



UNIVERSITÀ  
DI TRENTO

Dipartimento di  
Biologia Cellulare, Computazionale e Integrata - CIBIO

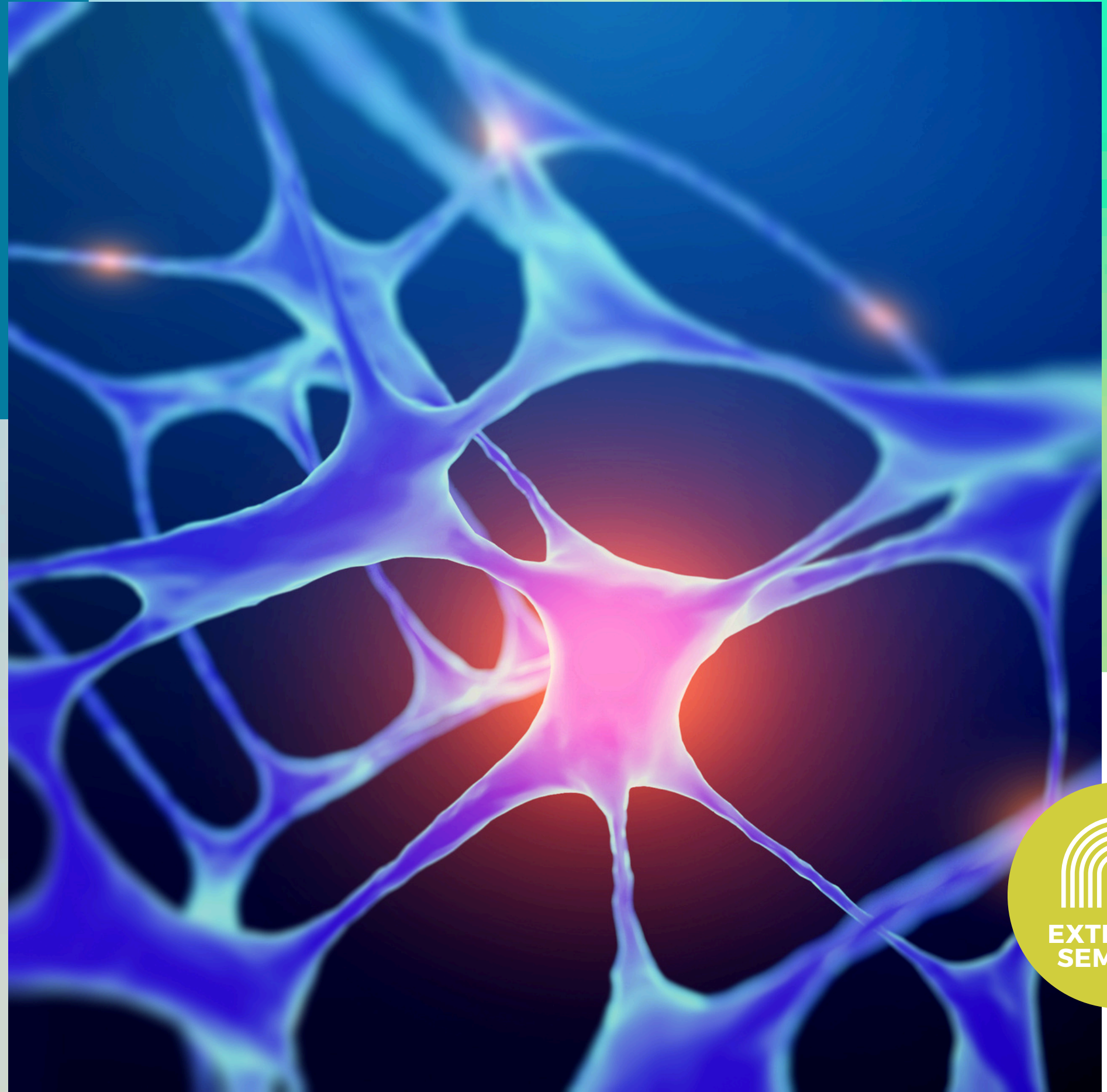
22 MAY

11:30 A.M.

ROOM A109- POVO1

MASSIMILIANO CAIAZZO

UNIVERSITY OF NAPLES "FEDERICO II"



## SYNTHETIC DELIVERY SYSTEMS FOR BRAIN TARGETED THERAPIES

My seminar will be focused on the development and implementation of **delivery technologies** to improve the **potential treatment** of different **brain diseases**.

In the first part I will describe an **innovative approach** to use **mRNA-lipid nanoparticles (LNPs)** to induce in situ brain reprogramming of astrocytes into dopamine neurons for the potential therapeutic application in **Parkinson's disease**.

In the second part I will show the generation of a new tool to **improve brain targeting** using a **single chain-camelid derived antibody (nanobody)** against heparin-binding EGF (HB-EGF). This newly generated nanobody is capable to cross the blood brain barrier and can be used as innovative brain shuttle to deliver several **therapeutic agents to the brain**.