



"IULIU HATIEGANU" UNIVERSITY
OF MEDICINE AND PHARMACY

# DOCTORAL SCHOOL NEUROSCIENCE PROGRAM

2019-2020 | SECTION 1

2 - 3 DECEMBER, 2019

"MULTIMEDIA" AUDITORIUM, "IULIU HATIEGANU" UMF CLUJ-NAPOCA 8 VICTOR BABES STREET | CLUJ-NAPOCA | ROMANIA RONEURO INSTITUTE FOR NEUROLOGICAL RESEARCH AND DIAGNOSTIC 37 MIRCEA ELIADE STREET | CLUJ-NAPOCA | ROMANIA



# PhD NEUROSCIENCE PROGRAM COORDINATOR



Dafin F. Mureşanu

President of the European Federation of NeuroRehabilitation Societies (EFNR)

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# INTERNATIONAL GUEST LECTURER



Wolfgang Grisold

Secretary-General of World Federation of Neurology

Ludwig Boltzmann Institute for Experimental und Clinical Traumatology, Vienna, Austria

Medical University, Vienna, Austria

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2019-2020

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**COURSE PROGRAM** 

## **COURSE PROGRAM**

### DECEMBER 2<sup>ND</sup>, 2019

"MULTIMEDIA" AUDITORIUM, "IULIU HATIEGANU" UMF CLUJ-NAPOCA 8 VICTOR BABES STREET | CLUJ-NAPOCA | ROMANIA

10.00 - 10:10	Introduction
10:10 - 10:50	Common neuropathy examination and pitfalls Wolfgang Grisold/ Austria
10:50 - 11:30	A lump in the calf-case presentation and differential diagnosis Wolfgang Grisold/ Austria
11:30 - 12:10	Neuroanatomy and clinical examination: dermatoma, myotoma, sclerotoma and angiosoma Wolfgang Grisold/ Austria
12:10 - 12:40	Coffee Break
12:40 -13:20	Neuromuscular side effects in cancer treatment Wolfgang Grisold/ Austria
13:20 - 14:00	Advocacy in neurology Wolfgang Grisold/ Austria

## **COURSE PROGRAM**

	DECEMBER 2 <sup>ND</sup> , 2019
	RONEURO INSTITUTE FOR NEUROLOGICAL
	RESEARCH AND DIAGNOSTIC   37 MIRCEA ELIADE STREET
	CLUJ-NAPOCA   ROMANIA
16:00 - 16:20	Diabetic neuroapthy Nicu Draghici/ Romania
16:20 - 16:40	Vasculitic neuropathy Livia Livint Popa/ Romania
16:40 – 17:00	Painful neuropathy Roxana Ailoaiei/ Romania
17:00 – 17:20	What's new to be known about mononeuropathies Ovidiu Isip/ Romania
17:20 -17:40	CIDP and variants Maria Balea/ Romania
17:40 – 18:00	Coffee Break
18:00-19:00	Hands-on session/disscusions
	DECEMBER 3 <sup>RD</sup> , 2019
	RONEURO INSTITUTE FOR NEUROLOGICAL
	RESEARCH AND DIAGNOSTIC   37 MIRCEA ELIADE STREET
	CLUJ-NAPOCA   ROMANIA
09:00 - 11:00	Hands-on session
11:00 – 11:30	Coffee Break
11:30 -13:00	Hands-on session /Disscusions



# INTERNATIONAL GUEST LECTURER



# WOLFGANG GRISOLD AUSTRIA

Prof. Wolfgang Grisold is a specialist for neurology and psychiatry. From 1989 until 2016, he has been heading the department of neurology of the KFJ hospital in Vienna, Austria.

His special interests apart from general neurology are neuromuscular disease and neurooncology, palliative care and education in neurology. His has particular expertise in neuromuscular disease in regards to clinical findings, electrophysiology, neuropathology and imaging. He has participated in 2 EU projects on paraneoplastic syndromes, and in 2 ECCO- EU projects on oncologic video education. His focus in the past years was the effect of cancer on the peripheral nervous system.

He currently published 600 publications among them 4 books (Atlas of neuromuscular disease, 2 editions) and has presently 225 Pubmed quoted publications, 330 Abstracts and presented over 1400 lectures.

He has been involved in education from the aspects of CME and CPD (EFNS, UEMS, WFN), residency training (Austrian society of neurology and UEMS), board examinations (Austrian society and UEMS/EBN), patient and caregiver education and European and international department visits (UEMS/WFN). He has chaired the education committee of the EFNS from 2002 until 2007, has been the co-chair of the education committee of the WFN, where he also chaired the teaching course committee until 2015.

From 2000 to 2002, he was the founding president of the Austrian Society of Neurology. He is presently the secretary general of the WFN from 2013 and is involved in educational projects as the WFN Teaching centers and WFN department visits.

He was president of the UEMS/EBN (past president), and the EANO (European Association of neurooncology). Within ECCO he chairs the ACOE (accreditation body for CME) and is a member of the UEMS EACCME CME governance board.

In Vienna he is a member of the KAV ethics committee and also a member of the higher medical council of the city of Vienna.

He also works in a private neurology office in Vienna, where combines clinical work with neuromuscular disease and electrophysiology.



### 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), 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 Romanian Academy, 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 (193 papers indexed on Web of Science-ISI, H-index: 21) 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** 

#### COMMON NEUROPATHY EXAMINATION AND PITFALLS

#### **WOLFGANG GRISOLD**

Ludwig Boltzmann Institute for Experimental und Clinical Traumatology, Vienna, Austria Medical University, Vienna, Austria

Mononeuropathies can have several causes, the most frequent being nerve entrapment and compression, as well trauma. Other entities as infection (leprosy, herpes), toxicity (cytostatic drugs, lead, chemical substances). Neoplastic lesions are infrequent.

The incidence of mononeuropathies is not well described. It seems that the median nerve on the upper extremity and the peroneal nerve on the lower extremity are most frequently affected.

The symptoms are sensory ad motor deficits, sometimes pain, resulting in dysfunction. The symptoms of CTS are well described, yet can present in a large variety. On the other side of the spectrum are pure sensory nerves as the cutaneus femoral and saphenal nerve, which demonstrate that a painful neuropathic syndrome can causes severe symptoms.

The diagnosis of compression syndromes is based on the clinical examination and electrophysiological tests, which should be carried out in a standardized fashion. Increasingly also imaging in particular nerve ultrasound is becoming an accepted method to detect and investigate mono- neuropathies. The diagnosis of an entrapment syndrome is important for further interventions. Differential diagnosis comprise radiculo-, plexopathies, and some type of rare neuropathies.

The peripheral nerves are also constituted out of several types of innervation and for many nerves anastomosis between nerves have to be considered, as for an example between the median and ulnar nerve, the musculocutaneus nerve and the median nerves and several other examples.

Often a precise location of the lesion is possible, and is used at the basis for therapy. Conservative treatment, pain therapy, physiology and occupational therapy and surgery need the precise diagnosis.

### A LUMP IN THE CALF-CASE PRESENTATION AND DIFFERENTIAL DIAGNOSIS

#### **WOLFGANG GRISOLD**

Ludwig Boltzmann Institute for Experimental und Clinical Traumatology, Vienna, Austria Medical University, Vienna, Austria

Case report, clinical examination and imaging.

This is a case report of a 50 year old patient, who developed a swollen calf over 5 years. The increasing circumference of the calf made it difficult for him to put on trousers. There was no pain, no sensory symptoms. Locally a venous thrombosis preceded the swelling. There was no history of lumbar radiculopathy.

The clinical exam showed a swollen left calf and the circumference was larger on the affected side. Palpation of the lump showed "soft" and firmer parts. There was normal temperature, and no tenderness. The muscular function of the lower leg was normal.

An EMG showed fairly normal motor unit potential. One spot showed with few fibrillations, but was inconclusive. It was noted that the investigator found it difficult to find "muscle tissue".

Several MRs had been done previously, the last finding was that of a focal myositis, a tumor could not be

excluded. However a muscle biopsy (without imaging control) had been performed. It was badly damaged tissue and the pathologist found the tissue inconclusive. CK had never been obtained, and was normal at the time of the examination.

The MRI scans were reviewed and an ultrasound investigation also considered the possibility of a local infiltrative tumor. US considered changes resembling neoplastic infiltration. The course was slow and mildly progressive. Again an MR was performed, which suggested a tear of the medial head of the gastrocnemius muscle, which has been described as the "tennis leg". Further interventions as plastic and reconstructive surgery were considered.

The course of the disease show a painless lump in the calf, with increasing functional impairment. The preceding MR investigations suggested inflammatory and neoplastic causes, and also as focal pseudo - hypertrophy due to radiculopathy were considered. The final interpretation of the MR images and the clinical course confirmed the rare diagnosis of "tennis leg". Although often reported in a traumatic context, also similar atraumatic and painless courses, which resemble the description of out case have been reported.

### NEUROANATOMY AND CLINICAL EXAMINATION: DERMATOMA, MYOTOMA, SCLEROTOMA AND ANGIOSOMA

#### WOLFGANG GRISOLD

Ludwig Boltzmann Institute for Experimental und Clinical Traumatology, Vienna, Austria Medical University, Vienna, Austria

The classical and useful neurological view on sensory distribution are defined by central, radicular and peripheral patterns. These dermatomal classifications are useful in discrimination the location of the dysfunction. Sensory distributions are often incomplete, and overlapping. Often the sensory loss in radicular distribution if often confined in to the distal "signature" area.

The myotomal distribution is useful to discriminate radiculo-, plexo- and mononeuropathies. It is complicated by physiological differences in the segmental innervation and often muscles are innervated by several overlapping segments. The myotomal innervation can be examined by muscle function, state of muscle bulk. However the sensory and pain receptor innervation of muscle is still enigmatic.

Two other classifications are important for the understanding of the peripheral nervous system. One is the angiosomatic structure, and the other the sclerodermatic innervation.

Angiosomas describe the vascular distribution in tissue and also the vascularization of peripheral nerves and muscles. As the angiosomas have a different pattern of distribution then the derma- and myotoma, the knowledge is crucial for surgical and in particular plastic and reconstructive surgery. In neurology and neurosurgery the vascularization and watershed zones of cranial nerves and peripheral nerves are an important help to discriminate nerve lesions.

The sclerotome describes the radicular innervation of bones and periostal structures, thus describing a different distribution of pain perception, than in dermatomal distribution. The sclerodermal innervation have been firstly described by Dejerine, and was only recently mentioned in the context of cancerous spread along peripheral nerves reaching the bone.

#### NEUROMUSCULAR SIDE EFFECTS IN CANCER TREATMENT

#### **WOLFGANG GRISOLD**

Ludwig Boltzmann Institute for Experimental und Clinical Traumatology, Vienna, Austria Medical University, Vienna, Austria

Cancer is a broad term to describe malignant disease. Most commonly between solid and liquid cancers is distinguished. The Primary CNS tumors, are usually considered as a separate category, in regard to management and therapy.

Multimodal therapies as surgery, radiotherapy (RT), chemotherapy and a number of new methods, are improving. Also side effects of treatment need to be considered.

The neuromuscular system is generally considered to consist of cranial nerves, spinal root, nerve plexus, individual nerves, the neuromuscular transmission and muscle and the autonomic system. The side effects are treatment specific and can be distinguished between surgery, RT, chemotherapy and other methods ranging from physical interventions towards targeted an immuno-therapies.

Surgical damage of peripheral nerve structures can be incidental or at times also structures of the peripheral nervous system need to be sacrificed to remove tumors.

RT interventions can produce early, delayed and late responses. Additionally the radio fibrosis syndrome, and direct muscle damage can be expected.

The most frequent complications are caused by chemotherapy and cause chemotherapy induced neuropathies (CIPN). Usually this results in a drug dependent cumulative toxicity. Acute effects are rare. Late effects can be increasingly seen in long term survivors.

Also other interventions as hormonal treatment, and several interventions based physical influences (heat, cold) can damage nervous tissue.

Most neuromuscular side effects follow the classical pattern of cumulative toxicity, whereas new therapies as targeted therapies and immune therapies, cause a new spectrum of peripheral autoimmune diseases, as polyneuropathies, mono -neuropathies, myasthenia and myositis occurring at various time points during treatment. The frequency of these new side effects has not been stablished so far.

#### ADVOCACY IN NEUROLOGY

#### **WOLFGANG GRISOLD**

Ludwig Boltzmann Institute for Experimental und Clinical Traumatology, Vienna, Austria Medical University, Vienna, Austria

Advocacy is a frequently term, describing to "speak for "someone. It is used in several different contexts, as in law and in social work among others. In medicine the activity of advocacy is deeply, and implicitly rooted to the work of a medial doctor, but also eminent contributions come from other health professionals.

Anyone can be an advocate, either for others, for a cause or procedure or even for oneself. Advocating is usually considered an altruistic activity and needs to one distinguished from "lobbying". Advocates and advocatees have a special relation, and in some instances also the role can be reversed.

Advocacy is not new, and has a long history in neurology.

Advocacy can be carried out at various levels; as examples in a small scale (micro), in a larger scale (meso) and in a large scale (macro) level. The aim and content of the advocacy project is important and not the size of the project.

Advocacy projects are not only carried out by physicians or medical institutions, but also other NGOs and welfare organizations use advocacy at various levels.

The neurological subspecialties as stroke, epilepsy, MS, extrapyramidal disorders and others also have their own advocacy strategies, and exchange and productive interactions are needed.

Teaching and implementing advocacy in neurology, and particular in young and advancing neurologists is an important task of neurological societies. Teaching courses, training for advocacy tasks, communication, Press relations and project management are needed.

All projects need a proper ending, debriefing of the participants and final conclusions.

