

NEUROPLASTIC CHANGE IN THE NEUROLOGICAL PATIENT

The field of brain injury rehabilitation is rapidly evolving, driven by new insights into neuroplasticity and innovative intervention strategies. If you are a professional dedicated to improving the lives of individuals with brain injury, this course is designed for you.

Led by Dr. Lara Boyd, a renowned neuroscientist and leader in the field of neuroplasticity, this course offers a unique combination of cutting-edge scientific evidence and practical approaches. You will explore the neurobiological and behavioral principles underlying functional recovery, learn how to optimize practice dosage and parameters in clinical settings, and discover how to enhance brain plasticity through sleep, cognition, sensation, and exercise.

This course will provide you with innovative and highly effective tools for your clinical or research practice for professionals working with brain injury.

INSTRUCTOR

Lara Boyd, PT, PhD



Neuroscientist and physiotherapist, specializing in the study of neuroplasticity and motor learning. She is currently a professor in the Department of Physical Therapy at the Faculty of Medicine of the University of British Columbia (UBC), where she also directs the Brain Behaviour Laboratory.

Her research focuses on understanding how behavior, environment, and experiences influence brain health and learning. She employs advanced techniques to map changes in brain activity related to motor learning and post-stroke recovery



**October
17 and 18, 2025**



Friday: 4 p.m. – 8 p.m.
Saturday: 9 a.m. – 2 p.m.
and 3 p.m. – 8 p.m.

On-site format



Faculty of Medicine
Universidad Autónoma,
Madrid, Spain 

Online format



Live streaming

OBJECTIVES

- Analyze the neurobiological and behavioral principles that explain neuroplastic changes and neural reorganization associated with learning, functional recovery, and rehabilitation after neurological injury.
- Reflect on the difference between compensation and recovery, as well as the known limitations of rehabilitation.
- Identify the positive and negative changes that occur in the brain during the reorganization and recovery process.
- Understand the role of cognition, sensation (peripheral and central proprioception, and cutaneous sensation), and sleep in motor learning and brain plasticity.
- Identify effective methods to stimulate positive neuroplastic change, including practice parameters, appropriate dose, intensive practice, task-specific use, brain priming, aerobic exercise, and sleep improvement.
- Compare the dose of practice used in conventional neurological rehabilitation with the doses required to stimulate neuroplastic change in experimental models.
- Explore novel and practical approaches to enhance the effectiveness of rehabilitation through specific and high-dose interventions.

REGISTRATION

The course fee is **€150** for both in-person and online formats.

A discounted rate of **€120 applies if you register before June 30.**

The registration process is carried out on the Fundación DACER website at the following **link**

AIMED AT:

Professionals who develop their professional practice in the field of neurosciences and/or brain damage both in the clinical and research area

PROGRAM

FRIDAY, OCTOBER 17	
4:00-4:30	Introduction
4:30-8:00	What is motor learning? How do dosage and cognition affect the acquisition of motor skills?
SATURDAY, OCTOBER 18	
9:00-11:00	Principles of neuroplasticity
11:30-12:30	1What is the physiology underpinning neuroplastic change?
12:30-14:00	What is the role of sleep in recovery of function?
15:00-16:00	How does sensation contribute to learning?
16:30-19:00	How can neuroplastic change be manipulated positively?
19:30-20:00	Wrap -up and final thoughts