The First Master Training Class in Neuromodulation at a glance:
5-6 June 2020 – online event

78 Participants from 21 Countries

Dear Prof. Stefano,

Thank you so much for your excellent lecture on Neuromodulation for the treatment of OCD last weekend. I could participate in the lecture in both days (on Friday, because I could not connect the lecture by my PC, I attended it with Dr. Keiichiro Mukai et al. in our department). I am so pleased to meet Prof. Stefano in his lecture. We are much interested in the clinical application of TMS in the additional treatment for the treatment-resistant OCD. Your lecture gave us a lot of idea to utilize it soon. Thank you again for giving us a good opportunity to think about novel treatment strategy for OCD and OC spectrum disorders.

Best
Prof. H. Matsunaga (Japan)

Speakers of Excellence from the First Master Training Class in Neuromodulation - 5-6 June, 2020

In order of appearance

Prof. Stefano Pallanti

Professor Stefano Pallanti is the Chair of the ECNP Thematic Working Group.

Since 2005 he offers TMS clinical service for treatment resistant patients.

He is Professor of Psychiatry at the University of Florence, Director of the Institute for Neurosciences in Italy and Professor of Psychiatry and Behavioral Sciences at Stanford University, where he works as TMS Consultant.

He is also Visiting Professor at Albert Einstein College of Medicine, New York, Visiting Professor at Imperial College, London, and Adjunct Associate Professor at Icahn School of Medicine at Mount Sinai, New York.

Dr. Pallanti is one of the founders of the Clinical TMS Society. He is an Executive Committee Member, Fellow Member, and the Scientific Board of ECNP and serves in its Educational Committee. He is a Fellow and the International Advisory Board of the American Psychiatric Association for the Diagnostic and Statistical Manual of Mental Disorders.

He is a member of the board of directors of the International College for Obsessive-Compulsive Spectrum Disorders and an Associate Director of the European Certificate, International Master Course in Affective Neuroscience.

He is Editor of Archive of Behavioural Addiction, Deputy Editor of CNS Spectrums, where he is also a columnist. He has published more than 200 peer reviewed papers, 12 books, 4 manuals of Psychiatry.

Prof. Abraham Zagen

Professor Abraham Zangen is Full Professor, the head of the brain stimulation and behavior lab and the chair of the psychobiology brain program at the Ben-Gurion University in Israel. In 2012 he joined the Ben-Gurion University and in 2015 was promoted to the rank of Full Professor. Prof. Zangen has published over 150 peer-reviewed articles, reviews and book chapters and his current H-factor is 49. His scientific work was rewarded with 12 different personal prizes including the Medical Futures Innovation Award in London (2007) and the CME award and he has received several distinguished research grants including NIH, European Horizon 2020, ISF, and BSF.

Prof. Zangen studies are mainly in the field of altered neuroplasticity in depression, addiction and impaired attention, and the effects of repeated brain stimulation on markers for neuroplasticity and on behavioral outcomes in animal models for depression and addiction. He is also studying physiological outcomes and the potential effectiveness of the unique DTMS coil he developed for the treatment of depression, addiction and ADHD. His early work in this field led to establishment of Brainsway, a company that commercializes the coils developed with his colleagues.

Prof. Nikos Makris

Professor Nikos Makris is a systems neuroanatomist, imaging scientist, and psychiatrist. He is an Associate Professor of Psychiatry and Neurology in the Departments of Psychiatry and Neurology at Massachusetts General Hospital and Harvard Medical School. He is the Director of the Center for Morphometric Analysis and the MGH Morphometric Analysis Center Core as well as the co-Director of the Center for Neural Systems investigations. He is involved in the integration of projects, scientific and clinical effort, education and training in the domain of neural systems structural and functional anatomy and their applications in basic and clinical neuroscience using imaging. He has published over 100 papers in the neuroscience field.

Currently, he uses his expertise in many projects including schizophrenia, attention deficit hyperactivity disorder, post-traumatic stress disorder, traumatic brain injury, obsessive compulsive disorder, bipolar disorder, autism, alcoholism, cocaine addiction.

He has taught and trained people in hospital courses and invited teaching presentations, at a local, regional, national and international level, and has more than 179 peer-reviewed publications.

Prof. Joan Camprodon

Dr. Camprodon is the Chief of the Division of Neuropsychiatry, Director of the TMS clinical service and Director of the Laboratory of Neuropsychiatry and Neuromodulation at Massachusetts General Hospital and Harvard Medical School.

He runs a translational division with an integrated clinical neuroscience focus on brain circuitry. His work encompasses basic, translational and clinical human neuroscience research, clinical care, and training of clinicians and scientists.

His research use multimodal combinations of brain stimulation and neuroimaging/neurophysiology to investigate neural circuitry and plasticity in a translational manner.

Projects investigate (1) the anatomy and physiology of disease-relevant networks, (2) the investigation of pathophysiological mechanisms at the circuit level (with an emphasis on transdiagnostic processes and the role of plasticity) and (3) the translational development of tools to support clinical decision-making (e.g. biomarkers, predictors of response and treatment development with individualized image-guided neuromodulation).

Prof. Yogesh Rathi

Dr. Yogesh Rathi is an Associate Professor in the Department of Psychiatry and Radiology at the Harvard Medical School, Brigham and Women's Hospital.

His research interests lie in developing smart imaging techniques to understand brain structure and function. His current research focus is on 1). Ultra-high resolution diffusion imaging combining acquisition and reconstruction, 2). estimating tissue microstructure from biophysical and stochastic models of diffusion. His clinical research focus includes using and developing sophisticated tractography algorithms for precise targeting of deep-brain stimulation and transcranial magnetic stimulation in obsessive compulsive disorder, Parkinson's and major depressive disorder.

Prof. Bernardo Dell'Osso

Dr. Bernardo Dell'Osso is a psychiatrist, he is currently Director of the Psychiatric Clinic of the Ospedale Sacco-Polo Universitario in Milan and Associate Professor of Psychiatry at the University of Milan. In 2009, he received the Fellowship Award from the European College of Neuropsychopharmacology and in 2013 he received a Fellowship Award from the International Society of Bipolar Disorders.

He has authored more than 250 publications on national and International journals and serves in the editorial boards of several peer-reviewed journals including CNS Spectrums, Comprehensive Psychiatry and the International Journal of Bipolar Disorders.

Prof. Giovanni Martinotti

Prof. Martinotti is Associate Professor at the Department of Neuroscience, Imaging, and Clinical Science at University "G.d'Annunzio", Chieti-Pescara, Italy and Visiting Professor at the Department of Pharmacy, Pharmacology and Clinical Science, University of Hertfordshire, Herts, UK.

His research activities have focused on a few themes that are integral to a thorough understanding of the addictive behaviour processes and of the clinical aspects of schizophrenia. His publications are related to other typologies of addiction (methadone, cocaine, stimulant synthetic drugs, gambling), with a specific interest in dual diagnosis, complications and sequelae of addiction, personality traits, drug use on the Internet, and psychometric methodologies. As to schizophrenia, he has actively participated in neuroimaging studies focusing on the neuropsychological correlates of linguistic abilities and suicidality, and on the prefrontal-thalamic-cerebellar grey matter networks. Other areas of interest are represented by bipolar disorders, in particular the pharmacological treatment with mood stabilizers, and the clinical assessment of borderline personalities.

He serves as Editor-in-Chief in Research and Advances in Psychiatry and as Associate Editor in Frontiers in Psychiatry; The Open Journal on Addiction; The Open Journal on Psychiatry.

Prof. Joseph Zohar

Prof. Joseph Zohar is the Director of the National Post-Trauma Center, Research Foundation by the Sheba Medical Center, Israel. He is an emeritus professor of Psychiatry at the Sackler Faculty of Medicine, at Tel Aviv University.

Prof. Zohar is the past-President of the European College of Neuropsychopharmacology (ECNP). He is also chair of the Israeli consortium on PTSD, founder of the International College of Obsessive-Compulsive Spectrum Disorders (ICOCS), a board member for the International Master in Affective Neuroscience, and a visiting Professor at the University of Maastricht in The Nederlands;

Prof. Zohar had authored over 350 papers. He was the founding associate editor of CNS Spectrums and of the World Journal of Biological Psychiatry.

Prof. Zohar has pioneered and is currently the Chair of an international collaboration on developing new nomenclature for CNS drugs; NbN - Neuroscience based Nomenclature. He is also the chair of the Expert Platform on Mental Health focus on Depression

Prof. Zohar had been honored with several awards, including the Fogarty International Research Fellowship Award (1984), the A.E. Bennet Award for Clinical Research (1986 and 2002), ECNP Neuroscience Award for Clinical Research (1998), and the WFSBP Award for Excellence in Education (2001).

Prof. Zohar has recently (2012) received funding (RO1) from National Institute of Mental Health (NIMH) to explore secondary prevention of PTSD and from NATO (2018) to develop a guideline on the treatment in the "Golden Hours" after a terror attack. He is also the Co-Chair of EU grant on Problematic Use of Internet PUI (2017).

Dr. Anna Marras

Dr. Anna Marras earned her Master's Degree in Psychology at the University of Florence

in 2012 and she is Ph.D. In Neurosciences since 2018. She is currently a research fellow at the University of Florence for the clinical coordination of the R21 project "Modulating Inhibitory Control Networks in Gambling Disorder with Theta Burst Stimulation" (Pis: Prof. Nikos Makris, Prof. Joan Camprodon; Co-PI: Prof. Stefano Pallanti).

Dr. Marras owns training certificates for treatment with tDCS and rTMS and she is expert in neuromodulation treatments: since 2016 she has supervised over 300 patients in treatment with TMS, tDCS, photobiomodulation and light therapy at the Institute of Neurosciences, where she is currently Chief of Neuromodulation Department for clinical coordination of treatment protocols.

Dr. Marras is author of about ten peer-reviewed papers, author of three chpaters in Prof. Pallanti's Manual "Beyond Schizophrenia" (Pallanti, 2015) and collaborated to the publication of several scientific volumes.

Neuromodulation Thematic Working Group
Chair: Prof. Stefano Pallanti
Mission statement/aims

Neuromodulation techniques, especially repetitive TMS (rTMS), have long been studied to treat various neuropsychiatric disorders, mainly depression.

rTMS was first developed as an investigational tool. Then as a therapeutic tool, it has been approved by the Food and Drug Administration (FDA) for treatment-resistant depression. Its clinical effectiveness is currently under investigation in other treatment-resistant disorders such as obsessive-compulsive and related disorders, autism spectrum disorders, and attention deficit hyperactivity disorder (ADHD).

One of the most advantageous features of neuromodulation techniques is in the possibility to personalize treatment: the accurate identification of the most suitable brain regions to be targeted, as well as of the combination of parameters (i.e., frequency, intensity, number of pulses) in an rTMS protocol, offers the opportunity to develop a tailored treatment towards a specific dimension, symptom and, consequently, brain network involved, for the particular person. This feature is consistent with the recently developed Research Domain Criteria (RDoC) project launched by the US National Institute of Mental Health (NIMH). It offers a framework integrating the most recent contributions in neuroscience and genomics to guide future classification schemes.

Given the high non-response rate in psychiatric disorders treatment, there is a compelling need to develop an alternative treatment to target residual symptoms. Neuromodulation techniques allow a network pathway-oriented treatment, advantageous for their focus and ability to target specific networks. They can also reach distant key nodes, grounding upon our paradigm of brain connectivity and the increasing evidence of the brain circuitries underlying specific behavioral domains.

Neuromodulation techniques may also be employed to investigate and broaden our knowledge regarding neuroplasticity and inflammatory phenomena in psychiatric disorders.

The employment of neuromodulation techniques is rapidly spreading in clinical settings. However, research on its mechanisms of action and its interactions with pharmacotherapy and psychotherapy is still scarce and requires further developments.

The main objectives of this Neuromodulation Thematic Working Group are:

- Investigate the neurofunctional and neuropharmacological impact of neuromodulation techniques, both invasive and non-invasive (rTMS, tDCS, and DBS).
- Broadening the knowledge on the clinical effectiveness of neuromodulation techniques in neuropsychiatric disorders by investigating the underlying neurobiological mechanisms of the therapeutic effects.
- Refining treatment protocols and implementation in neuropsychiatric disorders, consistent with a precision medicine approach grounding on a connectivity-based framework, derived from the Research Domain Criteria (RDoC) project.
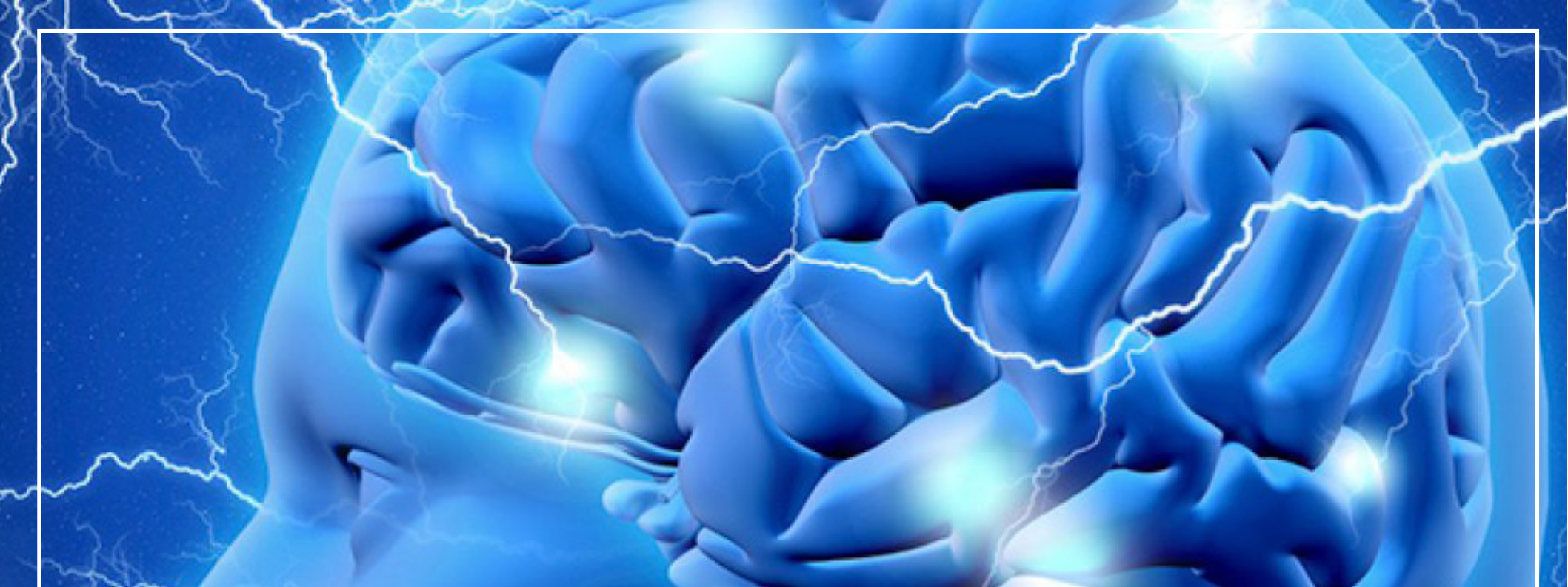
European College of Neuropsychophamacology (ECNP) is an independent scientific association dedicated to the science and treatment of disorders of the brain. It is the largest non-institutional supporter of applied and translational neuroscience research and education in Europe. ECNP is committed to ensuring that advances in the understanding of brain function and human behaviour are translated into better treatments and enhanced public health. Its goals include supporting innovative research in the convergent disciplines of neuropsychopharmacology and facilitate the communication of ideas, discoveries and best practices; encouraging the scientific activities of countries in Europe and coordinate the development of common European standards; promoting the entry of early career scientists into the field and support their ongoing professional development; provide guidance and information to the public on matters relating to brain function and the treatment of brain disorders; facilitating dialogue with regulators, government bodies, international agencies and industry.

Clinical Neurosciences ONLUS is a non-profit organization registered in 2003. It is apolitical and has for its primary purpose the promotion of clinical neurosciences, of education as an instrument of the prevention of neuro-psychiatric disorders, of teaching, of clinical and experimental research (including pharmaceutical drug trials, observation studies, carrying out psychometric studies and others of clinical use), of training and of the international educational collaborations.