Ciencia
y Tecnología

25

23 a 27 de **junio**

ESCUELAS

UIMP

Universidad
Internacional
Menéndez Pelayo

II Summer School of Neurotechnology «Rodriguez Delgado»

Science, Medicine, Marketplace and Ethics

Cursos de verano **Santander**

Horario y dirección de contacto

Mañana de L a V: 9.00 a 14.00 h

Santander
Campus de Las Llamas
Avda. de los Castros, 42
39005 Santander
Tlf.: 942 29 87 00

Madrid
C/ de Isaac Peral, 23
28040 Madrid
Tlf.: 91 592 06 31 / 33

A partir del 16 de junio

Mañana de L a V: 9.00 a 14.00 h
Tarde de L a J: 15.30 a 18.00 h

Santander
Palacio de la Magdalena
39005 Santander
Tlf.: 942 29 88 00

alumnos@uimp.es
www.uimp.es

Patrocinio

Fundación Telefónica

Este curso es susceptible de ser reconocido como formación permanente del profesorado para el personal docente de los centros que imparten las enseñanzas reguladas en la Ley Orgánica 2/2006, de Educación, en base al artículo 21 y 29 de la Orden EDU/2886/2011, de 20 de octubre, por la que se regula la convocatoria, reconocimiento, certificación y registro de las actividades de formación permanente del profesorado.

Código 65XX - ECTS: 2,5

Dirección

Rafael Yuste
Columbia University

José Carmena
University of California, Berkeley

Álvaro Pascual-Leone
Harvard University

Secretaría

Ander Ramos Murguialday
Tecnalia/Univ. Tubingen

This summer school will provide participants with an updated vision of Neurotechnology from four different angles or perspectives: the scientific and technological, the clinical, the transition to the market and the ethical.

On the first day we start the course with a broad introduction to the field of Neurotechnology, defined as methods or devices to record or alter the activity of the nervous system, reviewing the most recent advances in science and technology and a plethora of applications.

On the second day we will focus on the translation of neurotechnology to the market and interact with industry representatives.

On the third day we will focus on state of-the-art research represented by neurotechnology advances and experimental work happening in some of the most advanced laboratories.

On the fourth day we will discuss with real world applications of neurotechnology to unsolved clinical problems like paralysis after spinal cord injury or stroke and their transition to the clinical practice.

The final day will serve as glimpse into the future, challenges and a wrap-up transition to tackle the ethical and societal challenges neurotechnologies rise, discussing ethical guidelines and like neurorights.

The objectives of this course are:

a) to provide the audience with a multidisciplinary overview of neurotechnology; b) to highlight its clinical applications; c) to explore market transitions of neurotechnology; and d) to awaken ethical and societal discussion around neurotechnology benefits and risks.

In this second year, the course will highlight the medical consequences of human behaviour, from the scientific and clinical angle, and also explore potential opportunities for entrepreneurship".

This course is oriented to an audience interested in understanding how the direct technological interaction with the nervous system can change scientific and medical practice and also future society.

Apertura matrícula
Desde el día 4 de abril de 2025
(plazas limitadas)

Solicitud online

Lunes 23

INTRODUCTION TO NEUROTECHNOLOGY

10.00 h Introduction to Neurotechnology
Rafael Yuste

10.45 h Brain Health in the Age of Neurotechnology
Álvaro Pascual-Leone

12.00 h Brain-Machine Interfaces
José Carmena

12.45 h Translating Neurotechnology to clinical applications
Ander Ramos Murguialday

15.30 h Panel: Training

Moderación
Ander Ramos Murguialday

Martes 24

NEUROTECHNOLOGY IN THE MARKET

10.00 h Neural basis, algorithms and neurotechnology of BMI: from lab to venture
José Carmena

12.00 h Graphene Neural Interfaces (BCI-Tx): a revolution in precision neurology
Carolina Aguilar
INBRAIN

15.30 h Panel: Market applications

Moderación
Ander Ramos Murguialday

Miércoles 25

NEUROTECHNOLOGY IN THE LAB

10.00 h Playing the piano with the brain: optical manipulations of cortical circuits
Rafael Yuste

12.00 h Brain mitochondria as therapeutic targets in stress vulnerability and resilience: towards precision neurotechnologies
Carmen Sandi
Laboratory of Behavioral Genetics. Brain Mind Institute
Ecole Polythecnique Fédérale de Lausanne, Suiza

15.30 h Panel: Scientific applications

Moderación
Ander Ramos Murguialday

Jueves 26

NEUROTECHNOLOGY IN THE CLINIC

10.00 h Characterizing and repairing spatio-temporal signatures of brain-related disability
Álvaro Pascual-Leone

12.00 h Adjusting the activity of malfunctioning brain circuits
Andrés Lozano
University of Toronto

15.30 h Panel: Clinical applications

Moderación
Ander Ramos Murguialday

Viernes 27

FUTURE APPROACHES

10.00 h Restoration of sight in blind people by electrical stimulation of the visual brain
Pieter Roelfsema
Netherlands Institute for Neuroscience, Amsterdam

11.30 h Panel: Ethical issues

Moderación
Ander Ramos Murguialday

12.00 h Summer School Closure

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