



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
Neurological Research
and Diagnostic



FUNDATIA JURNALULUI
Journal of Medicine
and Life



Seminars

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

3 MAY, 2023

VIRTUAL MEETING

Welcome Address

It is a pleasure to welcome you to the 105th edition Seminars 5 May, 2023. 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.

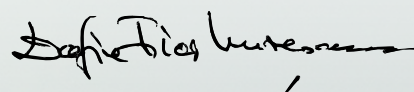
In contrast to large international conferences, the intention behind these seminars is to create an informal and intimate setting, which hopefully will stimulate open discussions.

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

A handwritten signature in black ink, appearing to read "Dafin F. Muresanu", with a small mark below it.

Program Coordinator



Dařin F. Mureřanu

President of the European Federation of
NeuroRehabilitation Societies (EFNR)

Secretary General AMN
(Academy for Multidisciplinary 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

International Guest Lecturer



Claudio Bassetti

Dean, Medical Faculty, University Bern

Pas President of
European Academy of Neurology

Full Professor of Neurology and Chair, Neurology Department,
University Hospital, Bern, Switzerland



Organizers



FOUNDATION OF THE
SOCIETY FOR THE STUDY OF
NEUROPROTECTION AND
NEUROPLASTICITY



International
School of Neurology



UMF
IULIU HAȚIEGANU
UNIVERSITY OF
MEDICINE AND PHARMACY
CLUJ-NAPOCA



Institute for
Neurological Research
and Diagnostic



FUNDATIA JURNALULUI
**Journal of Medicine
and Life**



**ACADEMIA DE
ȘTIINȚE
MEDICALE**

Experientia docet



**SCIENTIFIC
PROGRAM**



Scientific program

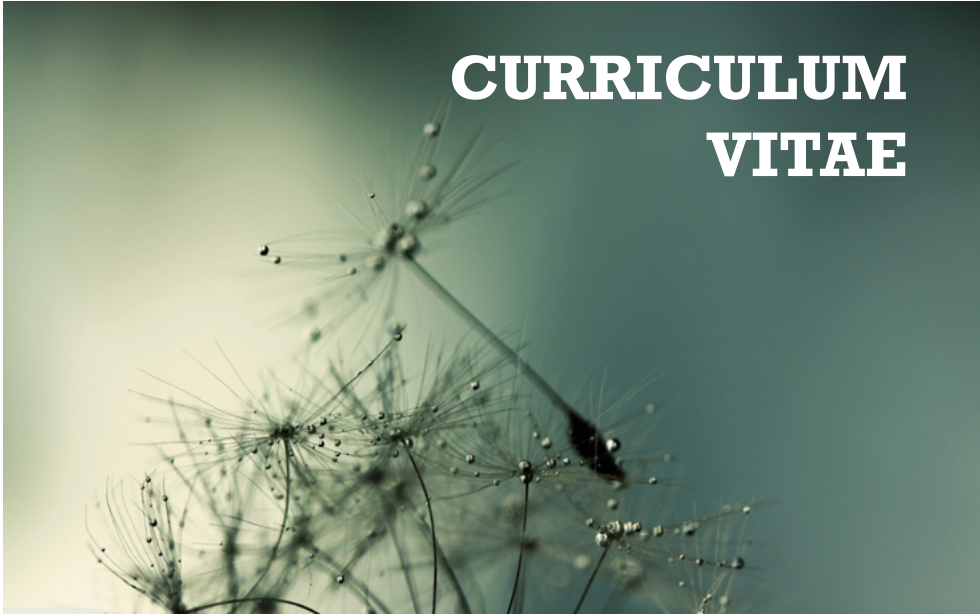
3 MAY, 2023

VIRTUAL MEETING

- | | |
|---------------|--|
| 13:00 - 13:30 | Sleep and epilepsy
Claudio Bassetti /Switzerland |
| 13:30 - 14:00 | Sleep and stroke
Claudio Bassetti /Switzerland |
| 14:00 - 14:30 | Narcolepsy and CNS hypersomnias
Claudio Bassetti /Switzerland |



CURRICULUM VITAE



SPEAKER

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 (260 papers indexed on Web of Science-ISI, H-index: 25) as well as contributions in monographs and books published by prestigious international publishing houses. Prof. Dr. Dafin F. Muresanu has been honoured with: „Dimitrie Cantemir" Medal of the Academy of The Republic of



**Dafin F.
Muresanu**
/Romania

SPEAKER

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.



SPEAKER

Claudio Bassetti was born and raised in Ticino, is married and father of three boys. He received his MD degree from the University of Basel in 1984. He trained in neurology in Bern and Lausanne and performed research fellowships in basic neurophysiology (Basel) and sleep medicine (Ann Arbor, USA). In 2000 he was appointed professor of neurology at the University of Zurich. In 2009 he founded the Neurocenter of Southern Switzerland which he directed for 3 years. Since 2012 he is full professor of neurology at the University of Bern and director of the neurology department at Inselspital. Bassetti authored over 400 scientific publications and eight books. He pioneered the research on the bidirectional relationship between, sleep, sleep disorders and stroke using both a human and animal/experimental approaches. He made also fundamental contributions to our understanding of narcolepsy, including the recent discovery of specific autoreactive-T lymphocytes supporting the hypothesis of an autoimmune etiology. He served as president of the European Neurological Society, European Sleep Research Society and Swiss Neurological Society and was the founder of the Swiss Federation of Clinical Neurosocieties. In 2018 he became an elected member of the Swiss Academy of Medical Sciences. He currently serves as president of the European Academy of Neurology and as the Dean of the Medical Faculty in Bern.



**Claudio
Bassetti**
/Switzerland

Representative publications

- 1) Bassetti C, Aldrich M, Chervin R, Quint D. Sleep apnea in patients with TIA and Stroke. A prospective study of 59 patients. *Neurology* 1996
- 2) Bassetti C, Aldrich MS. Idiopathic hypersomnia. A series of 42 patients. *Brain* 1997
- 3) Bassetti C, Vella S, Donati F. SPECT during Sleepwalking. *Lancet* 2000
- 4) Khatami R, Maret S, Werth E, Rétey J, Schmid D, Maly F, Tafti M, Bassetti CL. A monozygotic twin pair concordant for narcolepsy-cataplexy without any detectable abnormality in the hypocretin pathway. *Lancet* 2004
- 5) Schwartz S, Ponz A, Poryazova R, Werth E, Boesiger P, Khatami R, Bassetti CL. Abnormal activity in hypothalamus and amygdala during humour processing in human narcolepsy with cataplexy. *Brain* 2008
- 6) Pace M, Baracchi F, Gao B, Bassetti C. Identification of sleep-modulated pathways involved in neuroprotection from stroke. *Sleep* 2015
- 7) Brill AK, Horvath T, Seiler A, Camilo M, Haynes AG, Ott SR, Egger M, Bassetti CL. CPAP as treatment of sleep apnea after stroke- a meta-analysis of randomized trials. *Neurology* 2018
- 8) Leemburg S, Gao B, Cam E, Sarnthein J, Bassetti CL. Power spectrum slope is related to motor function after focal cerebral ischemia in the rat. *Sleep* 2018
- 9) Latorre D, Kallweit U,....Bassetti C*, Sallusto F*. T cells in patients with narcolepsy target self-antigens of hypocretin neurons. *Nature* 2018 (*co-shared last authors)
- 10) Bassetti C.L.A., A. Adamantidis, D. Burdakov, et al. Narcolepsy. *Nature Rev Neurol* 2019

ABSTRACTS



Abstracts

SLEEP AND EPILEPSY

CLAUDIO BASSETTI
/Switzerland

The vignette of a patient with a paoxysmal sleep-related episode is presented at the beginning, and its solution at the end of the lecture.

INTRODUCTION: the regulation of the thalamo-cortico-thalamic rhythms during the normal sleep-wake cycle and the role of NREM and REM sleep in epileptogenesis are briefly presented ²³⁻²⁶. The concept of a „final comon“ pathway of parasomnias and sleep-related epilepsies and the corresponding clinical manifestations is discusses²⁷.

SLEEP AND EPILEPSY: the most important sleep-related epilepsy syndromes (including the so-called sleep hypermotor epilepsy, SHE) and sleep-epilepsy interactions are presented ^{28,29}.

DIAGNOSIS/MANAGEMENT: the diagnostic work-up and treatment options for patients with sleep-related epilepsy and for those with detrimental sleep- epilepsy interactions are discussed ^{30,31}.

SLEEP AND STROKE

CLAUDIO BASSETTI
/Switzerland

The vignette of a patient with stroke and a questionable sleep disturbance is presented at the beginning, and its solution at the end of the lecture.

Introduction: the autonomic changes occurring during normal sleep and secondary to sleep disordered breathing (SDB) and other sleep disorders are presented ⁴¹. Experimental studies illustrating the effects of sleep manipulations on the evolution of stroke are shown ⁴²⁻⁴⁴.

Sleep and stroke: the data suggesting SDB (and other sleep disorders) as independent risk factors for stroke are discussed ^{11, 45, 46}. Current knowledge on frequency and consequences of SDB and other sleep-wake disorders on the outcome of stroke are discussed ^{11, 47, 48}.

Diagnosis/management: the diagnostic work-up and treatment options for stroke patients with sleep-wake disturbances are discussed ⁴⁹.



Abstracts

NARCOLEPSY AND CNS HYPERSOMNIAS

CLAUDIO BASSETTI
/Switzerland

The vignette of a patient with a CNS hypersomnolence disorders is presented at the beginning, and its solution at the end of the lecture.

INTRODUCTION: the general classification and etio-pathophysiology of excessive daytime sleepiness/hypersomnias are presented.

EPIDEMIOLOGY AND CLINICAL ASPECTS: the frequency, clinical manifestations and etio-pathophysiology of narcolepsy, idiopathic hypersomnia and other CNS hypersomnolence disorders are discussed⁵⁶⁻⁶⁰.

DIAGNOSIS/MANAGEMENT: the diagnostic work-up and treatment options for CNS hypersomnolence disorders are illustrated⁶¹.

REFERENCES

32. Marshall L, Helgadottir H, Mölle M, Born J. Boosting slow oscillations during sleep potentiates memory. *Nature* 2016;444:610-613.
33. Mander BA, Rao V, Walker MP, et al. Prefrontal atrophy, disrupted NREM slow waves and impaired hippocampal-dependent memory in aging. *Nat Neurosci* 2013;16:357-364.
34. Mander BA, Marks SM, Walker MO, et al. Beta-Amyloid disrupts human NREM slow waves and related hippocampus-dependent memory consolidation. *Nature Neuroscience* 2015;18:1051-1057.
35. Kang JE, Limm MM, Holtzmann DM, et al. Amyloid-(beta) dynamics are regulated by orexin and the sleep-wake cycle. *Science* 2009;326:1005-1007.
36. Yaffe K, Falvey CM, Hoan T. Connections between sleep and cognition in older adults. *Lancet Neurol* 2014;10:1017-1028.
37. Gagnon JF, Vendette M, Postuma RB, et al. Mild cognitive impairment in rapid eye movement sleep behavior disorder and Parkinson's disease. *Ann Neurol* 2009;66:39-47.
38. Ju YES, McLeland JS, Toedebusch CD, et al. Sleep quality and preclinical Alzheimer disease. *JAMA* 2013;70:587-593.
39. Riemersma-van der Lek R, Swaab DF, Twisk J, Hol EM, Hoogendijk WJG, Van Someren EJW. Effect of Bright Light and Melatonin on Cognitive and Noncognitive Function in Elderly Residents of Group Care Facilities. A Randomized Controlled Trial. *JAMA* 2008;299:2642-2655.
40. Guarnieri B, Musicco M, Caffarra P, et al. Recommendations of the Sleep Study Group of the Italian Dementia Research Association (SINDem) on clinical assessment and management of sleep disorders in individuals with mild cognitive impairment and dementia: a clinical review. *Neurol Sci* 2014;35:1329-1348.
41. Somers VK, Dyken ME, Mark AL, Abboud FM. Sympathetic-nerve activity during sleep in normal subjects. *New England Journal of Medicine* 1993;328:303-307.
42. Zunzunegui C, Gao B, Cam E, Hodor O, Bassetti CL. Sleep disturbance impairs stroke recovery in the rat. *Sleep* 2011;34:1261-1269.
43. Hodor O, Palchykova S, Baracchi F, Noain D, Bassetti CL. Baclofen facilitates sleep, neuroplasticity, and recovery after stroke in rats. *Ann Clin Transl Neurol* 2014;in press.
44. Pace M, Adamantidis AR, Facchin L, Bassetti C. Role of REM Sleep, Melanin Concentrating Hormone and Orexin/Hypocretin Systems in the Sleep Deprivation Pre-Ischemia. *Plos One* 2017;DOI:10.1371/journal.pone.0168430.
45. Pincherle A, Pace M, Sarasso S, Facchin L, Dreier JP, Bassetti CL. Sleep, Preconditioning and Stroke. *Stroke* 2017;48:3400-3407.
46. Mensen A, Pigorini A, Facchin L, et al. Sleep as a model to understand neuroplasticity and recovery after stroke: Observational, perturbational and interventional approaches. *J Neuroscience Methods* 2019;313:37-43.

Abstracts

47. Wu MP, Lin HJ, Weng SF, et al. Insomnia subtypes and the subsequent risks of stroke: report from a nationally representative cohort. *Stroke* 2014;45:1349-1354.
48. Leng Y, Cappuccio FP, Wainwright NW, et al. Sleep duration and risk of fatal and nonfatal stroke. *Neurology* 2015;84:1072-1079.
49. Alexiev F, Brill AK, Ott SR, Duss S, Schmidt M, Bassetti C. Sleep-disordered breathing and stroke: chicken or egg? *J Thorac Dis* 2018; doi: 10.21037/jtd.2018.12.66.
50. Birkbak J, Clark AJ, Rod NH. The Effect of Sleep Disordered Breathing on the Outcome of Stroke and Transient Ischemic Attack: A Systematic Review. *J Clin Sleep Med* 2014;10:103-108.
51. Parra O, Sanchez-Armengol A, Capote F, et al. Efficacy of continuous positive airway pressure treatment on 5-year survival in patients with ischaemic stroke and obstructive sleep apnea: a randomized controlled trial. *J Sleep Res* 2015;24:47-53.
52. Pace M, Camilo MR, Seiler A, et al. Rapid eye movements sleep as a predictor of functional outcome after stroke: a translational study. *Sleep* 2018;20:1-11.
53. McEvoy RD, Antic NA, Heeley E, et al. CPAP for Prevention of Cardiovascular Events in Obstructive Sleep Apnea. *New Engl J Med* 2016;375:919-931.
54. Brill AK, Horvath T, Seiler A, et al. CPAP as treatment of sleep apnea after stroke. A meta-analysis of randomized trials. *Neurology* 2018;in press.
55. Bravata DM, Sico JJ, FRagoso CA, et al. Diagnosing and Treating Sleep Apnea in Patients With Acute Cerebrovascular Disease. *JACC* 2018;7:e008841. DOI: 008810.001161/JAHA.008118.008841.
56. Khatami R, Luca G, Baumann CR, Bassetti CL, et al. The European Narcolepsy Network (EU-NN) database. *JSR* 2016;25:356.363.
57. Bassetti CLA, Adamantidis AR, Burdakov D, et al. Narcolepsy. Clinical features, etio-pathophysiology, diagnosis and management of a hypothalamic, immune-mediated disease. *Nature Rev Neurol* 2019;(in press).
58. Marti I, Valko PO, Khatami R, Bassetti CL, Baumann CR. Multiple sleep latency measures in narcolepsy and behaviourally insufficient sleep syndrome. *Sleep Med* 2009;10:1146-1150.
59. Kornum BR, Knudsen S, Ollila HM, et al. Narcolepsy. *Nature Reviews/Disaese Primers* 2017;3:1-19.
60. Latorre D, Kallweit U, Armentani E, et al. Autoreactive T cells in narcolepsy patients target antigens of hypocretin-producing neurons. *Nature* 2018;562:63-68.
61. Kallweit U, Bassetti CL. Pharmacological management of narcolepsy with and without cataplexy. *Ex Op* 2017;18:809-817.



“RoNeuro”

**Institute for Neurological Research and Diagnostic,
Cluj-Napoca, Romania**

Tel.: 0374 46.22.22

**str. Mircea Eliade nr. 37, 400364 Cluj-Napoca, România
Fax: 0374.461.674; Email: receptie@roneuro.ro**

www.roneuro.ro