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"IULIU HATIEGANU" UNIVERSITY
OF MEDICINE AND PHARMACY

DOCTORAL SCHOOL NEUROSCIENCE

PROGRAM

2018-2019 | SECTION 7

18 MAY, 2019
RONEURO INSTITUTE FOR NEUROLOGICAL RESEARCH AND DIAGNOSTIC
37 MIRCEA ELIADE STREET | CLUJ-NAPOCA | ROMANIA

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Chairman of EAN Communication and Liaison Committee

President of the European Federation of NeuroRehabilitation Societies (EFNR)

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

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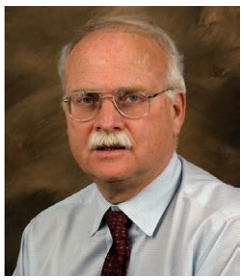

Marc Fisher

President-elect World Stroke Organization

Professor of Neurology, Harvard Medical School

Emeritus Professor of Neurology, University of Massachusetts Medical School, USA

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COURSE PROGRAM

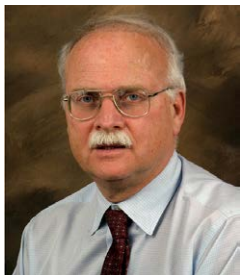
COURSE PROGRAM

MAY 18TH, 2019

RONEURO INSTITUTE FOR NEUROLOGICAL
RESEARCH AND DIAGNOSTIC | 37 MIRCEA ELIADE STREET
CLUJ-NAPOCA | ROMANIA

09:50 – 10:00	Welcome Address
10:00 – 10:45	Marc Fisher/ USA Acute stroke therapy: current status and future directions
10:45 – 11:30	Marc Fisher/ USA Cryptogenic Stroke
11:30 – 12:00	Coffee Break
12:00 – 12:45	Marc Fisher/ USA Identifying and implementing translational stroke research
12:45 – 13:30	Marc Fisher/ USA Secondary Stroke Prevention

INTERNATIONAL GUEST LECTURER



MARC FISHER
USA

Dr. Fisher was affiliated with the University of Massachusetts Medical School for 35 years and is currently an emeritus Professor of Neurology. He began work part-time at Beth Israel Deaconess Medical Center in Boston with an appointment at Harvard Medical School in August, 2014. He has a long track record in performing MRI-based experiments in rat stroke models to evaluate the presence and evolution of the ischemic penumbra. Using diffusion/perfusion MRI his experimental group has evaluated the effects of therapies on the progression of the diffusion/perfusion mismatch. Dr. Fisher has extensive experience in organizing and implementing clinical acute stroke therapy trials with a particular interest in imaging-based trials. He has performed these trials with co-investigators at multiple sites around the world. He has maintained an active clinical practice for many years with an emphasis on patients with cerebrovascular disorders as well as broad range of other neurological illnesses. He has published extensively and has published over 260 peer-reviewed articles with an h-index of 72 and has edited or co-edited 13 books. He currently serves as editor-in-chief of Stroke and will continue in that position until 2020.

DAFIN F. MUREȘANU
ROMANIA

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), Co-Chair EAN Scientific Panel Neurorehabilitation, Past President of the Romanian Society of Neurology, President of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), member of the Academy of Medical Sciences, Romania, secretary of its Cluj Branch. He is member of 17 scientific international societies (being member of the American Neurological Association (ANA) - Fellow of ANA (FANA) since 2012) and 10 national ones, being part of the executive board of most of these societies. Professor Dafin F. Muresanu is a specialist in Leadership and Management of Research and Health Care Systems (specialization in Management and Leadership, Arthur Anderson Institute, Illinois, USA, 1998 and several international courses and training stages in Neurology, research, management and leadership). Professor Dafin F. Muresanu is coordinator in international educational programs of European Master (i.e. European Master in Stroke Medicine, University of Krems), organizer and co-organizer of many educational projects: European and international schools and courses (International School of Neurology, European Stroke Organisation summer School, Danubian Neurological Society Teaching Courses, Seminars - Department of Neurosciences, European Teaching Courses on Neurorehabilitation) and scientific events: congresses, conferences, symposia (International Congresses of the Society for the Study of Neuroprotection and Neuroplasticity (SSNN), International Association of Neurorestoratology (IANR) & Global College for Neuroprotection and Neuroregeneration (GCNN) Conferences, Vascular Dementia Congresses (VaD), World Congresses on Controversies in Neurology (CONy), Danube Society Neurology Congresses, World Academy for Multidisciplinary Neurotraumatolgy (AMN) Congresses, Congresses of European Society for Clinical Neuropharmacology, European Congresses of Neurorehabilitation). His activity includes involvement in many national and international clinical studies and research projects, over 400 scientific participations as "invited speaker" in national and international scientific events, a significant portfolio of scientific articles (190 papers indexed on Web of Science-ISI, H-index: 20) as well as contributions in monographs and books published by prestigious international publishing houses. Prof. Dr. Dafin F. Muresanu has been honoured with: „Dimitrie Cantemir" Medal of the Academy of The Republic of Moldova in 2018, Ana Aslan Award 2018 - "Performance in the study of active aging and neuroscience", for the contribution to the development of Romanian medicine, National Order "Faithful Service" awarded by the President of Romania in 2017; "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Faculty of Medicine, the "Iuliu Hatieganu Great Award 2016" for the best educational project in the last five years; the Academy of Romanian Scientists, "Carol Davila Award for Medical Sciences / 2011", for the contribution to the Neurosurgery book "Tratat de Neurochirurgie" (vol.2), Editura Medicala, Bucuresti, 2011; the Faculty of Medicine, "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca "Octavian Fodor Award" for the best scientific activity of the year 2010 and the 2009 Romanian Academy "Gheorghe Marinescu Award" for advanced contributions in Neuroprotection and Neuroplasticity.

ABSTRACTS

ACUTE STROKE THERAPY: CURRENT STATUS AND FUTURE DIRECTIONS

MARC FISHER
Professor of Neurology, Harvard Medical School
Emeritus Professor of Neurology, University of Massachusetts Medical School, USA

The field of acute stroke therapy has seen exciting advances recently. In 2015, five thrombectomy trials were published that clearly demonstrated the efficacy of this treatment in carefully selected patients in patients with proximal, large vessel occlusion when treated within 6-8 hours of stroke onset. The key features of these trials were the substantial rate of recanalization with the use of stent retrievers, the rapidity of the procedure in most cases and the inclusion of patients with a small/moderate sized ischemic core as measured by CT ASPECTS or CT perfusion. More recently, thrombectomy was shown to be highly effective in patients up to 24-hours after stroke onset in the DAWN and DEFUSE-3 trials. In both trials, advanced imaging with CT perfusion or diffusion MRI was used to select patients with small to medium sized ischemic cores. Similar selection criteria will need to be utilized in daily clinical practice to replicate the benefits of the early and later time window thrombectomy trials.

Going forward, many additional thrombectomy trials will be needed to evaluate patients not included in the initial trials, such as those with a more distal intracranial occlusion, lower baseline NIHSS score and larger ischemic core. Additionally, trials to evaluate neuroprotection combined with thrombectomy can be envisioned. Three types of combination trials can be anticipated. The first would be to use very early initiation of neuroprotection to slow down the evolution of the ischemic core while patients are being transferred from a smaller outlying hospital to a thrombectomy center or in patients who will have a long transport time from home to the thrombectomy center. The second type of neuroprotection trial with thrombectomy would be to directly or systemically infuse a drug targeting reperfusion injury after reperfusion has been established by thrombectomy. A third combination would be to use a drug or gas that enhances collateral blood flow prior to thrombectomy to favorably enhance collateral blood flow before thrombectomy to keep the ischemic core as small as possible.

CRYPTOGENIC STROKE

MARC FISHER
Professor of Neurology, Harvard Medical School
Emeritus Professor of Neurology, University of Massachusetts Medical School, USA

Cryptogenic stroke is defined as a stroke of uncertain source despite an adequate search for the potential cause. The percentage of ischemic strokes that are cryptogenic vary among case series but contemporary studies suggest that approximately 25-30% of ischemic strokes do not have a determined cause. A recently defined group of cryptogenic stroke patients is those who are likely to have a cardioembolic stroke and they have been called embolic stroke of undetermined source (ESUS). The evaluation of ischemic stroke patients should include an extensive array of tests such as brain and vascular imaging, blood tests, an echocardiogram and monitoring of the cardiac rhythm. Since many cryptogenic strokes are thought to fall into the ESUS category, a more extensive cardiac evaluation should be considered. This would include transesophageal echocardiography and prolonged ECG monitoring in selected patients. The risk for recurrence of cryptogenic stroke is similar to patients with a determined source for their stroke. Secondary prevention should include antiplatelet therapy and risk factor modification. For ESUS patients, it is tempting to consider anticoagulation but current recommendations do not support this approach. Several ongoing clinical trials are comparing direct oral anticoagulants to antiplatelet therapy and the results should be available in a few years.

IDENTIFYING AND IMPLEMENTING TRANSLATIONAL STROKE RESEARCH

MARC FISHER
Professor of Neurology, Harvard Medical School
Emeritus Professor of Neurology, University of Massachusetts Medical School, USA

Translational stroke research represents the interface between basic science advances in the cerebrovascular field and determining if these advances are helpful for the diagnosis and treatment of stroke patients. The traditional approach to translational stroke research has been to identify basic research advances that may potentially be clinically useful such as the discovery of a novel pathway of ischemic brain injury that can ameliorated by a drug targeted towards this mechanism of injury. At the translational stage this new drug will be tested in appropriate animal models and if it is effective future clinical trials will be organized based upon the stroke modeling data. Another approach to translational research is reverse translation that occurs when a clinical advance triggers basic science research studies such as understanding how a novel therapy may improve stroke outcome or determining how an imaging modality can distinguish between infarction and the ischemic penumbra. A third approach to translational research is lateral translation that is characterized by basic research to improve upon a currently effective therapy. An example of this approach would be the development of better thrombolytic agents than tPA that have enhanced clot lysis effects and a better safety profile.

SECONDARY STROKE PREVENTION

MARC FISHER
Professor of Neurology, Harvard Medical School
Emeritus Professor of Neurology, University of Massachusetts Medical School, USA

After an initial ischemic stroke an important aspect of patient care is to reduce the risk of subsequent strokes. Good control of vascular risk factors such as hypertension, diabetes and hypercholesterolemia are key components of the effort to reduce recurrent stroke risk. For patients with large or small vessel disease as the mechanism for their stroke, antiplatelet therapy should also be employed. Either aspirin or clopidogrel can be prescribed and it is unclear if one drug reduces subsequent stroke risk more than the other. The combination of aspirin and extended release dipyridamole is another option that in the large PROFESS trial reduced the risk of subsequent ischemic stroke similarly to clopidogrel but with more side effects such as headache and dizziness. The combination of aspirin and clopidogrel should be considered for 3 months in patients with intracranial large vessel stroke. For patients with stroke secondary to atrial fibrillation anticoagulation is recommended. Warfarin was the only option for many years, but four newer oral anticoagulants are now available. I recommend that dabigatran or apixaban be considered for some atrial fibrillation related stroke patients because both have a lower risk of intracranial hemorrhage than warfarin and dabigatran also significantly reduced the risk of subsequent ischemic stroke as compared to warfarin. Apixaban was at least as good as warfarin in reducing ischemic stroke risk as compared to warfarin and had a substantially lower risk of all types of major bleeding side effects. The data are less compelling for rivaroxaban and edoxaban so I do not recommend them.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