   /Dana Boering, Germany

JUNE 26th
20.00 Welcome Reception /Fortuna Room, 21st floor

JUNE 27th
07.00 Breakfast /Corso Brasserie, ground floor
10.00-10.30 Coffee Break
11.30-12.00 Coffee Break
13.00 Lunch /Fortuna Room, 21st floor
16.00 - 16.30 Coffee Break
17.30 - 17.45 Coffee Break
20.30 Gala Dinner /Grand Ballroom Ronda, 1st floor

JUNE 28th
07.00 Breakfast /Corso Brasserie, ground floor
10.10-10.30 Coffee Break
13.00 Lunch /Fortuna Room, 21st floor
15.40 - 16.00 Coffee Break
17.30 - 17.45 Coffee Break
20.30 Gala Dinner /Grand Ballroom Ronda, 1st floor
CONGRESS REGISTRATION

For any further information, please contact:

Doria Constantinescu (Mrs.)
Agency Manager

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E-mail: doria@perfecttravel.ro

REGISTRATION FEE

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300 EUR EFNRS Members
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ABSTRACTS
RETHINKING ALZHEIMER’S DISEASE

The last two decades have witnessed huge progress in relation to Alzheimer’s disease. Advances in basic research, biomarkers and neuroimaging, and awareness of risk and protective factors have necessitated a reassessment of the disease. AD occurrence has developed from being a rarity with a “peculiar pathology of the cerebral cortex” to become a problem of high community health impact and it is now essential to modify the diagnostic criteria, looking for the diagnosis in the earliest stages and, ideally, in a presymptomatic phase.

The limitations of symptomatic treatments coupled with the failure of pathogenetic treatments, especially those related to amyloid, and the awareness of the presence of other actors on the stage of AD neurodegeneration, also make necessary a search for new alternatives that can arise from biotechnology.

RAUL ARIZAGA
Cognitive Neurology Unit, Neuraxis Institute, Neurological Foundation, Buenos Aires, Argentina

WHAT IS THE IMPACT OF ACUTE TREATMENT ON REPAIR/RESTORATION OF BRAIN AND SPINAL CORD

Therapeutic measurements in acute treatment of neurological diseases are manifold. They range from interventional to medicamentous to physical procedures. Ultimately its about eliminating or terminating of the varying triggering noxa and the subsequent pathophysiologic cascades converging to apoptosis and cell death at worst. At the time at which patients are presented we are faced with twofold challenges: The pathophysiologic cascade before mentioned is set in motion already on the one side. On the other hand almost always the very original cause is out of the nervous system. To solve either problems simultaneously is the dictate of the moment if indeed possible. All too often one is forced to look for priorities. In particular a matter of survival may force to neglect possible negative consequences of some acute treatments concerning restoration or repair at a later date. This pertains acute cerebrovascular diseases as well as brain and spinal cord injury and neuroinflammatory diseases. It is necessary to be aware of these challenges. Appropriate management is conditional for further effective rehabilitation.

HEINRICH BINDER
Landsteiner Institute for Neurorehabilitation and Space Medicine, Vienna, Austria
Over the last 15 years there was a tremendous development of consciousness science, from the implementation and international acceptance of standardized neurobehavioral assessment tools of disorders of consciousness, especially the Coma Recovery Scale Revised, which uncovered a high rate of misdiagnosis, to sophisticated ancillary techniques as brain imaging and electrophysiological examinations. These enhanced our scientific understanding of recovery of consciousness in the human brain following severe brain damage and demonstrated that patients with little or no behavioral evidence of conscious awareness may retain critical cognitive capacities and harbor latent potential for further recovery.

This raises questions regarding to the phenomenon of “minimal” consciousness: When is minimal consciousness enough to call a patient conscious? What is the moment of no consciousness and how can we objectively measure this in another human being? This problem is emphasized in the renaming of the vegetative state into unresponsive wakefulness syndrome, reminding physicians to remain careful when making inferences regarding consciousness based on behavioral assessment. Furthermore there is a need to give a name to those patients who are behaviorally unresponsive but follow commands like motor imagery tasks as demonstrated by recent brain imaging paradigms.

The talk will encompass the new nomenclature of DSC and give an overview of actual behavioral and ancillary assessment methods available for scientific use, concluding that in the recent years it has become ever clearer that the separate sub conditions: coma, unresponsive wakefulness syndrome, minimally conscious state fit into the percept of gradually recuperating consciousness.

**NOMENCLATURE AND ASSESSMENT OF DIMINISHED STATES OF CONSCIOUSNESS**

**DANA BOERING**

St. Mauritius Therapieklinik Meerbusch, Germany

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**CHRONIC TRAUMATIC ENCEPHALOPATHY: A CASE SERIES WITH REVIEW OF CURRENT UNDERSTANDING**

Chronic traumatic encephalopathy (CTE) is a putative entity associated clinically with various types of head trauma, most notably trauma occurring with participation in sports such as boxing and American football, and pathologically with the accumulation of phosphorylated tau in various distributions inconsistent with aging and Alzheimer’s disease. Recent studies also suggest a link between blast exposure from armed conflicts, and accumulation of phosphorylated tau. Neuropsychiatric associations of CTE include irritability, impulsivity, aggression, depression, short term memory loss, and heightened suicidality. Since there are many unknowns about this entity including the kinetics of progression of pathology and mechanism of injury, we examined the brains of 21 consecutive subjects with unambiguous history of head trauma. Namely, each subject had anatomic evidence of remote cerebral contusion. 10 of the 21 cases showed focal AT8 positive lesions more typical for head trauma (focal astrocytic tau in depth of sulci, focal subpial and perivascular tau) than for age related tau. In one of the 21 cases, remote contusion per se had abundant associated AT8 neuropil threads. In the remaining cases, the contusions were free of AT8 lesions. In another case, a 58 year old woman with history of closed head injury, AT8 pathology was indistinguishable from advanced Alzheimer’s disease. These findings raise the issue of mechanism of “tauopathy” in chronic traumatic encephalopathy, and suggest that a single traumatic event may produce tau lesions as described in CTE. The findings overall indicate that more prospective, controlled studies are necessary before concluding relationships between CTE, concussion, “subconcussive events,” rate of progression, presence or absence of progression, and functional neuropsychiatric syndromes. Nevertheless, given the large numbers of individuals both in civilian and military populations exposed to head trauma, there is now an acute need for both preventative and disease-modifying therapy. One such therapeutic avenue may be Cerebrolysin. Given its pleiotrophic and most notably neurotrophic effects in general, as well as a number of specific studies demonstrating clinical benefit in neurodegenerative disease, stroke, and neurotrauma, Cerebrolysin may modulate the deleterious effects of progressive tauopathy in chronic traumatic encephalopathy, and positively impact clinical outcome in traumatic brain injuries. The additional, possible association between chronic traumatic encephalopathy and a subset of patients with post-traumatic stress disorder (PTSD), suggest that carefully directed prospective studies looking at Cerebrolysin and long term outcome of trauma, may answer additional important questions.

**CHRONIC TRAUMATIC ENCEPHALOPATHY: A CASE SERIES**

**RUDY J. CASTELLANI**

University of Maryland, Baltimore, Maryland, USA
Cognitive deficits have a major impact on social and professional integration of brain-damaged patients. During the last decade we have witnessed striking advances in the understanding of brain organization, the development of diagnostic tools and the accumulation of evidence for efficacy of rehabilitation interventions. Several of these studies point out the necessity to understand better the neural mechanisms which underlie rehabilitation interventions. Training-induced plasticity, as demonstrated in normal subjects for several cognitive domains, may well be at the origin of recovery of cognitive functions following brain damage. However, there is increasing evidence that rehabilitation interventions in brain-damaged patients harness also other, lesion-related mechanisms. Thus, it will be essential to investigate further the organization of specialized networks, their disruption in brain-damage and the effects of rehabilitation interventions on their reorganization.

COGNITIVE NEUROREHABILITATION: WHERE WE ARE, WHERE WE GO?

STEPHANIE CLARKE
Neuropsychology and Neurorehabilitation Clinic at the University Hospital, Lausanne, Switzerland

EARLY MOBILISATION AFTER ACUTE NEUROLOGICAL LESIONS IN INTENSIVE AND INTERMEDIATE CARE: OPTIONS AND CONSTRAINTS

KARIN DISERENS
Department of clinical neurosciences (DNC) at the CHUV in Lausanne, Switzerland

Early mobilisation may reduce the development of medical complications, improve outcome and reduce the length of hospitalisation. These results have been well documented for neurological patients after stroke. Our aims were to define a mobilisation programme and to integrate into a well-coordinated and specialised interdisciplinary acute neurorehabilitation team for stroke treatment. The challenge we focused on was how to improve evaluation and hence prognosis for those patients who remain unstable with disorders of consciousness or critical care illnesses. The introduction of an interdisciplinary Acute Neurorehabilitation Unit in the Department of Clinical Neurosciences in the Swiss University Hospital of Lausanne has resulted in some observations of the workings of such an interdisciplinary approach in the very acute phase of patients with strokes and also in the context of spinal and peripheral nerve lesions and head trauma being cared for in intensive and intermediate care environments. The main principles of acute neurorehabilitation will be presented. These include neurosensory stimulation and verticalisation facilitated by robotic training and brain computer interfaces."
Early prediction of ambulation is important to the patient especially during the early stages following injury. Furthermore nowadays Clinicians are requested to prognosticate early and to advise on the effectiveness of a wide range of currently advertised interventions that claim added value without evidence of superiority of outcomes over the established Active Physiological Conservative Management (APCM).

The prognostic indicators of neurological recovery to ambulation has been extensively studied over the last five decades. Frankel et al in 1969 studied 682 consecutive patients admitted within 14 days of injury. They were able to predict significant neurological recovery to ambulation in many patients with complete motor paralysis of lower limbs (LL) but with sensory sparing. They also demonstrated that patients with initial minimal and useless motor sparing in the LL have even better outcomes. These results were achieved with Active Physiological Conservative Management (APCM) of the spinal column and cord injury as well as the consequent multisystem physiological impairment and malfunction. These results were subsequently confirmed by many groups.

Neurological examination within 72 hours from injury was subsequently found to be of good prognostic value for functional ambulation irrespective of the degree of spinal canal stenosis, encroachment or cord compression, and without any surgical, cellular, pharmacological, biological, chemical, immunological, hormonal or other interventions. I will demonstrate that traumatic spinal canal encroachment, traumatic malalignment and traumatic cord compression do not prevent neurological recovery in patients with clinically manifest incomplete traumatic spinal cord injury.

The distribution of normal or hypoaesthetic pin prick sensory sparing within the first 72 hours of injury is an excellent prognostic indicator of recovery of the myotomes and dermatomes adjacent to the spared dermatomal sparing. In other words a patient with cervical spinal cord injury with complete motor loss below who exhibits sparing of pin prick sensation down to the distribution of C2 dermatome has a 75% chance of walking at six months and over a 90% chance of walking at one year from injury provided the treatment does not damage the patient further.

Similarly a patient with paralysis of wrist dorsiflexion following a traumatic SCI but with preservation of pin prick sensation in the C6 dermatome (Zone of partial preservation) is almost certainly likely to recover motor power in the wrist extensor provided he/she is not damaged by the treatment.

Sadly the current Standard of care has become limited to advice that early surgical decompression gives the patient a better chance of recovering than late surgery ignoring the comparatively much better outcomes of APCM over the early surgically treated patients, which I will demonstrate, and ignoring the fact that surgical decompression is likely to affect spinal cord perfusion pressure negatively.

Furthermore resources are currently being channelled to expensive surgical interventions with decreasing attention being given to the multitude of medical and non medical problems caused by the TSCI. The management of these medical and non medical problems is becoming increasingly fragmented. This is resulting in an unacceptable incidence of complications which are expensive to treat and which in turn result in poor outcomes often affecting patients, their partners, family members, community and those who fund their treatment in both the short and the long term.

Considering the increasing number of surgical and non surgical interventions offered to patients as clinically beneficial or experimentally promising without evidence of superiority over the APCM and considering the relatively small number of patients with TSCI, it is paramount that the Neurologist takes an active interest and asserts himself/herself in the arena of the field of SCI together with the Rehabilitation Specialist.

The role of the neurologist is paramount in both the early initial neurological examination and documentation prior to any intervention as well as the independent evaluation of the neurological outcomes of the Tsunami of surgical and non surgical interventions that have established themselves or indeed about to establish themselves without evidence of superiority over the APCM.

References:

CURRENT PRACTICE IN TREATING UPPER LIMB SPASTICITY: RESULTS FROM A LARGE INTERNATIONAL COHORT STUDY (ULIS-2)

The use of Botulinum Toxin Type A (BoNT-A) has been proven as a safe and effective intervention for reduction of focal spasticity in many randomized, controlled, clinical trials (RCTs). Nevertheless RCTs do not provide informations about ‘real-life’ practice dealing with the heterogeneity of patient presentation and in clinicians’ practice.

The ULIS-II Study

The second Upper Limb International Spasticity (ULIS-II) study was an 18 month, post-marketing, international, multicentre (84 centres in 22 countries), observational, prospective, longitudinal study of the routine use of botulinum toxin A (BoNT-A) in the treatment of post-stroke upper limb spasticity (ULS) using Goal attainment scaling (simplified “GAS-light”-approach, Fig.1) as its primary outcome. The aim was to investigate real-life practice and person-centered outcomes in the treatment of post-stroke upper limb spasticity with BoNT-A.

To reflect real-life practice in this observational study, clinicians consecutively recruited 456 patients with post-stroke ULS aged ≥218 years, in whom the decision for BoNT-A treatment of ULS had already been made. Clinicians were free to choose targeted muscles, BoNT-A preparation, injected doses, number of points and volume for each treatment strategy to develop recommendations on best practice in a comprehensive evidence-based approach. The ULIS-II study is an observational study investigating real-life practice and person-centered outcomes in the treatment of post-stroke upper-limb spasticity with BoNT-A. The ULIS-II study is an observational study investigating real-life practice and person-centered outcomes in the treatment of post-stroke upper-limb spasticity with BoNT-A.

Results: Common primary treatment goals were passive function, active function and pain followed by impairment and mobility. Among the 456 patients, 70.4% received AbobotulinumtoxinA, 21.5% onabotulinumtoxinA and 7.7% incobotulinumtoxinA. Most frequently injected muscles were the long finger flexors, biceps and brachioradialis and the median number of injected muscles was 5 (range 1–15).

The median (range) follow-up time was 14 (2.6–32.3) weeks. Overall, 363 (79.6%) (95%CI:75.3–83.9%) participants achieved their treatment goals (or over-achieved) their primary goal and 354 (78.4% (95%CI:73.1–82.7%) secondary goals were also achieved. Mean (SD) change from baseline in GAS T-scores was 17.6 (11.0) (95%CI:15.4–18.8; p<0.001). GAS T-scores were significantly correlated with global benefit and other standard measures (correlations of 0.38 and 0.63, respectively, p<0.001).

Conclusions: Despite wide variations in the clinical practice of treating ULS with BoNT-A, the large majority of the patients (80%) achieved their treatment goals, providing evidence that BoNT-A injections may contribute to an improvement in the daily life of patients and their caregivers beyond simply improvement of muscle tone or spasticity. Further long-term studies should examine patients’ characteristics, goal areas and treatment strategies to develop recommendations on best practice in a comprehensive evidence-based approach.
SEVERE DISORDERS IN CONSCIOUSNESS: DIAGNOSIS WITH fMRI

A detailed diagnosis of severe chronic disorders in consciousness (DOC) after Acute Brain Injury is essential for clinical and rehabilitative care and decision-making. Recent research showed, that some patients with severe chronic disorders of consciousness (SC-DOC) have partially residual brain functions and therefore a certain level of residual consciousness which cannot be assessed by clinical examination. Beside bedside examination neurobehavioral tests like Coma Recovery Scale-Revised (CRS-R), which rely on the patients’ cognitive and motor ability to communicate, are the most widely used diagnostic tools. With the modern neuroimaging methods, especially functional MRI, objective physiological markers for assessing the state of consciousness are available, but till now they are not fully integrated in clinical routine.

On a group of 20 patients with an Apallic Syndrome the possibility to discover signs of consciousness shall be demonstrated. For the examination with fMRI were somatosensory, auditory and event related paradigms and evoked potentials (EP) were used. Comparing the findings of neurobehavioral diagnostic methods with the results of fMRI 3 out of 15 patients with an Apallic Syndrome, full state or early remission phase showed signs of consciousness, confirming that this patients had higher brain functions. 3 of the 5 patients with an Apallic Syndrome in a defect phase of a remission state, clinically compared with Minimally Conscious State (MCS), showed findings similar to fMRI activation in healthy subjects.

Every diagnostic modality available in each clinical setting should be performed, to minimize diagnostic error. fMRI has the potential to improve and to correct diagnosis in chronic disorders of consciousness. In Apallic patients the findings of fMRI a great help for classification in the different states of remission or for a defect state. The use of fMRI examination would influence the diagnosis of Vegetative State, which till now is used in the American literature with the knowledge of a lack in details and ignoring generally the remission possibility. The results of fMRI can direct the neurorehabilitation program in this most severe neurological conditions. A prognostic value can be assumed.
USEFUL PROPRIOCEPTIVE INTERVENTIONS AFTER STROKE

It has been recently shown that 20 min of mechanical flutter stimulation induces lasting motor cortical excitability changes, as assessed by transcranial magnetic stimulation in relaxed hand muscles. The present functional magnetic resonance imaging (fMRI) study aims to examine if such neuromodulatory changes are reflected in the BOLD signal during a motor test. Therefore, two groups were recruited: one group receiving whole-hand flutter stimulation with a frequency of 25 Hz (FSTIM group, n = 22) and a second group receiving no stimulation (NOSTIM group, n = 22). As motor test (finger-to-thumb tapping was performed to activate a wide sensorimotor network during the fMRI measurements. Three fMRI measurements were obtained with this test: before stimulation (PRE), after stimulation (POST1), and 1 h after stimulation (POST2). Three regions of interest (ROIs) were defined: primary motor area (M1), primary somatosensory area (S1), and supplementary motor area. In the absence of baseline differences between both groups, the FSTIM group showed increased movement-related brain activations compared with the NOSTIM group, both at POST1 and POST2. ROI analysis revealed increased blood-oxygenation-level-dependent (BOLD) responses within contralateral S1 (+20%) and M1 (+25%) at POST1, which lasted until POST2. These poststimulatory effects within S1 and M1 obviously reflect neuroplastic changes associated with augmented cortical excitability. These findings are of high clinical relevance, for example, to improve the treatment of stroke patients.

STROKE DISABILITY IN UKRAINE (10 YEARS EXPERIENCE)

Cerebrovascular disorders (CVD) is second leading cause of disability in Ukraine for working aged population and first for adults. Stroke is the major cause of disability among CVD worldwide, but Ukrainian neurology have some discrepancies in diagnosing CVD group with dominating of chronic cerebrovascular insufficiency, as an archaic item came from Soviet times’ neurology.

Methods: We investigated 10 years (2003-2013) dynamics of stroke disability incidence rates for adult population in Ukraine compared with stroke incidence. Disability grade (official “invalidity” status) in Ukraine is setting according to Ministry of Health Order (no.183, April 07, 2004 and no.561, Sept 05, 2011) based on ICF (2001) principles followed by certain disability pension and some additional disability equipment supply according to disability grade. We collected disability incidence data structure due to stroke and it consequences (ICD X codes I60 – I64 and I69) in Ukrainian regions. We gathered common CVD clinical and disability incidence for the same time period also. Both clinical and disability incidence indices presented for 100 000 population.

Results: Panukrainan stroke (I60-64) disability incidence rate was gradually decreased: 24,2–25,5–25,4–22,5–23,7–20,6–22,1–21,6–21,3–21,7 accordingly, as well as index for stroke consequences (I69): 10,3–10,3–9,4–10,7–12,3–10,8–9,3–8,9–10,1–9,7. Highest rates for stroke disability were observed in city of Sevastopol’ (ranged 59,0–44,9), Kiev (ranged 48,4–23,0), Zaporizhzhe (ranged 36,0–11,6), Mykolayv (ranged 39,0–21,6) regions, stroke consequences – Crimea Republic (ranged 36,6–19,8), Kherson (ranged 30,0–12,1), Poltava (ranged 22,8–8,1) regions. Leading disability cause among stroke types was ischemic stroke. Common CVD disability incidence rates were 37,0–70,0–63,0–56,0–59,0–49,0–45,0–47,0–48,0–46,0 consequently.

Conclusions: revealed data are the subject of further disability epidemiological investigation of poststroke syndromes diagnostic followed disability determination and proper expert-rehabilitation diagnostics as well as general corrections of CVD group diagnostics.
neurorehabilitation is an important area of Neurology, but one that until recently has been relatively neglected. Patients with many different neurological conditions including brain disorders, spinal cord conditions, movement disorders and neuromuscular disorders are candidates for rehabilitation. All of these conditions result in disabilities, loss of participation, and impaired quality of life. In the broadest sense, neurorehabilitation can be defined as a process in which a disabled person reaches the maximum physical, functional and psychosocial recovery possible within the limits of their disability. While this definition is perhaps self-evident, the purpose of this presentation is to give an overview of some of the important developments that are changing the definition of neurorehabilitation.

Early neurorehabilitation was often synonymous with physiotherapy. In the mid-20th century there were many theories of physiotherapy, with treatment techniques based on empiricism and clinical experience. Many studies demonstrated that there was no compelling evidence that one approach was superior to the others. All of these approaches claimed to facilitate motor recovery, as opposed to merely teaching compensatory techniques. This is not to say that compensatory techniques are of no value, and in fact, can be critical for daily function. Nonetheless, as scientifically oriented neurologists, we would prefer interventions that clearly promote beneficial cerebral reorganization and are based on sound scientific principles. This desire has led in recent years to a much more critical approach to neurorehabilitation techniques, and the creation of animal models in which to develop and test new approaches. Work in animal models has extensively explored the concept of plasticity. This is a nonspecific term which has been overused, but the concept that certain environmental conditions and training approaches in animals result in demonstrable changes in physiology at several levels has changed the focus of clinical neurorehabilitation, and has led to a number of clinical trials designed to replicate plasticity seen in animal models.

Unfortunately, identifying optimal animal models can be challenging, but there have been some striking successes. For example, ground-breaking work done by Nudo and colleagues in primates demonstrated that skilled retraining of the stroke affected forelimb resulted in improved function as well as cortical reorganization. This has led to trials of intensive task directed therapy in humans.

Another important development in clinical neurorehabilitation has been the proliferation of well-designed clinical trials. Rehabilitation has been relatively slow to embrace modern experimental methodology. Randomized controlled trials (RCTs) are considered the gold standard of experimental design in medicine but have only recently been used to evaluate rehabilitation techniques. Randomized controlled trials in neurorehabilitation are expensive and challenging to design, and some rehabilitation interventions are hard to study using RCTs. There are a number of other valid trial designs for rehabilitation, and while nonrandomized controlled trials have the potential of introducing bias, they nonetheless can provide interesting and useful information. The RCTs that have received the most attention, are those directed towards motor recovery following stroke and include EXCITE, LEAPS and the VA robot trial. While the results of these trials often raise additional questions, especially regarding practicality and generalizability to large groups of patients, the fact that the trials were successfully accomplished is an important milestone in neurorehabilitation. The magnitude of improvement with these new treatments has been somewhat disappointing, but it does appear that intensive programs and repetitive task oriented approaches are superior to other training approaches.

A significant development in neurorehabilitation over the past 10 years has been the use of sophisticated technology to enhance recovery. A variety of robotic devices for both the upper and lower extremities have been heavily promoted. Outcomes are mixed with some studies showing modest benefit for robotic training over conventional therapy. Nonetheless, studies involving upper and lower extremity robotic devices remain an active area of research.

Physical training has long been a key component of traditional rehabilitation. However, the use of central nervous system stimulation has recently generated a great deal of excitement. The underlying theory is that cortical stimulation modulates cortical excitability and that this may facilitate functional recovery. Direct stimulation using implanted electrodes has been attempted but results thus far have been disappointing. Repetitive transcranial magnetic stimulation (rTMS) has shown an benefit in some studies. More recently transcranial direct current stimulation (tDCS) has been intensively studied for a wide variety of neurologic impairments including paraparesis, aphasia, neglect memory, and dysphagia. Preliminary studies have been encouraging, including those that have combined tDCS with intensive training programs. While a final determination of benefit of cortical stimulation remains unclear, this is an excellent example of how our definition of neurorehabilitation is changing.

Knowledge from basic science approaches may also result in treatments very different from traditional rehabilitation. Two examples are neurogenesis, and cell based therapy (transplantation). Neurogenesis in the subventricular zone may be most relevant. In animal models of brain injury and stroke, cells in this region differentiate and migrate into the area of injury. Unfortunately, the number of cells involved is small, and whether or not they create functional connections is unclear. A number of facilitory molecules, for example epidermal growth factor, might be supportive of neurogenesis and cellular migration. Cell transplantation has been attempted in experimental animals for at least 20 years, and there have been pilot studies of cell transplantation in a number of neurological diseases. The many technical challenges involved in cell transplantation are beyond the scope of this presentation. It is possible that cell transplantation may exert a positive effect by releasing trophic factors, or facilitating existing cellular structures to create a more favorable local environment. How training and experience following transplantation influence functional recovery is still unknown.

With the complete coding of the human genome, there has been a tremendous in-
interest in “personalized medicine.” Our genetic makeup may influence our risk for a variety of diseases, and our response to specific treatment regimens. There is every reason to suspect the genomic revolution will result in findings relevant to rehabilitation. Common polymorphisms in brain-derived neurotrophic factor (BDNF) and catechol-O-methyltransferase (COMT) have been shown to influence the effectiveness of neurorehabilitation following stroke. We are only on the frontier of this exciting area. The basic definition of neurorehabilitation is the same now as it was 20 years ago, but our understanding of the underpinnings of neurologic injury and repair have changed dramatically. Neurorehabilitation is moving from treatments that focus on adaptation and compensation, to increasingly sophisticated treatments based on animal models and well-designed clinical trials. New training techniques are constantly being tested, and are increasingly supplemented by new modalities, such as brain stimulation. It is clear that neurorehabilitation is still in its infancy. Current and future developments will cause us to re-evaluate our definition.

Aphasia, the most disabling functional defect after ischemic stroke, affects more than a third of all stroke victims. It improves during the first 4 weeks in one-third of patients and during the first 6 months in approximately half of them. Early and intensive speech and language therapy (SLT) is the only effective treatment to date but usually is limited in duration and intensity. Therefore, improved and additional treatment strategies are required to improve recovery of language functions.

Poststroke aphasia results from the lesion of cortical areas involved in the motor production of speech (Broca’s aphasia) or in the semantic aspects of language comprehension (Wernicke’s aphasia). Such lesions induce an important reorganization of speech/language-specific brain networks due to an imbalance between cortical facilitation and inhibition. In fact, functional recovery is associated with changes in the excitability of the damaged neural structures and their connections. Two main mechanisms are involved in poststroke recovery: the recruitment of perilesional regions of the left hemisphere in case of small lesions and the acquisition of language processing ability in homotopic areas of the nondominant right hemisphere when left hemispheric language abilities are severely impaired.

The purpose of NICS application in the neurorehabilitation of aphasic patients is to act on specific networks involved in the pathophysiology of language processing and to promote adaptive cortical reorganization after stroke. The rehabilitation of poststroke aphasia refers to two different strategies: the recruitment of perilesional cortical regions in the dominant (left) hemisphere on one hand and the development of language ability in the nondominant (right) hemisphere on the other hand using either iTMS or tDCS. The compensatory potential of the nondominant hemisphere is probably limited and the recovery from poststroke aphasia seems to be more effective in patients who recover left hemisphere networks and left IFG function.

Therefore, the majority of NICS trials in poststroke aphasia aimed to reinforce the activity of brain regions in the left hemisphere. This goal can be achieved by using an excitatory NICS protocol (either intermittent TBS (iTBS) or anodal tDCS) to reactivate the lesioned area or an inhibitory NICS protocol (either low-frequency iTMS or cathodal tDCS) to reduce activities in the contralesional homologous area.

Most conventional iTMS studies employed an inhibitory paradigm (low-frequency stimulation) for the stimulation of the contralesional right IFG (pars triangularis, BA 45) aiming to reduce right hemisphere hyperactivity and transcallosal inhibition exerted on the left Broca’s area. However, most studies concerned isolated clinical cases without any control condition. Improvement of speech performance mainly consists of enhanced fluency in various naming tests. A recent controlled iTMS trials gave further evidence of potential therapeutic benefit of low-frequency iTMS delivered to the right IFG in chronic aphasic patients, but only one pilot study enrolled patients in the postacute phase and combined iTMS with speech and language therapy and followed the activation patterns by PET.

IMPROVED REHABILITATION OF POSTSTROKE APHASIA WITH NONINVASIVE CORTICAL STIMULATION

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EUROPEAN NEUROREHABILITATION CONGRESS

in conjunction with the
3rd EUROPEAN TEACHING COURSE ON NEUROREHABILITATION
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In our controlled proof-of-principle study 30 patients with subacute post-stroke aphasia were randomized to a 10 day protocol of 20 minutes inhibitory 1Hz rTMS over the right triangular part of the posterior inferior frontal gyrus (pIFG) or sham stimulation (followed by 45 minutes of speech and language therapy (SLT). Activity in language networks was measured with O-15-water positron emission tomography during verb generation before and after treatment. Language performance was assessed using the Aachen Aphasia Test battery (AAT).

The primary outcome measure, global AAT score change, was significantly higher in the rTMS group (t-test, P=0.003). Increases were largest for subtest naming (P=0.002) and tended to be higher for comprehension, token-test and writing (P<0.1). Patients in the rTMS group activated proportionally more voxels in the left-hemisphere after treatment than before (difference in activation volume index, AVI) compared to sham treated patients (t-test, P=0.002). There was a moderate but significant linear relationship between AVI change and global AAT score change (r^2 = 0.25, P=0.015).

Conclusions: 10 sessions of inhibitory rTMS over the right pIFG in combination with SLT significantly improves language recovery in subacute ischemic stroke and favors recruitment of left hemispheric language networks. The results of this study indicate that inhibitory 1Hz rTMS over the right pIFG in combination with SLT improves recovery from post-stroke aphasia and favors recruitment of left hemispheric language networks. The proposed protocol sets the stage for larger multicenter trials to further confirm the effectiveness of NBS and to specifically address the influence of lesion location, stimulation site, activation pattern and possibly timing of NBS therapies. Finally, studies directly comparing different NBS modalities are required to determine the most effective and economical treatment strategy under clinical conditions.

A great proportion of efforts in neurorehabilitation in the subacute phase after brain damage is devoted to facilitate plastic changes in the CNS in the direction of functional recovery and repair.

Neuromodulation is the broadest possible general umbrella term to summarize a plethora of different approaches which is coming into widespread use but often only loosely defined.

The lecture will give a critical review on the usefulness of this concept and address the following techniques in more detail:
- Training techniques
- Pharmacological approaches
- Peripheral stimulation and blocking
- Transcranial magnetic and DC stimulation

An attempt for a reasonable unitary concept formation will be presented.
Learning new abilities as well as relearning movements after a stroke or other brain lesions depends on repeating the desired movement frequently. Training highly specific abilities with the help of virtual reality techniques has become a standard in military and air-traffic training due to the high costs of real exposure. Virtual reality (VR) uses computer-simulated environments that can simulate physical presence most often by displaying primarily visual experiences. The display is based either on a computer screen or on special stereoscopic goggles. So far in medicine this technique is more widely used in psychotherapy.

The presentation will focus on various options in rehabilitation. It will show the advantages and problems of the approach and will emphasize solutions already commercially available. However, new concepts of individually targeted exercises as well new technological advances from the gaming industry will also be covered.

**HOW REAL IS VIRTUAL REALITY?**

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**ENDEAVORS AND TRENDS IN SPINAL CORD INJURY REPAIR**

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Background
Integrative emphases regarding limits, detrimental pathways and related targets for neuroprotection/recovery, in SCI
- Morph-functional, inner restrictions of the CNS/spinal cord’s post injury self-repair
- Primary injuries in SCI
- Secondary injuries - patho-physiological events’ cascade - targets for neuroprotection
- Final (irreversible) consequences of SCIs
- Current trends in SCI therapeutic approach:
  - Integrative emphases – clinical/therapeutic connections
  - New/experimental drugs/procedures, including surgical ones

Cell therapies/replacement and Tissue engineering - background
- Medical and social potential
- Spontaneous regeneration phenomena in lower vertebrates
- Brief history of stem cell research
- Stem cells:
  - Definition
  - Classifications
  - Main characteristics & properties
  - Embryonic stem cells
  - Adult stem cells
- Regenerative Medicine
- Tissue engineering
- Neurorestoratology

Regenerative Medicine and Tissue engineering in SCI repair
- Main issues/problems
  - Ethical concerns
  - The availability of suitable stem cells
  - The inhibitory environment of the lesioned SC, especially in chronic SCI (glial scar, cyst formation) grafts fail to survive
  - Immune reactions to allografts/xenografts
  - Regeneration with aberrant reconnections neuropathic pain, spasticity
  - Contamination of the stem cell lines with feeder cells, bacteria and/or transfection with feeder cells genic material
  - High proliferative capacity of ESC cancer risk
- The role of glial scar prevention therapy
  - Cordaneurin/ CordaChron
• Chondroitinase ABC
• Newest related works
• Current status of preclinical and clinical research of stem cells in SCI repair
• Stem cell research at the Teaching Emergency Hospital "Bagdasar-Armean", (TEHBA) Bucharest, Romania
• Olfactory ensheathing glia (OEG) - including of differentiated ones, transplants
• Tissue Engineering in SCI repair
• Polymeric scaffolds used for spinal cord regeneration - properties
• "Smart" biomaterials - characterized by stereospecificity and self-assembling, including at nano-scale processed - bio-scaffolds
• Conceptual and technological breakthroughs: implants built by 3D-(organ)printing
• Combined therapies/procedures

Conclusions
Considering the complexity of SCI pathobiology, it is important to adopt multifactorial/multimodal (combinatory) strategies, that may include:
• (Stem) cell replacement
• Long distance guidance of neural re-growth and re-connection
• Advanced scaffolding/encapsulation (for cells replacement)/tissue re-construction
• Local delivery of neuroprotective/neurotrophic substances (e.g. scar formation inhibitors, growth factors, neurotrophins)
• Surgical: removal of glial scars, posttraumatic cysts; nerve transfers/bridging or neurotization
• Integrated Physical therapy

Key words: spinal cord injury (SCI), neuroprotection, SCI repair, stem cells, regenerative medicine, tissue engineering

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Rehabilitation of patients suffering from Multiple Sclerosis (MS) is one of the most difficult tasks in neurological rehabilitation. MS can cause a variety of symptoms, including changes in sensation, visual problems, muscle weakness, depression, difficulties with coordination and speech, severe fatigue, cognitive impairment, problems with balance, overheating, and pain. MS will cause impaired mobility and long-term disability in more severe cases.

MS primarily affects adults, with an age of onset typically between 30 and 40 years, and is more common in women than in men. The course of MS is difficult to predict, and the disease may at times either lie dormant or progress steadily. Several subtypes, or patterns of progression, have been described. Subtypes are important not only for prognosis but also for therapeutic decisions.

Individuals with primary progressive MS have a more rapid decline in function. Supportive equipment (such as a wheelchair or standing frame) is often needed after six to seven years. However, when the initial disease course is the relapsing–remitting subtype, the average time until such equipment is needed is twenty years.

The earlier in life MS occurs, the slower disability progresses. Individuals who are older than fifty when diagnosed are more likely to experience a chronic progressive course, with more rapid progression of disability.

There is still a need for comprehensive rehabilitation interventions in order to reduce sequelae and symptoms of the disease on personal activities and social participation to achieve the highest possible independence and the best quality of life. The management of general fatigue can be achieved using facilitation - impairment-based approach, while the improvement of general fitness can be achieved due to aerobic exercise by use of a new strategy: task-oriented approach. Timing and setting of rehabilitation interventions should be selected individually.

In review report, based on personal experience (30 years in rehab centre) and recent reports, the new trends in rehabilitation treatment will be described. A special attention to the Uthoff’s phenomenon, aerobic exercise, cooling garment, gait training, hydrotherapy, physical activity and magnetic field stimulation will be paid.

References:
Among functional impairments determined by multiple sclerosis, patients considered walking impairments as the most concerning aspect related to their disease, as this has a strongly impact their daily activities, their quality of life, the employment rate. A combination of simple walking tests and validated questionnaires assessing both patient perspective, and the complete history and examination, are efficient to evaluate and monitor mobility in a clinical setting. Thus, assessing mobility and the effect of interventions on mobility is an important part of MS patient approach. PR-Fampridine is a potassium channel blocker from a new class of drugs in Multiple Sclerosis, with indication for walking improvement in MS patients with EDSS between 4 and 7. In assessing PR-Fampridine effect on WI, a new approach of clinical evaluation has been developed, respectively the Timed Walk Responder definition. In pivotal studies, around 38% patients were TW responders and the effects of PR-Fampridine in this group have been clinically significant on both walking speed (25% improvement on average) and patient-reported measure (MSWS-12). Walking improvement was seen across MS subtypes, baseline EDSS score, walking related symptoms. In real life, walking speed improvement under the therapy with PR-Fampridine is related to improvement of TW responder from status of unlimited household walker to community walker status. PR-Fampridine is a safe and well-tolerated symptomatic treatment, which can bring to MS patients an increase of mobility which is translated in a better quality of their life.

WALKING IMPAIRMENT IN MULTIPLE SCLEROSIS: A NEW PHARMACOLOGICAL APPROACH

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Presumably, 2013 is the year for stem cell–based regenerative medicine. Google for “stem cells” will return more than 20 million results ….During the last decade, the dogma of using only pure stem cells for organ “repair” was progressively set up. Following an old chemical idea (all of all: the pure, the better) most of the therapies used as-pure-as-possible stem cells, but the results are still encouraging. However, this approach does not consider the biological in situ reality, where stem cells act within a special microenvironment (niches). Homing and differentiation of stem cells into specific cells of the organ where they were transplanted remains questionable.

Telocytes (TCs) were described in 2010 as a distinct type of interstitial cells. TCs (visit www.telocytes.com; Wikipedia) are featured by their extremely long cellular prolongations (hundreds of micrometers) termed telopodes (Tps). TCs were found in stroma of many organs. Within interstitium, TCs form a 3D network among the resident cells and blood capillaries, nerve endings and immunoreactive cells. Beyond the ultrastructural portrait of TCs, the immuno-phenotype, gene profile and the microRNA imprint were also described. TCs are key-players in intercellular signaling. TCs in situ and in cell cultures establish close relationships with stem cells. Tps make junctions (adherent type) with stem cells. In addition, by secreting cytokines, chemokines, growth factors, and releasing extracellular vesicles (e.g. shed vesicles containing microRNA) TCs accelerate the differentiation of local stem cells into specific adult cells.

Within many niches (sub-epicardium, lungs, dermis, skeletal muscle, meninges, and choroid plexus near sub-ventricular zone), we found close contacts between stem cells with TCs. We suggest that the tandem stem-cells&telocytes is a better option for regeneration/repair of organs, than stem cells alone. Positive results were already reported.

STEM CELLS ALONE: THE DOGMA OF REGENERATIVE MEDICINE CHALLENGED BY TELOCYTES

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The neurophysiological background of Robotics in Neurorehabilitation is the evidence that intensive training (frequency and duration) and task-specific training improves significantly the neurological outcome. There are several Robotic devices on the market, more or less complex, for upper and lower limbs, with different approaches (Exoskeleton, Endeffector System). Although several critical reports the robotic training seems at least equal to intensive conventional rehabilitative therapy.

In our Rehabilitation Department we started to use Robotic gait training since 2002 and we developed different devices to improve muscle tone and motor control of upper limbs and the trunk. The clinical experience and the data will be discussed.

OVERVIEW OF SCIENTIFIC DATA AND OUR CLINICAL EXPERIENCE IN ROBOTIC THERAPY

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The dystonias are a heterogeneous group of hyperkinetic movement disorders characterised by involuntary sustained muscles contraction that lead to abnormal posture and repetitive movements.

The classification of these disorders is yet argument of debate. The main subgroups include generalised vs focal dystonias, primary vs secondary forms.

Dystonia can occur also as a feature of the neurological disease, Parkinson disease and Parkinsonism in particular.

Pathogenetic mechanisms involved are complex and abnormal sensory-motor cortex excitability has been demonstrated. On the basis of these evidences, several innovative approaches were proposed, including technique for deep stimulation. Recently it was suggested that neurostimulation (rTMS, TDCs) could be useful for treating these patients.

In focal dystonias Botulin Toxin represents the first choice. A concomitant rehabilitation program increases the efficacy of the treatment and significantly reduces the pain scores.

Axial disorders in Parkinson disease area common feature. A specific rehabilitation approach and a concomitant botulinum toxin treatment can significantly improve the range of motion, posture and pain.

REHIBILITATION OF DYSTONIAS: PHARMACOLOGICAL AND NO-PHARMACOLOGICAL APPROACH

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Department of Neurology and Neurorehabilitation, Institut of Research C. Mondino Foundation, University of Pavia, Pavia, Italy
The Role of Botox (Botulinum toxin type A) in Oromandibular Dystonia

Oromandibular dystonia is a focal dystonia affecting muscles of the jaw, mainly of 2 types: open mouth and closure mouth dystonia. Before the introduction of Botox in the management of this disorder it represented a really intractable problem. In closure mouth dystonia the following muscles should be injected bilaterally: masseter, temporalis, medial pterygoid. On the other hand, in open mouth dystonia the following muscles should be injected bilaterally: lateral pterygoid, anterior belly of digastric and myelohyoid. The effect will start within 2 weeks and lasts for 6 months on the average. The exact dose and site of injection per each muscle will be discussed, in addition to case presentation.

Mohamed S. El-Tamawy
Cairo University; Egypt

In the past, many confirmatory trials in neurorehabilitation failed due to adherence to a single outcome approach. Multidimensional analysis opens a completely new direction for clinical and statistical thought in neurorehabilitation, which is perhaps much closer to the complicated reality of recovery from a nervous system injury than the previous, “one-criterion paradigm” of clinical trials. It is thus fortunate that new data analysis procedures are now available that are appropriate for the multidimensional concept. These procedures are robust with respect to every data situation and highly efficient with multiple target criteria. Furthermore, these procedures produce easily interpretable results (global test as well as global treatment effect). Examples from the literature and current study designs in neurosciences are discussed and their implications related to future developments.

Johannes Vester
Senior Consultant Biometry and Clinical Research
idv - Data Analysis and Study Planning, Germany
Traumatic Brain Injury (TBI) encompasses the functional disturbances and structural damage of the brain caused by direct impact, by external acceleration, deceleration and/or rotation forces to the head. In moderate/severe traumatic brain injury a dominant view is to prevent and treat secondary brain damage. This is based on a single pathophysiological concept which states that the (duration of) elevated intracranial pressure is related to decreases in cerebral bloodflow causing brain ischemia. Classical post mortem studies have consistently demonstrated ischaemic damage and that the volume of ischaemic tissue is related to worse outcome.

However what has somehow neglected for years is that in terms of pathophysiology, anatomical localization and extent of the damage TBI can be very heterogeneous. Impact to the head on one end of the spectrum may induce large focal cortical lesion(s) like hematomas and contusions in or near the cortex (in 30%), while at the other end pathology may consist of diffuse widespread microstructural subcortical lesions of the white matter (diffuse axonal injury or traumatic axonal injury) (in 50%). In 20% combined focal and diffuse pathologies are found. The cellular and molecular biochemistry involving different genes underlying focal and diffuse lesions is very different which has significant implications for recuperation of brain tissue.

The single pathophysiological concept approach of TBI has resulted in a scarcity of successful evidence based strategies and in a complete lack of randomized controlled trials of targeted drug interventions with a positive effect on mortality and long term outcome. But a positive change emerges because of: 1) Increased awareness of the fact that TBI is a disease (and not merely an incident) that may lead to chronic disability and reduced quality of life years and enormous societal costs. 2) The appearance of systematic reviews and guidelines stating that TBI may benefit from an evidence based interdisciplinary approach to improve early conventional management and rehabilitation. 3) The use of new MRI techniques like DWI, SWI & DTI in the acute stages of TBI demonstrating the pathological heterogeneity of TBI which may open ways for new drug intervention studies. 4) Finally it is increasingly recognized that outcome may be influenced by other factors than injury alone and that the patients’ previous history or pre-injury characteristics may modify the response of injured individuals.

3rd EUROPEAN TEACHING COURSE ON NEUROREHABILITATION

ABSTRACTS
Disability in patients with Parkinson’s disease is the consequence of impairment of normal behaviour, including motor and non-motor symptoms, due to specific neurodegenerative lesions in multiple areas of the brain, implying dysfunctions mainly (but not only) in the cortico-striatal and cortico-diencephalic circuits. Based on the more recent data concerning the pathophysiology of habitual and adaptive behaviour in normal and PD patients, we understand better a more reasonable approach in the management of these patients, including particular methods of functional rehabilitation associated to drug and surgical (in some advanced cases) treatment.

Neurological diagnostic tools (neurophysiological, neurosonological imaging) for prognosis and goal definition in neurorehabilitation

Prognosis and goal setting are two sides of the same coin. One represents the passive, the other active view. To venture a prognosis in the acute stage of a neurological disease like stroke or brain trauma is similarly a forecast in April. Statistics doesn’t help in a given case. So we firstly depend on personal clinical competency and experience. It matters undoubtedly but errors cannot be ruled out. Therefore great efforts were made to enable to make statements as accurate as possible. Naturally we try to avail ourselves the most objective methods. But whatever we try – neuroimaging, neurophysiologic or laboratory examinations – it was possible to improve the predictions indeed but a sound portion of uncertainty is still remaining. This applies above all for the acute stage. But as time goes by collecting repeatedly ascertained data the probability value comes increasingly true. Goal setting is based on monitoring over time the course of clinical development as well as the data collection. Consecutive rehabilitative measurements have to be adjusted accordingly.
GOAL SETTING AND MONITORING OF THE REHABILITATION PROCESS

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

To promote patient participation in this process and encourage collaboration, the use of formal goal-setting procedures in health care has been recommended.

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

THE ORGANISATION OF THE REHABILITATION TEAM

A key aspect of neurological rehabilitation is that it cannot be carried out by medical practitioners alone; it requires the active participation of a whole range of professionals in an interdisciplinary approach: The Rehabilitation Team, a multiprofessional task force working constantly together to attain the common challenge of in-patient rehabilitation.

There is broad evidence that a rehabilitation team can achieve functional benefit for the disabled person above a collection of individuals working together as a group. Benefits of team work: improved communication, sharing knowledge between different disciplines, more consistent goal oriented approach, better continuity of care, provision of stimulating environment to improve motivation and increase individual effectiveness, creation of an esprit de corps that leads to a mutually supporting atmosphere.

The talk will encompass psychological aspects of team development, team functioning dimensions, team structure, work context, communication tools.

It will emphasize what requires a good rehabilitation team: on the one side the combination of stability fostering structures and proceedings like a sophisticated conceptual groundwork for everyday work, clearly defined processes, good communication and documentation; on the other side innovation fostering structures and proceedings like transdisciplinary teams, transformational leadership, interprofessional education and supportive hospital culture.

ASSESSMENT TOOLS FOR SPECIAL NURSING PROBLEMS IN EARLY REHABILITATION

Early rehabilitation involves a complexity of medical, nursing and therapeutic tasks under ICU typical conditions requiring special skills from all the members of the therapeutic team.

Nursing in early rehab implies in addition to genuine nursing tasks a diversity of therapy skills such as positioning, mobilisation, electrical therapy, multimodal stimulation.

Assessments are a very important tool of evidence based practice.

The most frequently used assessments in early rehabilitation will be presented. Special aspects of everyday nursing practice assessments and especially genuine neurorehabilitative nursing therapy skills will be specified focusing on the Checklist of Therapeutically Nursing of the German Neurorehabilitation Society.

A very important aspect of daily work in early rehabilitation concerns patients with disorders of consciousness. The new nomenclature of DOC, elaborated 2010 by the European Task Force will be itemized. The state of affairs in the assessment of DOC patients will be presented with a special focus on the Coma Recovery Scale Revised which will be video demonstrated.

The problem of pain assessment in DOC patients will be discussed and the Nociception Coma Scale Revised will be presented.
Our objective is to give an overview of functional recovery after central nervous system injury. We discuss the current understanding of cerebral cortex areas and their descending pathways to voluntary motor control. Primary motor cortex and non-primary motor cortical areas are presented as a flexible control for voluntary movement, with an inherent capacity for reorganization. In part, this capacity arises from the intrinsic organization of cerebral cortex.

With the development of imaging techniques such as computed tomography and magnetic resonance we have possibility to examined the relationships between lesion size, lesion location and motor function. The degree of motor impairment and recovery of function cannot be predicted by just lesion size or location. Functional recovery can be better predicted by determining what percentage of the cortico-spinal system is affected (by MRI tractography). In our opinion, lesion size, lesion location and spared territories interact in a complex manner to affect not only motor impairments, but the plastic reorganization and recovery.

In summary rehabilitation professionals should evaluate what areas and tracts remain intact after brain injury, as well as assessing lesion location and size.

**VOLUNTARY MOTOR CONTROL – DYSFUNCTION AND NEUROREHABILITATION**

ANGELO BULBOACĂ

University of Medicine and Pharmacy “Iuliu Hatieganu”, Cluj Napoca, Romania

After spinal cord injuries (SCI) the coordinating bladder filling and emptying is lost and most of the patients have some degree of bladder dysfunction. This is a very disabling condition, medically, physically and socially. The urinary incontinence, often associated with frequency and urgency, is one of the troublesome symptoms.

There are two main types of bladder dysfunction after SCI: a) detrusor hyper-reflexia, often associated with detrusor-sphincter dyssynergia, and b) detrusor areflexia. The most important complications are the recurrent urinary tract infections, stones and the renal failure.

The goals of the therapy are: to relieve the symptoms (through enhancing bladder volume while lowering bladder pressure) and to empty regularly the bladder. The further benefits for the patients are a lower risk for renal damage and the enhance of the quality of life.

Rehabilitation medicine uses pharmaceuticals and physical therapy in order to achieve these aims.
Historically the concept of evidence based medicine is going back to the French encyclopedist of the 18th century. The first medical application of such an approach will be shown. The different levels of evidence will be introduced and the general properties of randomized controlled trials and their aggregation in metaanalyses will be demonstrated.

The ways how to read such metaanalyses and possible pitfalls in their interpretation are demonstrated and discussed.

In addition a critical epistemological discussion about the usefulness of the concept of evidence based medicine in neurorehabilitation in contrast to concepts of individualized medicine will be presented and e.g. alternative ways as e.g. the design of Number of 1 studies as an alternative to group designs will be introduced.

Finally a systematic review of treatments based on evidence based medicine which today are widely used in neurologic rehabilitation will be reviewed.

**COURSE IN NEUROLOGIC CLINICAL EXAMINATION**

In this course the art of a rational neurological examination will be taught:

More than in any other clinical disciplines in clinical neurology clever history taking and examination are the most informative source of information for the clinician. This is of course due to the fact that structure and function of central and peripheral nervous system are clear and informative as to the possible underlying disease problems.

Clinical skills for optimal examination of cranial nerves, motor and sensory functions and screening approaches for cognitive and linguistic analysis will be presented. So the students will soon learn that neurologic examination is much more than just looking at “reflexes”.

Also fields notoriously estimated as being difficult (such as eye movements, nystagmus, diplopia etc.) will not be spared but elucidated in an “easy to understand and remember” mode.

**THE CONCEPTS OF EVIDENCE BASED MEDICINE AND DESIGN FOR CLINICAL STUDIES**

Historically the concept of evidence based medicine is going back to the French encyclopedist of the 18th century. The first medical application of such an approach will be shown. The different levels of evidence will be introduced and the general properties of randomized controlled trials and their aggregation in metaanalyses will be demonstrated.

The ways how to read such metaanalyses and possible pitfalls in their interpretation are demonstrated and discussed.

In addition a critical epistemological discussion about the usefulness of the concept of evidence based medicine in neurorehabilitation in contrast to concepts of individualized medicine will be presented and e.g. alternative ways as e.g. the design of Number of 1 studies as an alternative to group designs will be introduced.

Finally a systematic review of treatments based on evidence based medicine which today are widely used in neurologic rehabilitation will be reviewed.

**THE BIO – PSYCHO – SOCIAL PARADIGM OF DISEASE UNDERSTANDING AND ICF**

Medicine today uses a standardized international classification of diseases (ICD). In acute medicine treatment and diagnoses of a particular disease entities, which are defined nosologically are the most important points.

As already mentioned in module 1 in rehabilitation medicine the problem is some different: Here in the foreground of interest of physicians and patients is the ability of the patient to do particular things i.e. to find descriptors for the actual abilities, function and chances of participation for the patient.

To make also such a classification comparable on an international level and find sort of a “micro language” to describe such differences in function and abilities the world health organization (WHO) has suggested to use a standardized international classification of function (ICF).

The ICF differentiates

1. Body functions and structures
2. Activities
3. Participation

In the course of rehabilitation there is a transition from the acute medical treatment of body structures and body functions towards a more functional activity and participation related view. Within the ICF nine chapters of different activities can be differentiated from elementary mobility to major live areas as social, civic and religious activities. Within each domain (e.g. mobility) activities can be further sub defined into sub categories:

It will be demonstrated how ICF classification can be institute to describe rehabilitation process. Furthermore it is critically discussed in how far the micro language of ICF really reflects the patients’ ambitions and needs in the rehabilitation process.

It is important to note that the ICF tries to reflect a bio-psycho-social model of disease rather than a pure biological understanding.
THE COMPREHENSIVE APPROACH OF REHABILITATION MEDICINE, ETHICAL AND LEGAL ASPECTS

In acute medicine there is a clear nosological definition of a disease followed by a set of diagnostic procedures leading to a treatment approach directed towards the known properties of this disease. Therefore the entire treatment process is centered around the diagnosis and nosological entity and in some sense monodimensional.

In contrast in rehabilitation medicine a much more comprehensive multi-faceted approach has to be used. The entire social and environmental circumstances and tradition in which the individual patient is embedded has to be taken into account. Treatment is not marshalled according to a particular diagnosis but rather oriented on the balance between what the patient is able to do and is not able to do in particular domains of behavior. These domains today can be described by the use of the international classification of functions (ICF) (see module 2). Therefore rehabilitation needs a specialized way of looking at the necessary assessment of the patient, describing the patient’s needs and goals and try to find a compromise what goals can be achieved in a particular condition and giving a particular behavior repertoire the patient has access to.

In this module furthermore legal and ethical aspects will be described as well as short overview will be given about different structure of rehabilitation approaches in neurology across Europe. In this respect it is also important to define the relative roles of physicians in neurology and physical medicine/rehabilitation contributing to the definition of neurorehabilitation procedures.

BASIC PRINCIPLES OF LEARNING

For the rehabilitation of motor function an elementary understanding about the processes of motor learning is important. Within the last decade there has been a dramatic change in the paradigm of motor rehabilitation concepts and techniques.

In this module elementary aspects of motor learning especially of learning by repetition and feedback will be demonstrated. Also the key behavioral and psychological basic science elements contributing to our modern understanding of motor learning will be described. Furthermore the neurobiological foundation of motor learning process as well as the brain areas involved in learning by doing, imagery and imitation will be discussed.

Finally examples will be given in how far knowledge about motor learning principles in general over the last two decades has been implemented into reasonable motor retraining strategies such as the forced use approach or the use of auditory pacing (e.g. neurological music therapy).

Students will also be invited to practical exercises in designing “new” possible motor rehabilitation strategies based on elementary knowledge about motor learning.
Central Nervous System lesions (CNS) usually generate severe impairment or even loss of basic functions: voluntary/active motility, balance, muscle eutone, sensitivity, sensory, consciousness/cognition, communication, behavior/personality, swallowing, micturition and/or defecation control, sexuality. They are devastating, especially because they are (at least partially) frequently irreversible and also, not rarely, life-threatening. They are usually associated with serious co-morbidities, emerging from: cardiovascular, respiratory, metabolic and/or psychic disturbances, tissue dystrophy (propensity to pressure sores), urinary tract infections (chronic/recurrent) and respectively psycho-social/family subsequent troubles.

Basic approaches of such patients are the complex (supportive and assistive) care, in conjunction with long term rehabilitation programs.

Generally, the multitude of prophylactic/therapeutic/rehabilitative - including of related comprehensive cares/nursing kind - measures, are/remain, on long-term, intricate but with subtle nuances of qualitative and quantitative type - evolution/minute assessment based.

All Rehabilitation Nursing (RN) assistance, for a CNS lesioned patient, must be run since his/her admission into a hospital NeuroRehabilitation unit and has to continue as long as it is necessary - sometimes: life-long.

The main integrated measures (intricate with prophylactic and/or therapeutic components) of RN, to be approached are: continuous inspection of patient skin, turns into bed, anti latch, respectively stretching and anticipative posturing, passive/assisted active limb mobilization, appropriate methodological massage, gastro-enteral feeding, bronchial drainage/expectoration maneuvers, assistance of the process to evacuate urine or/and stools/bladder/bowel training, central hyperthermia or/and hypothermia or respectively, small “indirect” sight, and/or sleep disturbances, and/or agitation counteract - if the case - progressive verticalization/standing/balance training, transfers and wheelchair use instruction, psychological communication, sanitary specific education.

As long as the patient remains in bed, on medical rest indication, the mentioned measures prevail. To these ones are progressively added physical - kinetological, including occupational therapy, on indication - and if necessary, swallowing, cognitive and/or communication therapeutic/rehabilitative specific approaches, towards the “switch” from utmost RN to mainly effectively rehabilitative programmes, when possible.

Key words: Central Nervous System lesions, Rehabilitation Nursing, integrative approaches
Selected references:

10. Onose G, Șpănu A. et al. - Our Experience on Intermittent catheterisation (IC) in post SCI patients with neurogenic bladder, using hydrophilic related devices – preliminary results – paper (F343) accepted to be presented at the 6th World Congress of the International Society of Physical Rehabilitation Medicine (ISPRM), San Juan, Puerto Rico, USA, June, 2011

Functional electrical stimulation (FES) is a relatively new rehabilitation method that aims to substitute or support the command/control centers in the central nervous system in order to generate a functional activity. It has been proven to be effective in improving different parameters of gait or motor function in stroke patients, multiple sclerosis and, more recently, in Parkinson’s disease. Its impact on cortical excitability and motor systems’ function has been studied in different settings, showing that FES training is capable of inducing changes of the reactivity patterns both in normal subjects and neurological patients. We have studied the impact of FES training on cortical excitability as assessed through transcranial magnetic stimulation in stroke patients and in Parkinson’s disease. FES has shown slightly different effects on cortical reactivity in stroke patients, depending on the type of stimulation. In PD (disease that involves imbalances in the cortico-subcortical excitation and inhibition processes), FES can reduce bradykinesia when supplementing levodopa therapy. Improvement of cortical excitability in both hemispheres, following unilateral upper limb FES, is an effect more obvious in PD patients due to the disruption of intracortical and interhemispheric inhibitions.

Keywords: functional electrical stimulation, transcranial magnetic stimulation, gait, motor symptoms improvement, stroke, Parkinson’s disease

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The endoneurial microenvironment, delimited by the endothelium of endoneurial vessels and a multi-layered ensheathing perineurium, is a specialized milieu intérieur within which myelinated and unmyelinated axons, associated Schwann cells, and other resident cells (fibroblasts, mast cells, and microvessels surrounded by pericytes) of peripheral nerves function. Regulation of the endoneurial microenvironment is achieved by two specialized interfaces: blood-nerve barrier (or blood-nerve interface) formed by endoneurial microvessels, and the perineurium. The endothelium and perineurium restrict as well as regulate exchange of material between the endoneurial microenvironment and the surrounding extracellular space. Input to and output from the endoneurial microenvironment occurs via blood-nerve exchange and convective endoneurial fluid flow. If capillary permeability to albumin increases slightly, endoneurial albumin concentration will rise and thus draw more fluid from the vascular compartment into endoneurial interstitium. The resulting endoneurial edema will elevate endoneurial hydrostatic pressure, which can negatively impact nerve conduction. From this perspective, pathophysiological changes of the nerve microenvironment can be viewed as a consequence of altered endoneurial homeostasis. In this regard, it is proposed that mast cells may play an underappreciated role until now. Mast cells are bone marrow-derived, tissue resident immune cells that participate in a variety of allergic and other inflammatory conditions. In most tissues, mast cells are found in close proximity to nerve endings of primary afferent neurons that signal pain (i.e. nociceptors) and also within the endoneurium. Activation of mast cells causes the release of a plethora of mediators (e.g. histamine, serotonin, heparin, proteases, pro-inflammatory cytokines, eicosanoids, chemotacticants) that can activate these nociceptors and promote pain. Further, mast cell activation can provoke edema in nervous tissues and, conceivably, contribute to the dynamic nature of the blood-nerve interface including nerve conduction block and neuropathic pain. Moreover, mast cell action can be amplified via interaction with microglia. Inhibiting mast cell (and microglial) activation could thus be of therapeutic benefit in peripheral neuropathies. In addition to ‘man-made’ agents which are able to inhibit microglia or mast cell activation, Nature has endowed us with built-in mechanisms designed to respond to external stressors and restore homeostatic balance. One such pathway involves the N-acylethanolamines, a class of naturally occurring lipid mediators produced on-demand within the lipid bilayer. Amongst the N-acylethanolamines, N-palmitoylethanolamine (PEA), in particular, is increased in tissues in situations of neuroinflammation and chronic and neuropathic pain. Micronized/ultramicronized PEA has been demonstrated to possess anti-inflammatory and anti-hyperalgesic actions pre-clinically, and to be efficacious as well in clinical pain studies.
2nd EUROPEAN NEUROREHABILITATION CONGRESS

THE CONCEPT OF EVIDENCE BASED MEDICINE AND DESIGN FOR CLINICAL STUDIES AND ELEMENTARY BIOMETRICS

The primary goal of the teaching course is to provide non-statisticians with a basic understanding of the interconnections and relationships which are important in practice and the ability to implement and apply this basic knowledge in the proper interpretation of study results.

The teaching course will address the following issues:


2. Evidence-based medicine: Basic concept. From effect sizes to quality of evidence. Biometric key points of the GRADE system. Interpreting strength of recommendations.

3. Quality assurance in clinical studies: the impact of center quality and modern risk-based approaches as basis for high precision RTCs in neurosciences.

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

CURRICULUM VITAE

RAUL ARIZAGA
/Argentina

1983: M.D. at the Faculty of Medicine of University of Medicine and Pharmacy “Carol Davila” Bucharest
1989: specialist in neurology, confirmed by the Ministry of Health of Romania
1993: Ph.D. at the University of Medicine and Pharmacy “Carol Davila” Bucharest
1999 (since): Professor of Neurology at the University of Medicine and Pharmacy “Carol Davila” Bucharest
2000-2004: Vice-Dean of the Faculty of Medicine - University of Medicine and Pharmacy “Carol Davila” Bucharest
2005 (since): President of the Romanian Society of Neurology
2003-2009: member of the Scientific Committee of ECTRIMS
2004-2009: Member of the Executive Committee of the European Society of Neurology
2008 (since): Romania official delegate in UEMS – EBN (Board of Neurology)

*sept. 2010: elected Secretary of the Executive Committee of UEMS-EBN

2011 (since): Director of Department of Neurology. Neurosurgery and Psychiatry of the University of Medicine and Pharmacy “Carol Davila” Bucharest

Post graduate training:
1992 - 1994: post graduate training in clinical neurology and functional investigations of the nervous system at University “Rene Descartes” (Paris)

Fields of interest for the scientific research:
- stroke, dementia and neurodegenerative diseases (in particular Alzheimer and Parkinson’s disease), multiple sclerosis
- more than 300 scientific papers published and reported in different national and international scientific meetings, 5 medical books and monographies (published in Romania), co-author (1 chapter) to the “International Neurology - A Clinical Approach”, Wiley-Blackwell, 2009; Principal Investigator in 12 research grants from the Romanian National Council for Science and Research, Country Principal Investigator in an International Program of Research for genetic factors in stroke patients, Country Principal Investigator – in more than 30 international, multicentric clinical trials; Principal Investigator of the research site – in more than 30 international and national multicentric trials

OVIDIU BĂJENARU
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1983: M.D. at the Faculty of Medecine of University of Medecine and Pharmacy “Carol Davila” Bucharest
1989: specialist in neurology, confirmed by the Ministry of Health of Romania
1999 (since): Professor of Neurology at the University of Medicine and Pharmacy “Carol Davila” Bucharest
2000-2004: Vice-Dean of the Faculty of Medecine - University of Medecine and Pharmacy “Carol Davila” Bucharest
2005 (since): President of the Romanian Society of Neurology
2003 – 2009: member of the Scientific Committee of ECTRIMS
2004 - 2009: Member of the Executive Committee of the European Society of Neurology
2008 (since): Romania official delegate in UEMS – EBN (Board of Neurology)

Post graduate training:
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Fields of interest for the scientific research:
- stroke, dementia and neurodegenerative diseases (in particular Alzheimer and Parkinson’s disease), multiple sclerosis
- more than 300 scientific papers published and reported in different national and international scientific meetings, 5 medical books and monographies (published in Romania), co-author (1 chapter) to the “International Neurology - A Clinical Approach”, Wiley-Blackwell, 2009; Principal Investigator in 12 research grants from the Romanian National Council for Science and Research, Country Principal Investigator in an International Program of Research for genetic factors in stroke patients, Country Principal Investigator – in more than 30 international, multicentric clinical trials; Principal Investigator of the research site – in more than 30 international and national multicentric trials
HEINRICH BINDER  
/Austria

EDUCATION:

1965 - 1972  Faculty of Medicine at the University Vienna  
MD since (promotion on) 1972, June 6th

1972 - 1978  University Hospital for Neurology,  
graduated in Medical Specialist for Neurology and Psychiatry

9/1982  Docent for neurology, a title corresponding to PhD

since 1988  Professor for Neurology, University Vienna  
founder member of the Austrian Society for  
Neurorehabilitation

5/1989  Head of the Neurological Hospital  
"Maria Theresien-Schlössel"

1994-2007  Head of Ludwig Boltzmann Institute for Restorative  
Neurology and Neuromodulation

Since 2008  Deputy Head of Landsteiner Institute for  
Neurorehabilitation and Space Medicine

since 2002  Head of the Neurological Center, Otto Wagner Hospital,  
Vienna  
Main focus: Patients with severe neurological/  
neuropsychological deficits and invasive neurorehabilitation methods

currently

President of  
• Austrian Society for Neurorehabilitation (DEGNR)  
• European Federation NeuroRehabilitation Societies (EFNRS)

Member of  
• Management Committee of the World Federation NeuroRehabilitation (WFNR)  
• Managing Board of the International Danube Symposium  
• Editorial Board of "Journal of Medicine and Life":

Chairman of  
• Special Interest Group/WFNR “Spinal Cord Injury”  
• Special Interest Group/WFNR “Early Rehabilitation”  
• Scientific panel/EFNS “Brain recovery and Rehabilitation”  
• Scientific Branch / International Danube Symposium: “NeuroRehabilitation”

Main topic of research: Neurorehabilitation, brain injury, spinal cord injury, vegetative state/ apallic syndrome  
(more than 140 publications)

DANA BOERING  
/ Germany

Education:

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

Academical qualifications:

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

Employment:

St. Mauritius Therapieklinik Meerbusch since 2002  
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  
2009 Collaboration with the Coma Science Group Liege/Belgium  
2010 Collaboration with the Neuroradiology of the Wake University Winson- Salem U.S.A. in a study  
on network properties of DOC patients

85
Angelo Corneliu Bulboaca is Professor of Neurology at University of Medicine and Pharmacy of Cluj Napoca and Chief of Clinical Department of Neurology in the Rehabilitation Hospital Cluj. Born in February, 22 1950, he graduated University of Medicine and Pharmacy of Cluj Napoca in 1976. Professor Bulboaca is member of Romanian Society of Neurology affiliated to European Society, International Neuropathology Society, American Academy of Neurology, and Vice-president of the Romanian Society for the Study of Neuroprotection and Neuroplasticity. Domains of interest include vascular cerebral pathology, multiple sclerosis, degenerative pathology, muscular pathology. He published 41 papers in country and abroad and is author in two monographies, co-author in a student’s course and co-author in a monography. He participates also in 6 international studies as investigator.

OCCUPATION OR POSITION HELD
Head of neurological rehabilitation department

MAIN ACTIVITIES AND RESPONSIBILITIES
Coordinating department’s activities

NAME AND ADDRESS OF EMPLOYER
National Institute of Rehabilitation, Physical Medicine and Balneoclimatology, Bucharest, Romania
2, Șf. Dumitru Str., Bucharest, Romania

TYPE OF BUSINESS OR SECTOR
Health, research and medical education

DELIA CINTEZĂ
/Romania

Personal Skills and Competences
General sonography
Musculoskeletal sonography
Electromyography
Doppler ultrasound for peripheral vessels
Laser Biostimulation
Health Service Management
- Project manager and partner project manager for National Research Program projects

- Main investigator for international multicentric studies

  General sonography

  Musculoskeletal sonography

  Electromyography

  Doppler ultrasound for peripheral vessels

  Laser Biostimulation

  Health Service Management

  Project manager and partner project manager for National Research Program projects:

1. Method and software for the determination and interpretation of plantar footprint - CALIST Program, 2004-2006; INRMFB


5. Upgrading of research infrastructure in order to test the therapeutic ability of natural factors of immunological studies spas, cell biology and physiology made by specialized laboratories of the Institute for Rehabilitation, Physical Medicine and Balneoclimatology - Program 2 Capacity, Module 1 - Contract no. 34/2007, Spa, 2007-2010, INRMFB

- Main investigator for international multicentric studies:

1. International multicenter clinical trial, double blind, placebo-controlled for analyzing the effectiveness of new therapies to treat neuropathic pain – 2005-2007

2. Duloxetine 60 mg once daily versus placebo in the treatment of patients with osteoarthritis knee pain – 2009-2010

3. A 12-week randomized double-blind placebo controlled trial to evaluate the efficacy and safety of prucalopride in subjects with chronic non-cancer pain suffering from opioid induced constipation – 2010-2011

Participant in some national and international research program and projects:

1. ICF Core Sets multicenter validation study: Validation of the ICF Core Sets for chronic Low back pain (International program) 2006-2007

2. ICF Core Sets multicenter validation study: Validation of the ICF Core Sets for chronic widespread pain from the perspectives of physicians (International program) 2007-2008

3. Medical and biological study for innovative therapeutic use of natural factors in cave and saline mines - Studiu complex medicobiologic in vederea utilizarii inovative a factorilor potențial terapeutici de mediu din salină si pestera in sanatate si turism balneoclimatic, soluții de modelare a acestora” - Partnerships Program2, Contract no. 42120, CEFACTERMEDSUB, 2008-2011, INRMFB

Stephanie Clarke is Professor and Head of the Neuropsychology and Neurorehabilitation Clinic at the University Hospital, Lausanne, Switzerland. The Clinic provides neurorehabilitation to in- and outpatients in postacute and chronic stages of brain lesions, with particular emphasis to neuropsychological rehabilitation and speech therapy. With her group Stephanie Clarke carries out research projects that combine investigations of cognitive functions and of the functional organization of the human cerebral cortex, with particular interest in the organisation and plasticity of the human auditory cortex.

Education

1974-1980 Medical studies, University of Lausanne

Academic degrees

1980 Swiss Federal diploma of Medicine

1984 Doctoral degree in medicine (Dr. med.)

1993-2000 Privat-docent, Faculty of Medicine, Lausanne

1995-2000 Boursier SCORE A, FNRS

1997-2000 "Professeur assistant", Faculty of Medicine, Lausanne

2000- Professor (Ordinarius) of Neuropsychology, Faculty of Medicine, Lausanne

2007- Chef de Service, Service de Neuropsychologie et de Neuroréhabilitation, CHUV

Major responsibilities (only most recent listed; current functions in italics)

President of the World Federation of Neurorehabilitation (2012-)

Director of the Doctoral School of the Faculty of Biology and Medicine, University of Lausanne (2003-)

President-Elect of the World Federation of Neurorehabilitation (2008-12)

President of the Swiss Society for Neurorehabilitation (2002-08)

President of the Swiss Society for Neuroscience (2007-08)

Member (2004-12), Vice-President (2008-09) and President (2009-12) of the Division Biology and Medicine of the Swiss National Science Foundation

Member of the Committee of the Swiss Academy of Medical Sciences (2004-12)

Member of the Committee and of the Foundation Council of the Swiss National Science Foundation (2003-2004)

Member of the Committee of the European Brain and Behaviour Society (2001-2004)

Member of the taskforce “Cognitive rehabilitation” of the European Federation of Neurological Societies (2000-2006)
Publications:

Number of publications: 89 original papers in peer-reviewed international journals; 15 proceedings, guidelines and reviews in peer-reviewed journals; 20 other reviews, book chapters and books.

Selected publications relevant to the organization of the auditory cortex and plasticity:


Consultant physician – senior lecturer responsible for the acute hospital based neurorehabilitation unit (NRA) in the Department of clinical neurosciences (DNC) at the CHUV in Lausanne.

As a specialist in neurology and physical medicine and rehabilitation I was head of a post-acute neurorehabilitation clinic (1996-2005), than a mobile neurorehabilitation team in the Lausanne University Hospital (2006-2009) before becoming physician-in-charge of the Acute Neurorehabilitation Unit of the Department of Clinical Neurosciences. After contributing to the development of quality criteria for acute and post-acute neurorehabilitation in Switzerland, my main research domain concerns the evaluation of disorders of consciousness and of the effect of neurosensory stimulation during the acute phase reinforced by robotic mobilisation and brain computer interfaces.
Following training at Guys hospital, London, Oxford, Stoke Mandeville and in the USA between 1971 and 1982, Wagih S El Masri (WSEM) obtained the first accreditation in Spinal Injuries and in General Surgery by the Royal College of Surgeons of Edinburgh in 1982. To date he has personally provided the surgical and medical care to about 10,000 patients with SCI.

WSEM has led the service on the Midlands Centre for Spinal Injuries (MCSI), with a first class Multidisciplinary Team based at the RJ & AH Orthopaedic Hospital, Oswestry, UK since 1983. This Centre serves a population of about 10 million. A significant number of patients have made a remarkable neurological recovery. The majority achieve an almost normal life expectancy.

WSEM has contributed to the medical literature with 128 publications. He is the author of the concept of the “Physiological Instability of the injured Spinal Cord”. He documented the prognostic value of pin pricking sensory sparing in the first 72 hours of injury. He demonstrated that the great majority of patients with complete motor paralysis but with pin pricking sensory sparing down to the 2nd sacral dermatomes recover ambulation irrespective of the degree of malalignment, traumatic spinal canal encroachment or traumatic cord compression and without surgical decompression or surgical stabilisation.

WSEM held the offices of Hon. Treasurer, Hon. Secretary, President Elect & President of the International Spinal Cord Society (ISCoS). He was Chairman of the British Association of Spinal Cord Injury Specialists (BASCIS) in the UK. He is member of the British Association of Rehabilitation Medicine and Academician of the European Academy of Rehabilitation Medicine. He is member and advisor to many other Associations & Honorary President of the Romanian Spinal Cord Society.

He founded SPIRIT a charity that promotes teaching and training in spinal injuries.

He also developed Transhouse, the first transitional housing scheme in the UK to provide temporary accommodation to patients with SCI while their homes are being adapted for wheelchair access.

He was awarded the Paul Harris Fellowship in 1999, the Gold Medal of the International Spinal Cord Society in 2002, the Hospital Doctor National Innovation Team Award 2005, an Honorary Fellowship by the Royal College of Physicians in 2005, The Oswestry Mayor’s community award in 2007 and the title of Freeman of Oswestry Borough Council in 2009.

Education:
- 1995 Medical Doctor, specialist for neurology and psychiatry
- 1994 Diploma “Psychotherapeutic Medicine” of the Austrian Medical Doctors Society (ÖÄK)
- 1999 Diploma „Manual Medicine“ (ÖGMM) of the Austrian Medical Doctors Society (ÖÄK)
- 1997-98 Degree Course for Medical Leadership (University of Graz)

Employment:
- First assistant medical director in the Department of Neurorehabilitation Gailtal-Klinik
- Consultant to Austrian insurance companies and to self help groups

Affiliations:
- Full Member of the Scientific Advisory Board of the Austrian Society for Neurological Rehabilitation (ÖGNR)
- Lecturer at Danube University Krems - Neurorehabilitation and ICF
- Member of WFNR - Special Interest Group ICF and Robotics

Professional points of emphasis (Professional interests):
- Development and implementation of Neurorehabilitation Curriculum for trainees in Neurology in Austria
- Development and implementation of certification courses for Botulinum-Toxin injections in Austria
- Implementing of WHO-ICF in neurological rehabilitation. Goal setting and ICF
- Special interests: Neuropsychological Rehabilitation - Motor Rehabilitation – Spasticity and Pain Therapy
- Documentation and Scales
FRANZ GERSTENBRAND /Austria

Born 1924 in Hof, Moravia. M.D. graduation 1950, University of Vienna. Special Training in Neurology and Psychiatry at the University Clinic for Neurology and Psychiatry Vienna, 1950 to 1959, Associated Professor of Neurology and Psychiatry 1962, University Professor for Neurology and Director of the University Clinic for Neurology Innsbruck, Austria, 1975 – 1994, lecturer in Neurology at the University Innsbruck, 1994-2005, Director of the Karl Landsteiner Institute for Neurorehabilitation and Space Neurology.

Main Research Topics: Coma States, Neurotraumatology, Parkinson’s Disease, Paediatric Neurology, Neuroorthopedia, Tropical Neurology, Space Neurology, Neurorehabilitation.

Founder of the Danube Association for Neurological Science and Continuing Education (1962), as basis for the exchange Neurological Science between Western and Eastern European Countries.

Founding President of the European Federation of Neurological Societies (1991), the basic organization for the Unification of European Neurology. Responsible for Annual Congresses and different Teaching Courses.


World wide Teaching Activities e.g. Iraq, Myanmar.

Honorary in the building up of the Neurological Society of Myanmar.


Honorary President of the three Scientific Societies. Honorary Member of the WFNR und four other Scientific Societies

Different National and International Awards and Medals. E.g. Highest Austrian Medal for Merits in Art and Science, Highest Tyrolean Medal for Merits, Silver Komptur Cross of Lower Austria, Gagasin Medal, Russian Federation for Cosmonauts.

Numerous Memberships and Honorary Memberships of different National and International Societies. Member of the Research Committee of WFN

Chair of the Research Group on Space and Underwater Neurology and of Neuroethics

Member of the Editorial Board of different Neurological Journals

Candidate for the President Ship of the WFN

Organizer of various National and International Neurological Congresses and Annual Meetings, convenor of Symposia and Work Shops.

Author or co-author of 786 publications and abstracts, editor of 12 books, author of the monography “The Traumatic Apallic Syndrome”

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STEFAN GOLASZEWSKI /Austria

Stefan Golaszewski was born 1964 in Vienna where he studied Technical Physics and Medicine. After his graduation as ”Diplomingenieur” 1990 and as “Medical Doctor” 1995 he went to the Medical University Innsbruck where he worked from 1995 to 2001 as assistant doctor in Neurology at the Department of Magnetic Resonance Imaging and Spectroscopy. His scientific work in Innsbruck focused on the development of clinical applications for functional Magnetic Resonance Imaging (fMRI) in neurology, neurosurgery and psychiatry. In Innsbruck Dr. Golaszewski founded a specialized computer lab for fMRI data post processing and supervised an fMRI research group. From the beginning of 2002 until the end of 2003 he joined a residency in Neurology at the Department of Neurology at the Medical University Graz. In 2005 Dr. Golaszewski joined the Department of Neurology of the Christian Doppler Clinic at the Paracelsus Medical University Salzburg in Austria where he currently works as senior physician and where he finished in 2006 his habilitation that focused on the investigation of cortical reorganisation after brain damage in functional MRI with graduation as “Privatdozent”. Since October 2010 Dr. Golaszewski is the medical head of the Neuroscience Institute of the Christian Doppler Clinic at the Paracelsus Medical University Salzburg.


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Born 1924 in Hof, Moravia, M.D. graduation 1950, University of Vienna. Special Training in Neurology and Psychiatry at the University Clinic for Neurology and Psychiatry Vienna, 1950 to 1959, Associated Professor of Neurology and Psychiatry 1962, University Professor for Neurology and Director of the University Clinic for Neurology Innsbruck, Austria, 1975 – 1994, lecturer in Neurology at the University Innsbruck, 1994-2005, Director of the Karl Landsteiner Institute for Neurorehabilitation and Space Neurology.

Main Research Topics: Coma States, Neurotraumatology, Parkinson’s Disease, Paediatric Neurology, Neuroorthopedia, Tropical Neurology, Space Neurology, Neurorehabilitation.

Founder of the Danube Association for Neurological Science and Continuing Education (1962), as basis for the exchange Neurological Science between Western and Eastern European Countries.

Founding President of the European Federation of Neurological Societies (1991), the basic organization for the Unification of European Neurology. Responsible for Annual Congresses and different Teaching Courses.


World wide Teaching Activities e.g. Iraq, Myanmar.

Honorary in the building up of the Neurological Society of Myanmar.


Honorary President of the three Scientific Societies. Honorary Member of the WFNR und four other Scientific Societies

Different National and International Awards and Medals. E.g. Highest Austrian Medal for Merits in Art and Science, Highest Tyrolean Medal for Merits, Silver Komptur Cross of Lower Austria, Gagasin Medal, Russian Federation for Cosmonauts.

Numerous Memberships and Honorary Memberships of different National and International Societies. Member of the Research Committee of WFN

Chair of the Research Group on Space and Underwater Neurology and of Neuroethics

Member of the Editorial Board of different Neurological Journals

Candidate for the President Ship of the WFN

Organizer of various National and International Neurological Congresses and Annual Meetings, convenor of Symposia and Work Shops.

Author or co-author of 786 publications and abstracts, editor of 12 books, author of the monography “The Traumatic Apallic Syndrome”
VOLODYMYR A. GOLYK
/Ukraine

Education

Residency:
August 1, 1994 – June 28, 1996 Dnipropetrovsk State Medical Academy, Neurology & Neurosurgery Department, Dnipropetrovsk, Ukraine. Doctor – specialist, Specialty – neurology

Clinical fellowship:
September 1, 1996 – August 31, 1998 Dnipropetrovsk State Medical Academy, Neurology & Neurosurgery Department, Dnipropetrovsk, Ukraine. Cerebrovascular neurology

PhD program – Neurology
April 1999-May 2003, Kharkiv Medical Academy of Postgraduate education Ph.D., Specialty – Neurology

Internship – Neurology (Alberto Vilar Internship)
March 02-24, 2004 Christian Doppler Landeskliniken Neurology, Salzburg, Austria

Training – Expert Spasticity Management training course
July 19-20, 2010, University Hospital of North Staffordshire, North Staffordshire Rehabilitation Centre, Stoke on Trent, UK

Training – Update on Management of Vertigo and Vestibular Disorders
May 10-20, 2011 University of Provence, Marseille, France

Training – Vestibular Disorders and Vertigo Treatment Masterclass
June 18, 2012 Maastricht University Medical Centre, Maastricht, Netherlands

Conferences / seminars attended
July 24 – July 30, 1999 Salzburg-Cornell Medical Seminar, Neurology.

September 22–24, 2003 1st Russian International Congress “Cerebrovascular Pathology and Stroke”, Moscow, Russia
May 12–15, 2004 13th European Stroke Conference, Mannheim, Germany
June 5–11, 2005 Salzburg-Cornell Medical Seminar, Neurology.
November 20–26, 2005 Salzburg-Cornell Medical Seminar, Rehabilitation medicine. Men 11-14, 2006
6th EFNS Academy for Young Neurologists, Stare Splavy, Czech Republic
September 2-5, 2006
8th EFNS Congress, Glasgow, UK
February 1-2, 2007 Levodopa Education and Awareness program (LEAP), Istanbul, Turkey
June 2-5, 2007 10th EFNS Academy for Young Neurologists, Stare Splavy, Czech Republic
April 10-11, 2008 Levodopa Education and Awareness program (LEAP VIP) Expert Forum, Reykjavik, Iceland
May 15-18, 2008 9th EFNS Academy for Young Neurologists, Stare Splavy, Czech Republic
August 23-26, 2008 12th EFNS Congress, Madrid, Spain
June 05-11, 2009 13th International Congress of Parkinson’s Disease and Movement Disorders, Paris, France
September 04, 2009 Levodopa Education and Awareness program (LEAP), Manchester, United Kingdom
March 21-25, 2010 6th World Congress for Neurorehabilitation, Vienna, Austria
May 27, 2010 Forward Levodopa Education and Exchange (FLEX), Berlin, Germany
September 28-October 01, 2010 2nd World Congress for Parkinson Disease, Glasgow, UK
March 07-08, 2011 Forward Levodopa Education and Exchange (FLEX), Barcelona, Spain
September 09-13, 2011 15th EFNS Congress, Budapest, Hungary
September 08-11, 2012 16th EFNS Congress, Stockholm, Sweden
April 11-14, 2013 7th World Congress on Controversies in Neurology, Istanbul, Turkey
Professional Experience

November 2012 – present time
State Institution “Ukrainian State Institute of Medical & Social Problems of Disability Ministry of Public Health of Ukraine”
Scientific Secretary of Institute, Institute scientific research coordination, full–time.

September 2003 – present time
State Institution “Ukrainian State Institute of Medical & Social Problems of Disability Ministry of Public Health of Ukraine”
Chair, Neurology and Border States Department, scientific research in neurological rehabilitation, postgraduation doctors, full–time.

November 2005 – April 2008
Ukrainian State Institute of Medical and Social Problems of Disability, Neurology and Psychiatry investigational trial site
Principal investigator (subinvestigator) in international pharmacological multicenter trials.

September 1998 – September 2003
Dnipropetrov’sk State Medical Academy, Neurology & Neurosurgery Department of Postgraduation Training Faculty
Assistant Professor, practical neurology training for IV year students, neurology residents, family doctors, postgraduation doctors, full–time.

October 1998 – present time
Dnipropetrov’sk Regional Bureau of Criminal Medical Expertise
Expert-consultant, primary and secondary expertise.

September 1996 – September 2003
Dnipropetrov’sk Regional Hospital inpatient cerebrovascular neurology department
Doctor – cerebrovascular neurologist, full–time.

March 1995 – February 2008
I city Polyclinic outpatient department
Doctor – general neurologist, outpatient general neurology clinic, part–time.

Publications
210 scientific publications

Professional Affiliation
Member,
European Neurological Society (1999),
Movement Disorders Society (2007),
Ukrainian Anti-Stroke Association (2007),
Regional Society of Clinical Neurology, Dnipropetrov’sk Region, Ukraine.
Wolf-Dieter Heiss, born 31.12.1939 in Zell am See, Austria, graduated in medicine from the University of Vienna, Austria, in 1965. He achieved his training in neurology, neuropathology, psychiatry and nuclear medicine at the University hospital in Vienna and spent research fellowships at the MIT, Cambridge, USA, the Physiological Institute in Stockholm, Sweden, the Department of Physiology of SUNY, Buffalo, NY and the Department of Neurology of the University of Minnesota, Minneapolis, USA. 1976 he was appointed associate professor at the Department of Neurology of the University of Vienna. In 1978 he became director of the Center for Cerebrovascular Research of the Max Planck Institute for Brain Research and of the Department of Neurology of the City Hospital Cologne-Merheim, Germany. 1981 he was appointed as director at the Max Planck Institute for Neurological Research, 1985 – 2005 he was professor of neurology and chairman of the Department of Neurology of the University of Cologne and director of the Department of General Neurology at the MPI in Cologne. He was president of the International Stroke Society 1992-96, was on the board of directors of the Society for Cerebral Blood Flow and Metabolism, deputy editor of the Journal of Cerebral Blood Flow and Metabolism and at present is associate editor of the Journal of Nuclear Medicine and section editor of Stroke. He was chairman of the program committee of the European Federation of Neurological Societies (EFNS) 1998 - 2001 and was president of the EFNS 2001 – 2005. Since 2005 he is Visiting Professor at the Danube University in Krems, Austria, and since 2009 Adjunct Professor at the McGill University in Montreal, Canada.

Wolf-Dieter Heiss
/Austria

MEDICAL DIRECTOR
St. Mauritius Therapy Hospital Meerbusch

PERSONAL DATA
Born 25 July 1954
Married to Priv.-Doz. Dr. Kristina Müller, paediatric neurologist

MEDICAL CAREER
1973 - 1980 School, Universities of Düsseldorf and Freiburg; Elective in Neurology at Boston City Hospital, Boston, Mass., National Hospital for Nervous Diseases, London
since 1975 Junior researcher in the Department of Neuropsychology at the C. & O. Vogt Institute for Brain Research, Düsseldorf and the Department of Neurology, Freiburg (Prof. R. Jung)
1980 - 1981 Research fellow in the Department of Neuropsychology (Prof. G. Grünwald) at the C. & O. Vogt Institute for Brain Research, Düsseldorf
since 1981 Clinical training in the Department of Neurology (Prof. H.-J. Freund), Heinrich-Heine-University Düsseldorf
since 1985 Senior investigator for the German Research Council Special Task Force in Neurology at Heinrich-Heine-University (SFB 200 and SFB 194)
1987-2005 Medical director of the Neurological Therapy Center (NTC), Heinrich-Heine-University Düsseldorf
since 1988 Board examiner for Neurology at the local examination board (Ärztekammer Nordrhein)
1989-1997 Vice president of the German Society for Neurological Rehabilitation
since 1995 Board examiner for physical medicine and rehabilitation (Ärztekammer Nordrhein)
1997-2005 Medical director of the Neurological Therapy Center, Cologne
1998-2004 President of the German Society for Neurological Rehabilitation
since 2000 Medical director and head of neurology, St. Mauritius Therapy Hospital, Meerbusch
since 2003 Secretary General World Federation for NeuroRehabilitation (WFNR)
since 10/2004 Vice president of the German Society for Neurological Rehabilitation
since 2005 Panel-Chairman Neurorehabilitation for European Federation Neurological Societies (EFNS)
HELMUT KRAUSE
/Germany

Academic Background:
Degree in Occupational Therapy, University of Applied Sciences, Diploma Nord-Hessen, Germany

Work Experience (Health Service):
March 2002 – Dec. 2004 Head of occupational therapy, Neurological Therapy Centre Köln, Germany
Since January 2005 Divisional Director of Motor Therapy, St. Mauritius Therapy Clinic, Germany

Teaching Experience
Modular concepts:
May 2007 European Stroke Conference 2007, Glasgow
„Modular Motor Therapies”
May 2008 European Stroke Conference 2008, Nice
„Modular Concepts of Physiotherapy”
December 2008 Jahrestagung DGNR, ÖGNR, SGNR 2008, Wien
„Modular Motor Therapy”
December 2009 DGNR Congress 2009, Berlin
„Modular Motor Therapy Upper Extremity”
March 2010 World Congress for Neurorehabilitation 2010, Wien
„Modular Motor Therapy Upper Extremity”
July 2012 Jingling Summit Forum of Rehabilitation Medicine 2012, Nanjing
„Gait Rehabilitation- Development of modular concepts”

Robots/Armeo:
February 2009 International Neurorehabilitation Symposium 2009, Zürich
„Clinical experience with the ArmeoSpring in parietic stroke patients”
November 2010 DGNR Congress 2010, Bremen
„Robots in Motor Therapy? – Clinical experience”
June 2011 International Neurorehabilitation Symposium 2011, Zürich
„Patients trainings in the Armeo”
Practical implementation of therapeutic concepts
May 2010 European Stroke Conference 2010, Barcelona
„Constrained induced movement therapy: Practical aspects”
March 2011 Motor Therapy Days 2011, St. Mauritius Therapy clinic Meerbusch
„Rules of motor relearning and evidence base Therapy”
March 2011 Motor Therapy Days 2011, St. Mauritius Therapy clinic Meerbusch
„Assessments in motor neurorehabilitation”
March 2011 Motor Therapy Days 2011, St. Mauritius Therapy clinic Meerbusch
„Robots, principal of operation in motor therapy”
June 2011 Armeoworkshop 2011, Trondheim
„Theoretical Presentation of Armeo – Clinical Experiences”

“Integration of the Armeo into the clinical daily routine”
March 2012 Zenith (Centre for interdisciplinary advanced/further education in neurorehabilitation), Germany
„Severe arm paresis, assessments and therapy”
June 2013 Zenith (Centre for interdisciplinary advanced/further education in neurorehabilitation), Germany
„Mild arm paresis, assessments and therapy”
September 2012 Zenith (Centre for interdisciplinary advanced/further education in neurorehabilitation), Germany
„Reduced dexterity, assessments and therapy”
FRIEDEMANN MÜLLER
/Germany

Following his studies at the University of Tübingen with a degree in Psychology and Medicine Dr. Müller has worked in many positions, including 2 years as a Postdoctoral Fellow at the Speech and Motor Control Laboratories as well as at the Motor Behavior Laboratory at the University of Wisconsin-Madison. He received his neurology training in the University Hospital of Tübingen. From 1994 onwards he was Senior Speciality Registrar at the Schön Klinik Bad Aibling. Since 2006 he has been a Senior Consultant at the Schön Klinik Bad Aibling. His research interests include a variety of fields combining psychology and neurology. Among them are disorders of consciousness and pharmacological or technical advances to improve motor rehabilitation.

ADRIANA SARAH NICA
/Romania

Current position
- Professor in Physical Medicine, Rehabilitation and Balneoclimatology at the University of Medicine “Carol Davila”, Bucharest
- Head of Rehabilitation Department - University of Medicine “Carol Davila”, Bucharest
- PhD
- Chief of University Rehabilitation Department III – National Institute of Rehabilitation, Physical Medicine and Balneoclimatology
- European Board certified in PRM
- Senior consultant in Physical Medicine and Rehabilitation

Medical Career
1978 – MD at the Faculty of Medicine – University of Medicine “Carol Davila”, Bucharest
1982 – University assistant and resident doctor – Balneoclimatology, Sport Medicine and Physical Medicine – University of Medicine “Carol Davila”, Bucharest
1985 – Specialist in Balneoclimatology, Sport Medicine and Physical Medicine – University of Medicine “Carol Davila”, Bucharest, confirmed by the Ministry of Health of Romania
1992 – Lecturer – Balneoclimatology, Sport Medicine and Physical Medicine – University of Medicine “Carol Davila”, Bucharest
1997 – PhD at the University of Medicine “Carol Davila”, Bucharest
1998 – Ass. Professor of Balneoclimatology, Sport Medicine and Physical Medicine – University of Medicine “Carol Davila”, Bucharest
2002 – 2004 – Medical Director of National Institute of Rehabilitation, Physical Medicine, Balneoclimatology, Bucharest, Romania
2003 – Professor of Rehabilitation, Physical Medicine and Balneoclimatology

Post-graduated training and fields of interest in scientific research
1. ICF Workshop – Oct. 2011, Notvill, Switzerland
2. Musculoskeletal Ultrasound Course, October 10-12, 2008, Bucharest
3. Project “Postgraduate Training in Romania; Competence in Public Health Administration and Management”, Bucharest, 22.06.2007
4. “4th Symposium - Discussion Platform for Pain, Surgery and Rehabilitation Aspects”, Bodrum, Turkey, 30.04-3.05.2007
5. “ISCD Bone Densitometry Course & Workshop”, Bucharest, March 1-3, 2007
10. “Hospital Management”, Bucharest, September 18.- November 17, 2006
14. Future Perspectives of Thermalism an its Legislation in Europe and in Different Geographical Areas”, 9th World Days of Thermalism - 35th International SITH Congress - the Quality Systems, Lecco Terme, 14-16.10.2005
16. “Seminor on pathology of the Hand”, organised by UEMS SOROT si EFFORT, Cheile Gradistei, September 8-10, 2005
19. “Electrostimulation of the innervated and denervated skeletal muscle”, during the 14th European Congress of Physical and Rehabilitation Medicine, Wien, Austria, May 12-15, 2004
22. ERASMUS Program – “Actualities in Biomechanic and Gate Analysis”, European School Marseille, France, June 1-11 2003
27. “5th ESRA WORKSHOP “NEURAL BLOCKADES ON CADAVERS” – Institute of Anatomy, University of Innsbruck / Austria, February 21-23, 2002
32. Accreditation Commission LUND, Sweden
33. Competence in Biostimulation of Laser Therapy
34. Competence in Pain Therapy
GELU ONOSE
/Romania

- Professor at the (State) University of Medicine and Pharmacy (UMP) “Carol Davila”, in Bucharest
- Doctoral/ Post-Graduate Tutor - at the (State) University of Medicine and Pharmacy “Carol Davila” (UMP-CQI), in Bucharest
- MD; - PhD; - MSc
- Senior Physician of: - Physical & Rehabilitation Medicine (PRM) and - Gerontology & Geriatrics (G-G)
  Competences in: - General Echography - Management of sanitary services
- Chief of the of the UMPCD PRM Discipline and of the (neural-muscular) Clinic Division - the National Reference Center for NeuroRehabilitation - and of its RDI Nucleus, of the Teaching Emergency Hospital“Bagdasar-Arseni” (TEHBA), in Bucharest
- President Co-Founder of the Romanian Society for Neurorehabilitation (RoSNeRa) - affiliated to the World Federation for NeuroRehabilitation (WFNR) - member of the Management Committee - and respectively, of the Romanian Society for Spinal Cord Pathology, Therapy and Rehabilitation (RoSCoS) - affiliated to the International Spinal Cord Society (ISCoS) and to European Spinal Cord Injury Federation (ESCI)
- A member of the Scientific Committee, afferent to the Prezidium of the world Academy for Multidisciplinary Neurotraumatology (AMN)
- Selected and invited - as among “Highly-specialized scholars” - by Thomson Reuters to participate in the invitation-only “Academic Reputation Survey”, within its related partnership with Times Higher Education’s influential World University Rankings: 2010, 2011, 2012
- Invited Peer-Reviewer (March 2010) by the “Journal of Molecular Histology” and (March, 2012) by the “Spinal Cord” Journal (both ISI Thomson rated) - Contributing member (2011-2012) to the achievement of the imposing educational project: “E-Learning for Spinal Cord Injury Health Professionals”, of the International Spinal Cord Society (ISCoS) - including/ specifically, in 4 modules/ submodules of it: Clinical Assessment of Patients with SCI; Assistive Technology Module and Mobility & seating sub-module; Management of neurogenic bladder; Physiotherapy Module and Physical therapy perspectives on rehabilitation sub-module
- Founder Member of the Honorary Editorial Board of the Journal of Neurorestoratology

- 8 published medical books - one of them: “The Spondyloarthropathies”, and received, in 2002, the “Iuliu Hatieganu” Award of The Romanian Academy
- 4 chapters (in press) within medical books
- About 200 scientific works and papers - communicated within national and international scientific meetings and/or published in peer-reviewed or non peer-reviewed medical journals - and professional interviews/articles, in mass-media
- 3 Patents/ Invention Certificates (plus 1 Utility Model), appointed by the State Office for Inventions and Marks (SOIM/ OSIM)
- Main awards: the “Iuliu Hatieganu” Award of The Romanian Academy (2002); the Award of the (Romanian) National Authority for Scientific Research for the RDI project acronymed “ACTUAT” (2006); the Gold Medal at the International Saloon of Inventions, Geneve/ Switzerland for the RDI project acronymed “MOD” (2008)
- A member of the Scientific Council/ Editorial Board of medical journals: - “Journal of Medicine and Life” (rated in Index Medicus, Medline) - “Informedica” - (Romanian) “Rehabilitation, Physical Medicine and Balneology” - “Romanian Neurosurgery” - “Industria Textila” (ISI Thomson rated journal)

- A member of the:
  - Romanian Medical Association (RMA)
  - Romanian Society of Physical and Rehabilitation Medicine (PRM) - including of its Board
  - Romanian Society of Neurosurgery (RSN)
  - Romanian Society of Biomaterials (RSB)
  - Balkan Medical Union (BMU)
  - International Society of Hydrothermal Technique (SITH - the National Council of the Romanian Section SITH - RS),
  - British Society of Gerontology (BSG)
  - The International Spinal Cord Society (ISCoS)
  - The European Spinal Cord Injury Federation (ESCI)
  - World Academy for Multidisciplinary Neurotraumatology (AMN) - a member of the Scientific Committee, afferent to the Prezidium
  - World Federation For Neurorehabilitation (WFNR) - a member of the Council, Management Committee
  - (International) Association for the Study of Medical Education (ASME, UK)
JÓZEF A. OPARA
/Poland

Doctorship: 1983 (MD)
Aggregation (polish habilitation, more than PhD): 1997
Professor in Academy of Physical Education in Katowice: since 1998 Chair of Physical Therapy in Neurology Full Professor in Physical Culture: 2008
Head of Dept. of Neurological Rehabilitation in Rehab Centre “Repty” in Tarnowskie Góry 1980-2009.

Special scientific interest:
- stroke rehabilitation
- spasticity
- rehabilitation in paraplegia (SCI), Spondylotic Cervical Myelopathy (SCM), Post-Polio
- clinimetrics
- Quality of Life measures
- rehabilitation after TBI
- rehabilitation in MS

Promoter of 10 doctorships

Main recent reports:

Cristian Dinu POPESCU is a professor of Neurology at the University of Medicine and Pharmacy “Gr. T. Popa” Iasi. He graduated from the same University in 1975 and holds a PhD from 1991.

He is the head of the Neurology Clinic in The Clinical Rehabilitation Hospital in Iasi, Romania, where he conducts his clinical and scientific activity.

Since 2008 he is chief of the Neurology Department and also the chief of the VI th Medical Chair of the Iasi Medical University.

He is a member of national and international professional associations (vice president of the Romanian Society of Neurology, member of the Society for Study of Neuroprotection and Neuroplasticity, Society of Parkinson’s Disease and Movement Disorders, European Council of Neurological Rehabilitation, Balcanian Medical Union).

He was an invited speaker in most of the important national neurology scientific events during the last years.

He is a local coordinator for MS immunomodulatory treatment. He initiated and coordinated the organization of the National Multiple Sclerosis Conferences during the last 5 years.

He has authored or coordinated 5 books and took part in writing of 12 other books as coauthor, and more than 150 papers.

His main fields of interest have been aging of the brain and its vascular system, multiple sclerosis, rehabilitation in stroke and other neurological diseases. Neurorehabilitation and neuroplasticity are among the main topics of concern, both in current clinical practice and regarding the research activities.

His group was among the first to use functional electrical stimulation in Romania – current research targets applications and effects of FES in stroke, MS and Parkinson’s disease.

He is the coordinator of one of the first groups in our country to use transcranial magnetic stimulation in neurology – both in clinical practice (diagnostic and therapeutical TMS) and for research (cortical neuroplasticity and neuromodulation).

After completing his study of Medicine in Innsbruck, Austria, he was a resident in the speciality of Neurology at the University of Pavia, Italy, from 1978 to 1983. Further study in the specialization of Physical Medicine and Rehabilitation was completed in 1986.

From 1983 to 1995 Dr. Saltuari was Head of Department on the Neurology Ward I/II/IV at the University Clinic in Innsbruck, specializing in post-acute rehabilitation for stroke and brain-injury patients. During this period, eight physicians completed their residency in Neurorehabilitation under his tutelage. Dr. Saltuari introduced new rehabilitation techniques such as cortical facilitation in Austria and developed new therapeutic techniques, e.g. intrathecal application of Baclofen in patients with supraspinal spasticity.

The government of South Tyrol (Italy) appointed Dr. Saltuari in 1985 to the Commission for Development of National Laws for Rehabilitation. From 1988-1995 he served as Director of Therapy (Physical, Occupational, and Speech Therapy) in the Department for Neurology in the University Clinic in Innsbruck.

In 1988 Dr. Saltuari was appointed as Medical Director of the School for Occupational Therapy, where he introduced new functional aspects to the educational course. He was active in the “Project Group for Neurological Rehabilitation”, reporting to the government of Tyrol in 1992.

Between 1988 and 1995 he was Director of the Laboratory for Evoked Potentials at the University of Innsbruck. In 1987 and in 1998 he was in residence for several months at Baylor College of Medicine in Houston, Texas. The main area of this research assignment was the treatment of spasticity and pain in hemiplegic and spinal cord injured patients, as well as the treatment of pain by techniques of restorative neurology.

In 1992 Dr. Saltuari was awarded the Venia legendi in Neurology with the theme “Baclofen in Spasticity”, in which the efficacy of intrathecal application of Baclofen in cases of supraspinal spasticity was described for the first time.

Dr. Saltuari has been Medical Director of the Department of Neurology in the Hochzirl Hospital since 1995. He is also Vicepresident of the Austrian Neuromodulation Society – AUNS.) Since 1988 he has been active in the further education for Physical Therapists in Neurorehabilitation at the Scientific Academy of Lower Austria. He was elected President of the Austrian Society for Neurorehabilitation in 2002 and is the actual Past-president. Dr. Saltuari has submitted over 200 publications dealing with neurorehabilitative subjects as well as with acute neurological topics.

Since 1986 Dr. Saltuari has been Lecturer for Neurorehabilitation and Evoked Potentials at the University for Medicine in Innsbruck and since 1995 on the staff of the Institute for Sport Science. Since October 2009 he is the Director of the Research Department for Neurorehabilitation South Tyrol, Bolzano, Italy. Since 2012 Prof. Saltuari is member of the Editorial Board of Functional Neurology.
GIORGIO SANDRINI /Italy

POSIZIONE ATTUALE
Professore Ordinario in Neurologia presso l’Università di Pavia
Direttore del Dipartimento di Neurologia e Neuroriabilitazione, IRCCS Istituto Neurologico C. Mondino, Pavia
Direttore dell'Unità Complessa di Neurologia Riabilitativa, IRCCS Istituto Neurologico C. Mondino, Pavia
Direttore della Sezione di Neurologia Clinica e Riabilitativa del Dipartimento di Scienze del Sistema Nervoso e del Comportamento, Università di Pavia
Direttore della Scuola di Specializzazione in Neurofisiopatologia, Università di Pavia
Presidente del Comitato Tecnico Scientifico del Consorzio di Ricerca “Cefalee e Disordini Adattativi”, Università di Pavia e Varese – IRCCS Istituto Neurologico C. Mondino

ESPERIENZA LAVORATIVA
• Data (da – a) 1973
  Nome e indirizzo del datore di lavoro Clinica delle Malattie Nervose e Mentali dell’Università di Pavia
  Tipo di impiego Prima come Allievo e, quindi, come Medico Interno
• Data (da – a) dal 1974 a settembre 1977
  Nome e indirizzo del datore di lavoro Istituto di Anatomia Umana Normale della Facoltà di Medicina e Chirurgia
  Tipo di impiego Prima come Frequentatore, poi (dall’ottobre 1975 all’aprile 1976) Assistente Universitario incaricato quando è risultato vincitore di una Borsa di perfezionamento dell’Università di Pavia

• Data (da – a) Dall’agosto 1980 a settembre 1992
  Nome e indirizzo del datore di lavoro Istituto di Clinica delle Malattie Nervose e Mentali, poi Dipartimento di Scienze Neurologiche, Università degli Studi di Pavia
  Tipo di impiego Ricercatore Confermato convenzionato con IRCCS Fondazione Istituto Neurologico Nazionale C. Mondino

• Data (da – a) Dal novembre 1992 all’ottobre 2007
  Nome e indirizzo del datore di lavoro Università degli Studi di Pavia
  Tipo di impiego Professore Associato, convenzionato con IRCCS Fondazione Istituto Neurologico Nazionale C. Mondino per attività clinica presso l’Unità Complessa di Riabilitazione Neurologica

• Data (da – a) Dal novembre 2007 all’ottobre 2010
  Nome e indirizzo del datore di lavoro Università degli Studi di Pavia
  Tipo di impiego Professore Straordinario, convenzionato con IRCCS Fondazione Istituto Neurologico Nazionale C. Mondino per attività clinica presso l’Unità Complessa di Riabilitazione Neurologica

ULTERIORI INFORMAZIONI
• Anno 1988
  Qualifica conseguita Membro del Consiglio Scientifico del centro Interuniversitario Cefalee e Disordini Adattativi
• Anno 1994
  Qualifica conseguita Responsabile della Sezione di Neuropsicobiologia delle Cefalee e dei Disordini Adattativi, membro del Consiglio Direttivo e Direttore Esecutivo del Centro stesso.

Collaborazione a numerosi progetti di ricerca finanziati da Enti pubblici, partecipando come Responsabile di Unità Operative a Progetti del Ministero dell’Università e della Ricerca Scientifica, ed a progetti Finalizzati del Ministero della Salute.

E’ stato:
Membro dell’Executive Committee e Rappresentante per l’Italia, nel Council dell’International Headache Society (IHS),
Membro del Consiglio Direttivo della Società Italiana per lo Studio delle Cefalee
Co-chairman della Task Force on Neurophysiological Tests and Neuroimaging Procedures in Non-acute Headache della European Federation of Neurological Societies (EFNS).

E’ attualmente:
Presidente della Società Italiana di Riabilitazione Neurologica (SIRN)
Vice-Presidente della European Federation of Neurorsiabilization Society
Chairman dell’IHS Italian Linguistic SIG
Svolge dal 1975 attività didattica presso numerosi Corsi di Laurea e Scuole di Specializzazione dell’Università di Pavia

Aree di interesse
L’attività di ricerca spazia su più aree e comprende un elevato numero di argomenti nel campo della Neurologia, Riabilitazione neurologica e Neurofisiologia clinica.

Di primario interesse sono:
Riabilitazione dello Stroke e delle Malattie Extrapiramidali
Cefalee
Dolore Neuropatico
Neurofisiologia dei riflessi di flessione e del sistema vegetativo

Produzione Scientifica
E’ autore di oltre 200 pubblicazioni su riviste indirizzate ed Editore di vari volumi ed Atti Congressuali
STEPHEN D. SKAPER
/Italy

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

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

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

JOURNALS EDITED: Editor-in-Chief, CNS & Neurological Disorders – Drug Targets; Editor-in-Chief, Clinical CNS Drugs; Associate Editor, American Journal of Neuroneuroprotection and Neuroregeneration; Editorial Board Member, Nature Scientific Reports (Neuroscience); Councilor, International Association of Neurorestoratology

REVIEW PANELS: The Wellcome Trust (UK), Biotechnology and Biological Sciences Research Council (BBSRC) (UK), Austrian Science Fund (ad hoc review panel to evaluate interdisciplinary doctoral programmes in neuroscience)

RESEARCH INTERESTS: Molecular biology and cellular mechanisms of cell death in CNS aging and neurodegenerative disorders and neuroinflammation. Track record of drug discovery project leadership in kinases, ion channels, G-protein-coupled receptors, DNA repair enzymes, growth factors, identification and optimization of tools for target validation studies, utilising RNAI, conditional and viral knockdown/outsins, transcriptomics, proteomics and in vitro cell-based disease or mechanism relevant assays in rodent systems.

PUBLICATIONS: OVER 240 publications in the neurosciences, including book chapters and symposia proceedings.
I always considered myself an optimistic person but still there are certain things which I find depressing, and a CV is one of those things. Suddenly it is not about you anymore, but about a person who had a number of achievements which are rarely the things you find interesting about yourself, and all your life is compressed in half a page.

I have graduated the University of Medicine and Pharmacy “Carol Davila” in Bucharest in 1987 and I started my career in neurology in 1991, as a resident in the Department of Neurology of the University Hospital Bucharest, the same place where now I am Associated Professor and Head of the Stroke Unit. I have two favorite domains: vascular pathology and multiple sclerosis. My main interest is in cerebrovascular diseases, I am coordinating a teaching course for cervical and cerebral ultrasonography and I followed the European Master in Stroke Medicine Programme in Austria.

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

CRISTINA TIU /Romania

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

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

From 1985 to 1995, he was member of the Ultra-high Dexamethasone Head Injury Study Group and leading biometrician of the German GUDHIS Study.

Since 1982 he holds advanced training courses on biometry for professionals in clinical research and university establishments. His work also involves human engineering of biometric software and GCP-compliant tutorials for biometric appraisal of clinical studies.

Since 1995 he cooperates closely with the Institute for Data Analysis and Study Planning as Senior Consultant for Biometry & Clinical Research. He planned and evaluated about 150 randomized clinical studies worldwide and is member of various international advisory boards including participation as biometric expert in regulatory authority panels and in FDA, EMEA, and BfArM hearings.

JOHANNES C. VESTER /Germany
Pieter Vos has joined the department of Neurology at the Slingeland Hospital in Doetinchem in the Netherlands recently. Research activities over the last 15 years carried out in a university medical centre were dedicated to traumatic brain injury. Focus of the research activities is to unravel the clinical, biochemical and genetic determinants of neuroplasticity and recovery after mild, moderate and severe traumatic brain injury. Pieter Vos is founder of the Dutch working group on Neurotraumatology. Current international activities: chairman of the scientist panel on neurotraumatology and head of the task force mild traumatic brain injury, both residing under the European Federation of Neurological Societies. He is a member of the editorial board of the European Journal of Neurology and treasurer for the Academia Multidisciplinaria Neurotraumatologica.