UNIVERSITÀ DEGLI STUDI DI CAGLIARI

HR EXCELLENCE IN RESEARCH

European Digital UniverCity

Co-funded by the Erasmus+ Programme of the European Union

PSYCONET

Psychopharmacology of Neuropsychiatric Diseases: *focus on gender differences and role of neurodevelopment*

Open to undergraduate students (I or II level of University Degree from Faculties of Pharmacy, Medicine, Biology, Psychology), PhD students and selected professionals (e.g., teacher, researchers, research fellows).

Application deadline: 14th March 2025

ECTS: 3

Virtual format:

Online sessions: from 19th March to 1st October 2025

Recorded videos: available till the end of the course

The PSYCONET International Learning Program offers a unique opportunity for university students (Bachelor's or Master's level in Pharmacy, Medicine, Biology, and Psychology), PhD candidates, and selected professionals to deepen their studies in the psychopharmacology of neuropsychiatric diseases and acquire skills in this field, with a focus on gender differences on the role of neurodevelopment.

The course, taught in English, will be delivered online from March 19th to October 1st, 2025 (for a total of 33 hours of meetings). It aims to provide students of the EDUC alliance with activities that foster the exchange of expertise within the alliance in the fields of basic and clinical sciences, including neuroscience, psychiatry, neurology, neurosurgery, neurotoxicology, as well as in the field of pharmaceutical and medical devices techniques.

Objectives:

The program's objectives include:

- Raising awareness of the need for research on currently untreatable neurological diseases, covering topics such as psychopharmacology, neurology, neurochemistry, and neurodegeneration;
- Analyzing the social aspects of neurological and psychiatric diseases and promoting prevention and a healthy lifestyle;
- Exploring gender differences in brain diseases and the effects of medications;
- Examining age-related vulnerability in psychiatric disorders;
- Promoting collaboration among EDUC partner institutions and supporting the continuous professional development of neuroscience specialists.

Additionally, the program aims to:

- Develop a curriculum for students in Pharmacy, Medicine, Biology, PhD candidates, and professionals in neuroscience and neurology;
- Offer up-to-date courses on psychopharmacology, neuroanatomy, neuropsychopharmacology, and neuroscience, including studies on neurodegenerative diseases such as Parkinson’s, Alzheimer’s, and dementia, as well as experimental models for their understanding;
- Deepen the study of psychoactive substances and their impact on the brain, with a focus on managing non-motor symptoms in neurodegenerative diseases.

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Main program

19th March 2025 (Wednesday) - Time: 3-4 p.m.
Topic: Gender Pharmacology and Neurology
Duration: 1 hour
Format: **Synchronous lesson**
Lecturer: Micaela Morelli

25th March 2025 (Tuesday) - Time: 3-5 p.m.
Topic: Experimental Pharmacology
Duration: 2 hours
Format: **Synchronous lesson**
Lecturer: Nicola Simola

27th March 2025 (Thursday) - Time: 3-5 p.m.
Topic: Neuropeptides as Protective Agents in the CNS and Periphery
Duration: 2 hours
Format: **Synchronous lesson**
Lecturers: Dora Reglodi, Inez Bosnyak, Andrea Tamas, Jason Sparks

31st March 2025 (Monday) - Time: 3-5 p.m.
Topic: Retinal and Corneal Degeneration and Protective Mechanisms in Rodents
Duration: 2 hours
Format: **Synchronous lesson**
Lecturers: Tamas Atlasz, Dorottya Molitor, Balazs Meresz, Lina Li

1st April 2025 (Tuesday) - Time: 4-5 p.m.
Topic: Pharmacology of Psychoactive Drugs
Duration: 1 hour
Format: **Synchronous lesson**
Lecturer: Maria Antonietta De Luca

4th April 2025 (Friday) - Time: 4-5 p.m.
Topic: Neuropharmacology of Drug Dependence
Duration: 1 hour
Format: **Synchronous lesson**
Lecturer: Maria Antonietta De Luca

8th April 2025 (Tuesday)
Topic: Psychiatric Effects of Cannabinoids: Focus on Gender Differences
Duration: 1 hour
Format: **Short video available until the end of the course**
Lecturer: Nicholas Pintori

15th April 2025 (Tuesday)
Topic: Psychiatric Effects of Cannabinoids: Focus on Age Vulnerability
Duration: 1 hour
Format: **Short video available until the end of the course**
Lecturer: Francesca Caria

9th May 2025 (Friday) - Time: 10-12 a.m.
Topic: Translational Animal Models of Parkinson's Disease
Duration: 2 hours
Format: **Synchronous lesson**
Lecturer: Jana Rudá-Kučerová

16th May 2025 (Friday) - Time: 10-12 a.m.
Topic: Diffusion Kurtosis Imaging in the Animal Models of Parkinson's Disease
Duration: 2 hours
Format: **Synchronous lesson**
Lecturer: Amit Khairnar

23rd May 2025 (Friday) - Time: 10-12 a.m.
Topic: Imaging of Regional Cerebral Blood Flow in Animal Models of Psychopathology and Neuropharmacological Interventions
Duration: 2 hours
Format: **Synchronous lesson**
Lecturer: Eva Dražanová

28th May 2025 (Tuesday) - Time: 3-5 p.m.
Topic: Neurotoxicology of Psychostimulant Drugs
Duration: 2 hours
Format: **Synchronous lesson**
Lecturer: Giulia Costa

30th May 2025 (Friday) - Time: 10-12 a.m.
Topic: Proton Magnetic Resonance Spectroscopy in the Animal Models of Depression
Duration: 2 hours
Format: **Synchronous lesson**
Lecturer: Iveta Haraštová-Pavlova

16th June 2025 (Monday) - Time: 3-5 p.m.
Topic: Neuropharmacology of Effort-Based Decision-Making
Duration: 2 hours
Format: **Synchronous lesson**
Lecturer: Mercè Correa Sanz

26th June 2025 (Thursday) - Time: 3-5 p.m.
Topic: Neuropsychological Correlates of Social Behavior and Neuropsychology in the Diagnostic Path
Duration: 2 hours
Format: **Synchronous lesson**
Lecturers: Donatella Petretto, Cristina Cabras

7th July 2025 (Monday) - Time: 1-4 p.m.
Topic: Exploration of the Brain by fMRI
Duration: 3 hours
Format: **Synchronous lesson**
Lecturer: Giovanni de Marco

11th September 2025 (Thursday) - Time: 11 a.m.-1 p.m.
Topic: Neuropharmacology of Conditioned Emotional Memories Induced by Drugs of Abuse
Duration: 2 hours
Format: **Synchronous lesson**
Lecturer: Laura Font Hurtado

1st October 2025
Topic: Gut-Brain Axis: Role of Microbiota
Duration: 3 hours (total video length)
Format: **Short videos on the microbiota-brain axis**
Lecturers: Thomas Gautier, Latifa Bousarghin, Maroussia Parailloux, Sophie Tomasi, Marie Laurence Abasq

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Main Organiser

Maria Antonietta De Luca
Department of Biomedical Sciences, Associate Professor

Associated Local Team

Nicola Simola
Department of Biomedical Sciences, Associate Professor
Giulia Costa
Department of Biomedical Sciences, Researcher
Nicholas Pintori
Department of Biomedical Sciences, Post-doc
Francesca Caria
Department of Biomedical Sciences, Post-doc
Donatella Rita Petretto
Department of Pedagogy, Psychology and Philosophy, Associate Professor
Cristina Cabras
Department of Pedagogy, Psychology and Philosophy, Associate Professor

Alliance Partners Involved

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Masaryk University, Department of Pharmacology, Faculty of Medicine, Associate Professor
Amit Khairnar
Masaryk University, Department of Pharmacology, Faculty of Medicine, Assistant Professor
Eva Dražanová
Masaryk University / Institute of Scientific Instruments of the Czech Academy of Sciences, Department of Pharmacology, Faculty of Medicine / Magnetic Resonance Group, Assistant Professor
Iveta Haraštová-Pavlova
Institute of Scientific Instruments of the Czech Academy of Sciences, Magnetic Resonance Group, Assistant Professor
Dóra Reglődi
University of Pecs, Department of Anatomy, Medical School, Full Professor
Tamas Atlasz
University of Pecs, Faculty of Sciences, Associate Professor
Andrea Tamas
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Jason Sparks
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Balazs Meresz
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Giovanni De Marco
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Marie Laurence Abasq
University of Rennes, Faculty of Pharmacy
Thomas Gautier
University of Rennes, Faculty of Pharmacy
Maroussia Parailloux
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Sophie Tomasi
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