

**1st International Winter Course and Workshop on Neuroimaging:
Brain Connectivity and Mental Health**

**Vicerectorado de Cultura y Participación Social
Universidad de La Laguna, Calle Viana 50
La Laguna 38200, Tenerife, Spain**

Saturday, February 4 – Thursday, February 9, 2023



Organized by the University of La Laguna and Harvard Medical School

Scientific Organizers: Nikos Makris (Neuroimaging and Neuroanatomy) and Stefano Pallanti (Neuropsychiatry).

Local Organizing Committee: Jose Luis González-Mora, Hipolito Marrero Hernandez, Jose Luis Carrasco Juan, Agustin Castañeyra Perdomo (ULL Faculty of Health Sciences and IUNE).

Participating Institutions: Universidad de La Laguna, Harvard Medical School, Albert Einstein College of Medicine, Boston University School of Medicine, Universidad de Las Palmas de Gran Canaria, Instituto de Astrofísica de Canarias, University of Milan, Centre Medic BM, University of Barcelona, Florida State University and Aalto University.

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Vicerrectorado de Cultura y Participación Social Social (Universidad de La Laguna (ULL), Calle Viana

50 San Cristóbal de La Laguna 38200, Tenerife, Spain

Saturday, February 4 – Thursday, February 9, 2023

Day 1 (Saturday, February 4, 18:00-20:00): Opening event (Welcome; Program presentation)

Day 2 (Sunday, February 5, 14:00-18:00): Crash course in neuroimaging

Nikos Makris (Harvard Medical School): Brain connectivity in imaging perspective

Ron Kikinis (Harvard Medical School): 3D Slicer in precision medicine

Yogesh Rathi (Harvard Medical School): Diffusion imaging tractography of brain connections

Jarrett Rushmore (Boston University School of Medicine): How human is human connectional neuroanatomy – The importance of anatomical and histological validation in neuroimaging

Bruce Jenkins (Harvard Medical School): Principles of structural, functional and spectroscopic neuroimaging

Jose Luis González-Mora (Universidad de La Laguna): Comparing near infrared spectroscopy (fNIRS) with fMRI

C-F Westin (Harvard Medical School): Next generation neuroimaging

Juan Ruiz Alzola (Universidad de Las Palmas de Gran Canaria): Logistics for imaging technology in universities and hospitals in developed countries and countries under development

Day 3 (Monday, February, 14:00-18:00): Neuroanatomy and Neurohistology

Nikos Makris (Harvard Medical School): Neuroanatomy of brain connectivity – The importance of systems and scales

Agustin Castañeyra (Universidad de La Laguna): Circumventricular organs and the NTS-MNV complex

Jose Luis Carrasco Juan (Universidad de La Laguna): The relationship between the peripheral autonomic system and Leydig cells in humans

Pradeep Bhide (Florida State University): Preclinical models of neurodevelopmental disorders

Day 4 (Tuesday, February 7, 14:00-18:00): Clinical Neuropsychiatry

Maurizio Fava (Harvard Medical School): Revisiting the Phenomenology of Depression

Eric Hollander (Albert Einstein College of Medicine): Autism Spectrum Disorder

Stefano Pallanti (Albert Einstein College of Medicine): Obsessive Compulsive Disorder

Bernardo dell’Osso (University of Milan): Bipolar Disorder

Nikos Makris (Harvard Medical School): Bridging Basic and Clinical Neuroscience: Why is Brain Connectivity so Important?

Day 5 (Wednesday, February 8, 14:00-18:00): Transcranial Magnetic Stimulation (TMS) and Neuroscience

Jose Luis González-Mora (Universidad de La Laguna): Physiological monitoring of TMS

Stefano Pallanti (Albert Einstein College of Medicine): Obsessive Compulsive Disorder Spectrum new translational treatment

José Manuel Menchón (Centre Mèdic BM): From DBS to non-invasive Neuromodulation in Obsessive Compulsive Disorder Spectrum

Risto Ilmoniemi (Aalto University): Advanced TMS technology

Day 6 (Thursday, February 9, noon-14:00): Workshop Demos and Aftermath on Collaborative Projects in Basic and Clinical Neuroscience

Pantelis Lioumis (Aalto University): Demos of TMS advanced precision mapping for speech and neurosurgery planning

Douglas Rosene (Boston University School of Medicine): Light and the anatomy and physiology of the circadian brain system

Juan Ruiz Alzola and González-Mora (Instituto de Astrofísica de Canarias and Universidad de La Laguna): Light and Mental Health: the special case of Tenerife

Nikos Makris, Jose Luis González-Mora, Risto Ilmoniemi and Stefano Pallanti: Aftermath discussion and Closure of Winter Course

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Mission and Objectives of Winter Course and Workshop on Neuroimaging

To generate good will and forge quality international relationships among motivated colleagues and to conceive quality projects based on reciprocal enthusiasm and technical capabilities of participants. To foresee feasible avenues of international funding devoid of conflict of interest of the participants. To disseminate knowledge to students in medical schools as well as undergraduate and graduate programs and to achieve practical outcomes through workshops during the course, for example by using 3D Slicer in basic imaging research and clinical practice. It is our intent to keep the scientific and administrative processes of this endeavour as simple as possible and devoid of conflict of interest.