COURSE DETAIL

NEW TRENDS IN NEUROSCIENCE
Country Italy
Host Institution University of Padua
Program(s) Psychology and Cognitive Science, Padua
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Psychology
UCEAP Course Number 177
UCEAP Course Suffix
UCEAP Official Title NEW TRENDS IN NEUROSCIENCE
UCEAP Transcript Title NEW TRNDS NEURO PSY
UCEAP Quarter Units 5.00
UCEAP Semester Units 3.30

Course Description

The course focuses on neuroimaging and neurostimulation techniques and their neuroscientific application for the study of interindividual brain differences in healthy and pathological populations, with a particular focus on forensic psychiatry. This course explores the fundamental concepts of neuroimaging, neurostimulation, and machine learning, and the main applications of these promising approaches to brain disorders. The course focuses in depth on each of these techniques, as well as on the advantages of their combined used for the study of the human brain connectome organization and its deviances. The course discusses theoretical knowledge on the following topics: 1) why are neuroimaging methods important in clinical settings; 2) how neuroimaging and neurostimulation techniques can be combined to study the patterns of information flow in the brain; 3) how machine learning methods differ from classical statistics; 4) what are the main machine learning methods used in clinical neuroscience; 5) how these methods can be used to investigate the neural basis of brain disorders in a research setting; 6) how these methods can be used to inform diagnostic and prognostic assessment in a clinical setting; 7) how the results obtained at the level of the group can be translated to the single individual; 8) how this approach can be helpful in clinical and forensic settings; 9) what do we mean by “multimodal approaches” and how can we use them to individualize the study in the brain; 9) how results should be interpreted; 10) how neuroscientific approach and classical psychiatry approach can run side by side. The course requires students to have basic knowledge of statistics, clinical neuroscience, neuropsychology, neuroanatomy, and psychiatry as a prerequisite.

Language(s) of Instruction
English

Host Institution Course Number
PSP5073004

Host Institution Course Title
NEW TRENDS IN NEUROSCIENCE

Host Institution Course Details
https://en.didattica.unipd.it/off/2023/LM/PS/PS1932/000ZZ/PSP5073004/N0

Host Institution Campus

Host Institution Faculty
Psychology

Host Institution Degree
Second Cycle Degree in Cognitive Neuroscience and Clinical Neuropsychology

Host Institution Department

Course Last Reviewed
2023-2024

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