



UMF
UNIVERSITATEA DE
MEDICINĂ ȘI FARMACIE
IULIU HAȚIEGANU
CLUJ-NAPOCA



FACULTY of MEDICINE
DEPARTMENT of
NEUROSCIENCES



Seminars

Department of Neurosciences

“Iuliu Hațieganu”

University of Medicine and Pharmacy

Cluj-Napoca | Romania

4TH MAGVENTURE TRANSCRANIAL AND PERIPHERAL MAGNETIC STIMULATION TEACHING COURSE

JANUARY 15-18, 2019

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

WELCOME ADDRESS

It is a pleasure to welcome you to the 56th Seminar, “4th MagVenture Transcranial and Peripheral Magnetic Stimulation Teaching Course“, January 15th-18th, 2019. The seminar is hosted by the Department of Neurosciences, Faculty of Medicine, “Iuliu Hatieganu” University of Medicine and Pharmacy ,Cluj-Napoca and “RoNeuro” Neurological Disorders Research and Diagnosis Center.

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. 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. Mureșanu,
Chairman Department of Neurosciences, Faculty of Medicine,
University of Medicine and Pharmacy “Iuliu Hatieganu”, Cluj Napoca, Romania



ORGANIZERS



UMF
IULIU HATIEGANU
UNIVERSITY OF
MEDICINE AND PHARMACY
CLUJ-NAPOCA

University of Medicine and Pharmacy
"Iuliu Hatieganu",
Cluj Napoca, Romania



Faculty of Medicine
University of Medicine and Pharmacy
"Iuliu Hatieganu",
Cluj Napoca, Romania



FACULTY of MEDICINE
DEPARTMENT of
NEUROSCIENCES

Faculty of Medicine
Department of Neurosciences
Cluj-Napoca, Romania



Foundation for the Study of
Nanoneurosciences and
Neuroregeneration



RONEURO
Institute for Neurological
Research and Diagnostic

SPEAKER



SPEAKER

PROFESSIONAL EXPERIENCE:

January 2011- present

- MagVenture A/S Farum Denmark, International Application Specialist
- My duties include user training on device handling and clinical application in Neurology, Psychiatry, Brain Research, Neurorehabilitation
- Furthermore, I'm responsible in establishing reference sites for Magnetic Stimulation in Diagnostic, Research and Treatment

August 2007 – December 2010

- Alpine Biomed GmbH Langenfeld Germany, Product Manager/ Specialist for NeuroDiagnostic
- I was responsible for user training on device handling and clinical application in Neurology, NeuroSurgery and Neurorehabilitation (EMG, NCV, EP, ERP, IOM, EEG, Sleep)

September 1998 – August 2007

- Medtronic GmbH Dusseldorf Germany, Product Manager/ Specialist for NeuroDiagnostic
- I was responsible for user training on device handling and clinical application in Neurology, NeuroSurgery and Neurorehabilitation (EMG, NCV, EP, ERP, IOM, EEG, Sleep)

September 1996 – August 1998

- Schwamedico GmbH Giessen Germany, Product Specialist for Acupuncture, TENS

January 1993 – August 1996

- ProScience Research Center Linden Germany, Assistant for Neuropharmacological Research

March 1987 – December 1992

- University Hospital Giessen, Nurse Neurosurgery Intensive Care Unit

EDUCATION/ QUALIFICATION

2002 – Physiotherapy: Basic Education Munich School of Physiotherapy

1993 – Graduation: Diplom – Ingenieur FH Biomedizinische Technik, Fachhochschule Giesen-Friedberg



**MATTHIAS
KIENLE**

SCIENTIFIC PROGRAM



SCIENTIFIC PROGRAM

DAY 1, TUESDAY, JANUARY 15TH 2019

Topic: Repetitive Transcranial Magnetic Stimulation (rTMS) for Psychologists

15.30 - 17:00

Classical Protocols and New Concepts of rTMS in Psychiatry, Psychology and Neuropsychology – Part 1: Depression, Anxiety, Obsessive-Compulsive Disorders and Bipolar Disorder

17.00 - 17.30

Coffee Break

17.30 - 18.30

Classical Protocols and New Concepts of rTMS in Psychiatry, Psychology and Neuropsychology – Part 2: Cognitive and Aphasia Rehab.

DAY 2, WEDNESDAY, JANUARY 16TH 2019

Topic: Repetitive Transcranial (rTMS) and Peripheral Magnetic Stimulation (rPMS) in Neurorehabilitation, part 1

8.30 - 13.00

Clinical Applications of rTMS and rPMS in Temporomandibular Joint Disorders

13.00 - 14.00

Lunch Break

14.00 - 16.00

Clinical Applications of rTMS and rPMS in Post Stroke Hemiparesis - Part 1

16.00 - 18.00

Clinical applications of rTMS and rPMS in Lower Back Pain - Part 1



SCIENTIFIC PROGRAM

DAY 3, THURSDAY, JANUARY 17TH 2019

Topic: Repetitive Transcranial (rTMS) and Peripheral Magnetic Stimulation (rPMS) in Neurorehabilitation, part 2

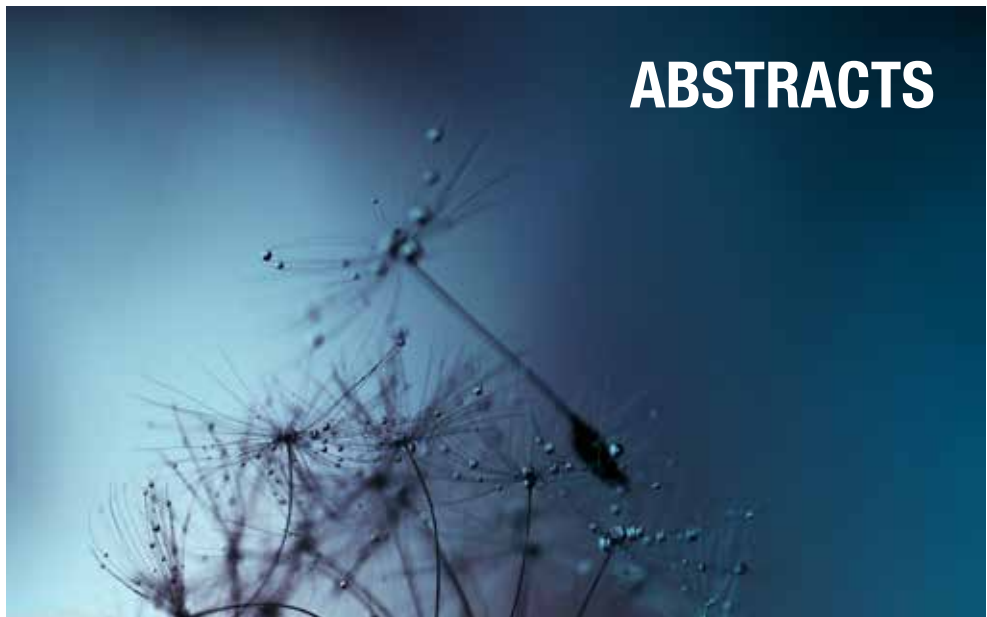
9.00 - 11.30	Clinical Applications of rTMS and rPMS in Lower Back Pain - Part 2
11.30 - 13.30	Clinical Applications of rTMS in Post Stroke Hemiparesis - Part 2
13.30 - 14.30	Lunch Break
14.30 - 18.00	Vagal Stimulation by Repetitive Peripheral Magnetic Stimulation

DAY 4, FRIDAY, JANUARY 18TH 2019

Topic: Repetitive Transcranial (rTMS) and Peripheral Magnetic Stimulation (rPMS) in Neurorehabilitation, part 3

10.00 - 11.00	Neurophysiological Mechanisms of rTMS and rPMS - Part 1
11.00 - 11.30	Coffee Break
11.30 - 13.00	Neurophysiological Mechanisms of rTMS and rPMS - Part 2
13.00 - 14.00	Lunch Break
14:00 - 16.00	Protocols for rTMS in Different Neurological Pathologies – Part 1
16.00 - 16.30	Coffee Break
16.30 - 18.00	Protocols for rTMS in Different Neurological Pathologies – Part 2

ABSTRACTS



Repetitive Transcranial Magnetic Stimulation (rTMS) for Psychologists

Transcranial magnetic stimulation (TMS) is a non-invasive tool for the stimulation of cerebral cortex, used in a broad spectrum of affective and cognitive disorders. It already has been approved by FDA as a treatment in depression and obsessive-compulsive disorders.

In the first part, this presentation will focus on different stimulation protocols in depression, anxiety, obsessive-compulsive disorders and bipolar disorder. Results from various studies and new concepts regarding the combination of psychotherapy and different types of stimulation, including high-frequency stimulation will be discussed.

In the second part, we will describe different ways of combining cognitive and aphasia rehabilitation with rTMS.

The following will be presented:

- Insights into neurophysiology of cognitive dysfunctions and aphasia from the perspective of neurorehabilitation;
- A brief overview upon currently used protocols in clinical studies regarding cognitive dysfunction and aphasia;
- The focus will be on recommendations regarding protocols that are appropriate for everyday clinical practice.

In the end, time is allocated for hands-on training.



MATTHIAS KIENLE

Repetitive Transcranial (rTMS) and Peripheral Magnetic Stimulation (rPMS) in Neurorehabilitation

During this course, we will present clinical applications of the combination between rTMS and rPMS in different pathologies: temporomandibular joint disorders with neurological complications, lower back pain, post-stroke hemiparesis.

Temporomandibular joint disorders (TMJD) represents a group of conditions that affect both the temporomandibular joint and the muscles involved in chewing. Myogenous TMJ the patients present pain, tenderness, and spasm of the muscles, with symptomatology that encompasses a broad spectrum of neurological complains such as tension headache, migraine, atypical facial pain, cervicalgia. Quite often, TMJS are also associated with affective disorders, especially anxiety with or without panic attacks, depression. The complexity of this spectrum of pathologies implies a multidimensional rehabilitation. Several clinical studies have tried to apply rTMS in patients with chronic orofacial pain, in general with promising results. During this course, will focus on the combination between rTMS, rPMS, manual therapy, and specific exercises, with practical applications on three different patients.

Hemiparesis represents a frequent complication of stroke. Chronic hemiparesis is considered to be a real challenge in neurorehabilitation due to chronic pathological compensations. These compensations affect both structural and functional levels, with consequences upon the brain and spinal cord connectomics, peripheral nerves excitability, muscle, and fascial systems. Due to these intricate mechanisms, the combination between rTMS, rPMS, and physiotherapy is essential for achieving an improvement in patients with post-stroke hemiparesis.

Lower back pain represents a spectrum of pathologies which unfortunately have a high rate of pharmacological treatment failure. Associated with a significant psychological overlay, it has a significant negative impact upon life quality. During this course there will be presented two different ways of managing this kind of patients with magnetic stimulation:

1. A protocol that focuses on the fast relief of pain, but for a short period;
2. A protocol that is based on functional diagnostic with single pulse peripheral magnetic stimulation, much more time consuming, but more effective in time.

Another important topic of this course is represented by vagal stimulation. Vagal nerve represents the main parasympathetic component of the human body and performs the interface between the autonomic nervous system, immune system, and central nervous system, especially the limbic system. Several methods of both invasive and non-invasive (electrical) vagal stimulation have been studied in a wide spectrum of neurological and cardiological pathologies. In this course, we will present several methods of non-invasive peripheral magnetic stimulation – different locations, frequencies and others. For better results, peripheral magnetic stimulation will be combined with manual therapy techniques and tested in different kind of pathologies – esophageal dyskinesia, chronic pain, anxiety.



MATTHIAS KIENLE

Repetitive Transcranial Magnetic Stimulation (rTMS) and Peripheral Magnetic Stimulation (rPMS) for Neurologists

In the first part of this presentation we will present information regarding:

- The characteristics of coils and which type of coil fits for a certain protocol/location; the difference between clinical studies and clinical practice;
- The difference between electrical and magnetic stimulation in both transcranial and peripheral stimulation;
- TMS mechanisms of action – modulation of excitability, local entrainment, etc.;
- Importance of combining peripheral with central stimulation;
- Advantages of multi-site stimulation;
- Discussions on high-frequency stimulation.



MATTHIAS KIENLE

In the second part, we will discuss protocols for rTMS in various neurological pathologies - a comparison between clinical studies protocols, with recommendations for clinical settings.

- Chronic pain/ Migraine/ Neuropathic pain;
- Movement disorders - Parkinsonism, Dystonia;
- Tinnitus;
- Motor rehabilitation;
- Cognitive rehabilitation;
- Aphasia rehabilitation;
- Epilepsy.



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