

XXI SUMMER SCHOOL OF NEUROSCIENCE

15–19 JULY, 2024

CATANIA, ITALY

MEMORY DEFICIT AND DEMENTIA: ADVANCEMENTS IN PHYSIOLOGY AND TREATMENT HOPE

SCIENTIFIC DIRECTOR: Prof. Giuseppe Di Giovanni

Under the auspices of



Organizers

Coordinator:

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Secretary General – **International Brain Research Organization (IBRO)**

Editor in Chief – **Journal of Neuroscience Methods** – Elsevier

Description

The recent advances in understanding memory physiology and dementia offer hope for individuals with cognitive decline. The Catania International Summer School of Neuroscience 2024, "From Memory to Dementia: Advancements in Physiology and Treatment Hope," aims to address these complexities by convening leading experts in both basic and clinical fields of memory and dementia research. Topics such as cellular physiology, brain imaging, genetics, and pharmacogenetics will be explored, with a focus on advancing our comprehension of dementia, including sex and gender differences in Alzheimer's disease, and identifying novel treatment avenues. By fostering collaboration and innovation, the school endeavors to address the pressing medical needs in dementia care, offering hope for improved outcomes and quality of life for affected individuals.

Welcome

The Catania International Summer School of Neuroscience has always attracted attendees from Europe interested in the most appealing topics in Neuroscience and Neuropsychopharmacology. The Catania International Summer School of Neuroscience 2024 is entitled "From Memory to Dementia: Advancements in Physiology and Treatment Hope". During the CISSN, 13 lectures of 90 min (including 30-min discussion) will be delivered by experts from among the best in the field of brain diseases and neuropsychology.

Attendees

The CISSN is aimed at international and Italian PhD students, Post-Doctoral fellows, residency students in pharmacology, psychiatry, and neurology who are interested in Neuroscience. The students will have the opportunity to engage in collaborative work with international scholars, such as writing a grant application in the field of memory and dementia. The best project will be recognized and awarded a prize by Elsevier. Additionally, students will participate in a workshop on publishing led by Professor Giuseppe Di Giovanni, who serves as the Editor-in-Chief of the Journal of Neuroscience Methods, along with other editors of the journal. During this workshop, students will learn how to prepare a successful manuscript submission to high-impact journals and gain insights into ethics in publishing.

PROGRAMME

15 luglio

08:30 Opening

Filippo Drago and **Giuseppe Di Giovanni**

Morning Lecture

09:00 – 10:00

Patrizia Campolongo – Department of Physiology and Pharmacology, Sapienza University of Rome, Italy.

Title: *From memory loss to memory mastery: unveiling the power of superior memory*

10:00 – 10:30 Interactive discussion

10:30 – 11:30

Philippe De Deurwaerdere – Institut des Neurosciences Cognitives et Intégratives d'Aquitaine. CNRS Unité Mixte de Recherche, Bordeaux, France.

Title: *Neurochemistry and dementia: focus on monoamines in Alzheimer's disease*

11:30 – 12:00 Interactive discussion

Afternoon Lecture

15:30 – 16:30

Liset M de la Prida – Instituto Cajal – CSIC, Madrid, Spain.

Title: *The hippocampus in depth: new vistas on an old circuit*

16:30 – 17:00 Interactive discussion

17:00 – 18:00 General discussion

16 luglio

Morning Lecture

09:00 – 10:00

Sandra Vaz – Instituto de Medicina Molecular João Lobo Antunes, Faculty of Medicine, University of Lisbon, Portugal.

Title: *Cognitive comorbidities of absence seizures*

10:00 – 10:30 Interactive discussion

10:30 – 11:30

Fiorenzo Conti – Department of Medicine Experimental and Clinical, Polytechnic University of Marche; and Center for Neurobiology of Aging, IRCCS INRCA, Ancona, Italy.

Title: *Memory and dementia: a role for GLT-1-mediated hypereccitability*

11:30 – 12:00 Interactive discussion

Afternoon Lecture

15:30 – 16:30

Ioannis Sotiropoulos – Institute of Biosciences and Applications, NCSR “Demokritos”, Agia Paraskevi, Greece.

Title: *Chronic stress and exosome as key players in precipitation and diagnosis of Alzheimer’s disease*

16:30 – 17:00 Interactive discussion

17:00 – 18:00 General discussion

17 luglio

Morning Lecture

09:00 – 10:00

Filippo Caraci – Department of Medicine and Health Sciences – University of Catania, Italy.

Title: *Neurobiological links between depression and Alzheimer’s disease: novel pharmacological targets for future disease-modifying strategies*

10:00 – 10:30 Interactive discussion

10:30 – 11:30

Laura Castro – Women’s Brain Project, Zurich, Swiss

Title: *Advancing brain health: integrating sex as a biological variable in Alzheimer research*

11:30 – 12:00 Interactive discussion

Afternoon Lecture

15:30 – 16:30

Ivana Delalle – Boston University, Chobanian and Avedisian School of Medicine (BUCASM), Boston, USA.

Title: *FTLD - how pathology and genetics influence the development of biomarkers*

16:30 – 17:00 Interactive discussion

17:00 – 18:00 General discussion

18 luglio

Morning Lecture

09:00 – 10:00

Rohan de Silva – UCL Queen Square Institute of Neurology, London, UK.

Title: *Explaining the role of Tau in neurodegeneration*

10:00 – 10:30 Interactive discussion

10:30 – 11:30

Rafael Franco – Department of Biochemistry and Molecular Biomedicine, Faculty of Biology, University of Barcelona, Spain.

Title: *The olfactory trail in dementias*

11:30 – 12:00 Interactive discussion

Afternoon Lecture

15:30 – 16:30

Goran Šimić – University of Zagreb School of Medicine, Croatian Institute for Brain Research, Zagreb, Croatia.

Title: *Inflammasome activation may represent the missing link between altered amyloid precursor protein metabolism and the accumulation of phosphorylated tau protein in the Alzheimer's disease brains*

16:30 – 17:00 Interactive discussion

17:00 – 18:00 General discussion

19 luglio

Morning Lecture

09:00 – 10:00

Daniela Puzzo – Department of Biomedical and Biotechnological Sciences, University of Catania, Italy.

Title: *Bridging the divide: Beta-Amyloid's dual role in brain health and Alzheimer's disease*

10:00 – 10:30 Interactive discussion

10:30 – 11:30

Giuseppe Di Giovanni – Cardiff University, UK; University of Malta, MT and University Magna Græcia of Catanzaro, Italy.

Title: *Elsevier workshop on how to get published in a scientific journal*

11:30 – 12:30

Presentation of the research projects by participants

12:30 – 13:00 Closing remarks