



FOUNDATION OF THE
SOCIETY FOR THE STUDY OF
NEUROPROTECTION AND
NEUROPLASTICITY



International
School of Neurology



UMF
IULIU HATIEGANU
UNIVERSITY OF
MEDICINE AND PHARMACY
CLUJ-NAPOCA



Institute for
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Seminars

Department of Neurosciences
University of Medicine and
Pharmacy "Iuliu Hatieganu"
Cluj-Napoca | Romania

7 APRIL, 2021
VIRTUAL MEETING

Welcome Address

It is a pleasure to welcome you to the 64th edition Seminars - 7 April, 2021. The seminar is hosted by the Department of Neurosciences, Faculty of Medicine, "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca. This seminar aims to establish itself as a highly useful framework that will enable local specialists to benefit from the expertise of our invited speakers who are part of associated international faculty of our Department of Neurosciences Cluj-Napoca, Romania and RoNeuro Science network. Our scope is to flourish over years and set up an educational vector aiming to meet our junior and senior specialists' needs.

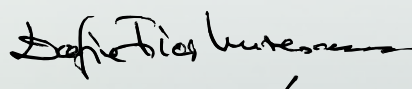
In contrast to large international conferences, the intention behind these seminars is to create an informal and intimate setting, which hopefully will stimulate open discussions.

Due to the uncertainties about the continuing impact of the COVID-19 pandemic, our events will be held in the virtual space, for the time being. As organizers, we would therefore be deeply grateful if you participate and share your time with us.

We are looking forward to your active participation in this educational event!

With consideration,

Prof. Dr. Dafin F. Muresanu,
Chairman Department of Neurosciences, Faculty of Medicine,
"Iuliu Hatieganu" University of Medicine and Pharmacy,
Cluj-Napoca, Romania



Program Coordinator



Dafin F. Mureșanu

President of the European Federation of NeuroRehabilitation Societies (EFNR)

Chairman of EAN Communication and Liaison Committee

Co-Chair EAN Scientific Panel Neurotraumatology

Past President of the Romanian Society of Neurology

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



Organizers



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din România**



SPEAKERS



SPEAKERS

Professor of Neurology, Senior Neurologist, Chairman of the Neurosciences Department, Faculty of Medicine, "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, President of the European Federation of Neurorehabilitation Societies (EFNR), Chairman Communication Committee of the European Academy of Neurology (EAN), Past President of the Romanian Society of Neurology, President of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), Chairman "RoNeuro" Institute for Neurological Research and Diagnostic, Corresponding Member of the Romanian Academy, Member of the Academy of Medical Sciences, Romania and secretary of its Cluj Branch. He is member of 17 scientific international societies (being Member of the American Neurological Association (ANA) - Fellow of ANA (FANA) since 2012) and 10 national ones, being part of the executive board of most of these societies. Professor Dafin F. Muresanu is also a specialist in Leadership and Management of Research and Health Care Systems (specialization in "Management and Leadership, Arthur Anderson Institute, Illinois, USA, 1998"; "MBA – Master of Business Administration - Health Care Systems Management, The Danube University - Krems, Austria, 2003"). He has performed valuable scientific research in high interest fields such as: neurobiology of central nervous system (CNS) lesion mechanisms; neurobiology of neuroprotection and neuroregeneration of CNS; the role of the Blood-brain barrier (BBB) in CNS diseases; developing comorbidities in animal models to be used in testing therapeutic paradigms; nanoparticles neurotoxicity upon CNS; the role of nanoparticles in enhancing the transportation of pharmacological therapeutic agents through the BBB; cerebral vascular diseases; neurodegenerative pathology; traumatic brain injury; neurorehabilitation of the central and peripheral nervous system; clarifying and thoroughgoing study on the classic concepts of Neurotrophicity, Neuroprotection, Neuroplasticity and Neurogenesis by bringing up the Endogenous Defense Activity (EDA) concept, as a continuous nonlinear process, that integrates the four aforementioned concepts, in a biological inseparable manner.

Professor Dafin F. Muresanu is coordinator in international educational programs of European Master (i.e. European Master in Stroke Medicine, University of Krems), organizer and co-organizer of many educational projects: European and international schools and courses (International School of Neurology, European Stroke Organisation Summer School, Danubian Neurological Society Teaching Courses, Seminars - Department of Neurosciences, European Teaching Courses on Neurorehabilitation) and scientific events: congresses, conferences, symposia (International Congresses of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), International Association of Neurorestoratology (IANR) & Global College for Neuroprotection and Neuroregeneration (GCNN) Conferences, Vascular Dementia Congresses (VaD), World Congresses on Controversies in Neurology (CONy), Danube Society Neurology Congresses, World Academy for Multidisciplinary Neurotraumatology (AMN) Congresses, Congresses of European Society for Clinical Neuropharmacology, European Congresses of Neurorehabilitation). His activity includes involvement in many national and international clinical studies and research projects, over 500 scientific participations as "invited speaker" in national and international scientific events, a significant portfolio of scientific articles (231 papers indexed on Web of Science-ISI, H-index: 23) as well as contributions in monographs and books published by prestigious international publishing houses.



**Dafin F.
Muresanu**
/Romania

SPEAKERS

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



SPEAKERS

Professor and Chair, Department of Clinical Neurosciences and Preventive Medicine Danube University Krems, Austria.

He was co-founder of the national stroke unit network and founding president of the Austrian Stroke Society 2003-2006.

He was President of the European Stroke Organisation (2012-2014).
Currently he is the President of the World Stroke Organisation (2018-2020).
He is co-chair of the ESO-WSO 2020 Congress to be held in Vienna, Austria.

Dr. Brainin has led the WSO Education Committee 2008-2017 and was editor of the World Stroke Academy, a web-based learning platform for the WSO. He chairs the European Master's Program in Stroke Medicine since 2007.

He has published more than 200 peer-reviewed papers, edited three textbooks on stroke, and has given more than 1.000 invited lectures. His scopus h-index is 46 and scopus citations are >15.000.

He is Senior Editorial Consultant for 'Stroke', Associate Editor of the European Journal of Neurology and member of the editorial boards of Neuroepidemiology, International Journal of Stroke, The European Stroke Journal and The Journal of Neurological Sciences. He received several awards, honorary doctorates and honorary memberships from scientific societies.



**Michael
Brainin**
/Austria



**SCIENTIFIC
PROGRAM**



Scientific program

7 APRIL, 2021

VIRTUAL MEETING

12:00 – 12:45

Functional Neuroanatomy of the Human Cortex
Michael Brainin/Austria

12:45 – 13:15

Post-stroke cognitive decline – interventional studies
Michael Brainin/Austria



ABSTRACTS



Abstracts

FUNCTIONAL NEUROANATOMY OF THE HUMAN CORTEX

MICHAEL BRAININ
/AUSTRIA

Localization of function within the brain was the starting point for clinical neurology. Only with Brodman the cartography of the cerebral cortex based on clinical observation and experiments had a lasting effect and was accepted as the basis of localization of function of the cortex. Controversies among great minds of neurology took place and had to wait for pathological confirmation which often took years. The dichotomy of localization and function was united in a model by Luria who laid the foundations of modern neuroplasticity. Neuroimaging enabled neurologists and neurosurgeons to localize function much more easily and speculations about functional models could be put to a test. Talarach and his school in Marseille founded stereotactic localisation and laid this down in his famous atlas which allowed the exact location pinpointed in the depth of the hemispheres and enabled comparability among humans. Later on, based on modern imaging, brain atlases were developed to guide the clinician and researcher on the transversal, coronary, or sagittal cuts of CT and MRI images. Among the most notable ones was the CT/MRI Atlas of Hanna and Antonio Damasio developed as a guide for vessel anatomy and cortical Brodman areas, This is especially helpful for analysis of small groups of patients who have similar lesions or similar clinical deficits and can used in a semiquantitative way. Finally, Marsel Mesulam from Boston proposed a functional model of the human cortex which allows interpretation of function in health and disease alike. This combined usefulness allows the interpretation of cortical syndromes as disconnection disturbances and explains most neuropsychological syndromes on the basis of disconnected localisation of function, either intra- or interhemispheric. New methods of imaging such as fibre tract imaging or functional MRI confirm these models and visualize such disconnections. Several examples will be given, including the neuroanatomical basis of problem solving, the working mind of a calculating prodigy, or the neural basis of frontal lobe dysfunctions.

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Abstracts

POST-STROKE COGNITIVE DECLINE – INTERVENTIONAL STUDIES

MICHAEL BRAININ
/AUSTRIA

Previous randomized trials aiming at promoting recovery after stroke such as with levodopa, natural biologicals (Cerebrolysin) or SSRI's have been successful in showing improvement of motor recovery. But currently no established treatment exists for the preservation or restoration of cognitive status following stroke. Given the high frequency of delayed onset of cognitive deterioration following stroke it is surprising that large studies have yet to be performed. Single or combined drug interventions tested up to now were based on secondary outcome analyses and included antihypertensive drugs which showed only a modest effect on cognition in general and no consistent effect was shown for lipid lowering drugs. Combination of antiplatelet drugs have been tested in the SPS3 trial but showed no effect on cognitive outcomes. Life-style interventions include studies of a Mediterranean diet with extra virgin olive oil and nuts but while stroke occurrence can be reduced, no data on post-stroke cognition exist. The same applies for physical exercise programs which show good effects on physical fitness.

Ongoing registered stroke testing either drug and/or lifestyle interventions all are planned either for small sample sizes and /or a complex endpoint or combination of endpoints that are not likely to produce practice-changing results.

Multi-domain intervention studies are much more likely to be effective on cognition because they perform multiple risk factor management with lifestyle adaptation including diet changes with increase of drug compliance and adherence. Intensifying these interventions and to monitor them is crucial. The first comprehensive multi-domain intervention trial (ASPIS) has recently been terminated. The primary endpoint was a significant change of the z-score of 5 neuropsychologically assessed cognitive domains. While the overall result was neutral, a signal for change of dysexecutive function was seen and follow-up studies might have to consider this finding.

In the future, there is a need for including cognitive outcome measurements in all trials targeting the brain, to consider larger sample sizes, to harmonize assessment strategies, to focus on a high risk population, and to include biomarkers and imaging data for confirmatory analyses. Overall, it is crucial to aim for intervention intensities that create significant group differences.



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