



"IULIU HATIEGANU" UNIVERSITY
OF MEDICINE AND PHARMACY

# DOCTORAL SCHOOL NEUROSCIENCE PROGRAM

2022-2023 | M 2.3.2

28 MARCH, 2023 VIRTUAL MEETING





# PhD NEUROSCIENCE PROGRAM COORDINATOR



Dafin F. Mureşanu

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



Maura Pugliatti

Professor of Neurology at the University of Ferrara, Ferrara, Italy

Director of the University Hospital Unit of Clinical Neurology, S. Anna Hospital, Ferrara, Italy

# PhD NEUROSCIENCE PROGRAM FACULTY

2022-2023

Claudio Bassetti / Switzerland

Ettore Beghi / Italy

Natan Bornstein / Israel

Michael Brainin / Austria

Anca Dana Buzoianu / Romania

Michael Chopp / USA

László Csiba / Hungary

Marc Fisher / USA

Urs Fischer / Switzerland

Ioan Ștefan Florian / Romania

Antonio Federico / Italy

Francesca Federico / Italy

Max Hilz / Germany

Wolf Dieter Heiss / Germany

Tudor Jovin / USA

Maurizio Leone / Italy

Dafin F. Mureșanu / Romania

Milija Mijajlovic / Serbia

Lăcrămioara Perju-Dumbravă / Romania

Maura Pugliatti / Italy

Johannes Vester / Germany

## **ORGANIZER**



University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj Napoca, Romania www.umfcluj.ro

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**COURSE PROGRAM** 

# **COURSE PROGRAM**

28 MARCH	l. 2023
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VIRTUAL MEETING

12:00 - 12:40	Maura Pugliatti/ Italy Population surveys: scopes, prevalence, incidence, health registries
12:40 -13:10	Maura Pugliatti/ Italy Population surveys: methodological problems, standardization
13:10 – 13:40	Maura Pugliatti/ Italy Case Control studies
13:40 – 14:10	Maura Pugliatti/ Italy Cohort Studies



# INTERNATIONAL GUEST LECTURER



# MAURA PUGLIATTI

Maura PUGLIATTI, MD, PhD is Associate Professor of Neurology at the University of Ferrara, and acting as Director of the University Hospital Unit of Clinical Neurology, S. Anna Hospital, Ferrara, Italy. She took a PhD in 2007 and was a Research Fellow in 2007-10 at the Dept. of Public Health and Primary Health Care, University of Bergen, Norway, actively coordinating a large multi-center case-control study on multiple sclerosis (MS) and environmental risk factors. She has been Visiting Professor at the University of Bergen (Erasmus Teaching Staff Mobility program to medical students, 2010-12), University of Belgrade, Serbia (to PhD student, 2015). Since 2011 she is Adjunct Professor at the Dept. of Clinical Medicine, McGill University, Montreal, Canada within collaborative research in MS epidemiology. She has been a faculty member of the PhD School in at the University of Medicine and Pharmacy, Cluj Napoca, Romania, since 2016. In 2008-14 she was Chair of the EFNS Scientist Panel of Neuroepidemiology and Public Health, and she co-chairs the same Panel for the European Academy of Neurology. Her main research areas in epidemiology are multiple sclerosis, epilepsy, amyotrophic lateral sclerosis and myasthenia gravis, through collaborative research at national and international level. She is author of 134 papers in peer-reviewed scientific journals.

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## DAFIN F. MUREŞANU 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), 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 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** 

## POPULATION SURVEYS: SCOPES, PREVALENCE, INCIDENCE, HEALTH REGISTRIES

#### MAURA PUGLIATTI

Professor of Neurology at the University of Ferrara, Ferrara, Italy Director of the University Hospital Unit of Clinical Neurology, S. Anna Hospital, Ferrara, Italy

The lecture will provide an overview of the scope of population surveys particularly aimed at (i) setting the basis for developing research protocol of neuroepidemiological studies, and (ii) ensure a critical reading of the scientific literature on neuroepidemiological issues. The main measure in descriptive epidemiology will be elucidated, such as prevalence, incidence, mortality and the computation of corresponding epidemiological indices. An analysis of the main feature for such study designs will be discussed, among which the definition of a study versus source versus target population, the identification of 'outcomes' and 'exposures', the definition of cases, and identification of epidemiological sources for data collection (case ascertainment). Furthermore, genetic epidemiology and the study of familial aggregation will be discussed, as well as screening strategies for prevention and early treatment.

Examples of descriptive studies from specific neurological disorders, eg., migraine, epilepsy and seizures, cognitive impairment, amyotrophic lateral sclerosis, will be illustrated.

Lastly, the lecture will finally focus on data collection, databasing and disease registry, and how this approach for disease surveillance can indeed affect epidemiological estimates. Example of such registers and databases will be illustrated.

## POPULATION SURVEYS: METHODOLOGICAL PROBLEMS, STANDARDIZATION

#### MAURA PUGLIATTI

Professor of Neurology at the University of Ferrara, Ferrara, Italy Director of the University Hospital Unit of Clinical Neurology, S. Anna Hospital, Ferrara, Italy

This lecture will highlight the methodological problems when carrying out a population survey: the definition, measurement and distribution of disease determinants (putative risk/protective risk factors), the population structure, and the methods to standardize, directly or indirectly, study estimates to make them comparable. Example will be given from different chronic diseases.

#### **CASE-CONTROL STUDIES**

#### MAURA PUGLIATTI

Professor of Neurology at the University of Ferrara, Ferrara, Italy Director of the University Hospital Unit of Clinical Neurology, S. Anna Hospital, Ferrara, Italy

One or two articles from neuroepidemiological scientific literature (case-control studies) will be selected. Students will be asked to go through critical reading with the support of an evaluation grid of items which should not be overlooked for good quality interpretations of results. Students will also be invited to suggest strategies to improve shortcomings when designing case-control studies in neurology.

### **COHORT STUDIES**

#### MAURA PUGLIATTI

Professor of Neurology at the University of Ferrara, Ferrara, Italy Director of the University Hospital Unit of Clinical Neurology, S. Anna Hospital, Ferrara, Italy

Besides descriptive studies, analytical epidemiological studies will be discussed during the course. These study designs imply a comparison group and the possibility to detect an association between an exposure and an outcome. Randomized clinical trials (RCTs) are experimental study designs wherein the investigator has the opportunity to administer a treatment or implement an intervention to different arms of study participants that have been randomized so as to minimize the risk of biases and equally distribute potential confounding.

Cohort studies imply instead the analysis of cohorts which have been 'naturally' selected by one or more exposure(s) and which are followed-up in time to assess the respective incidence of a disease.

These cohort may be prospective when the follow-up starts at the study time, and retrospective, when they have been defined in the past (by exposure, and not outcomes) for other purposes.

Exposures and outcomes will be discussed, as well as the computation of the measure of association, the relative risk or incidence rate ratio.

Advantages and disadvantages of cohort studies will be illustrated as well as criticalities, and examples from the clinical neurology provided.

