



UNIVERSITÀ  
DI TRENTO

Dipartimento di  
Biologia Cellulare, Computazionale e Integrata - CIBIO

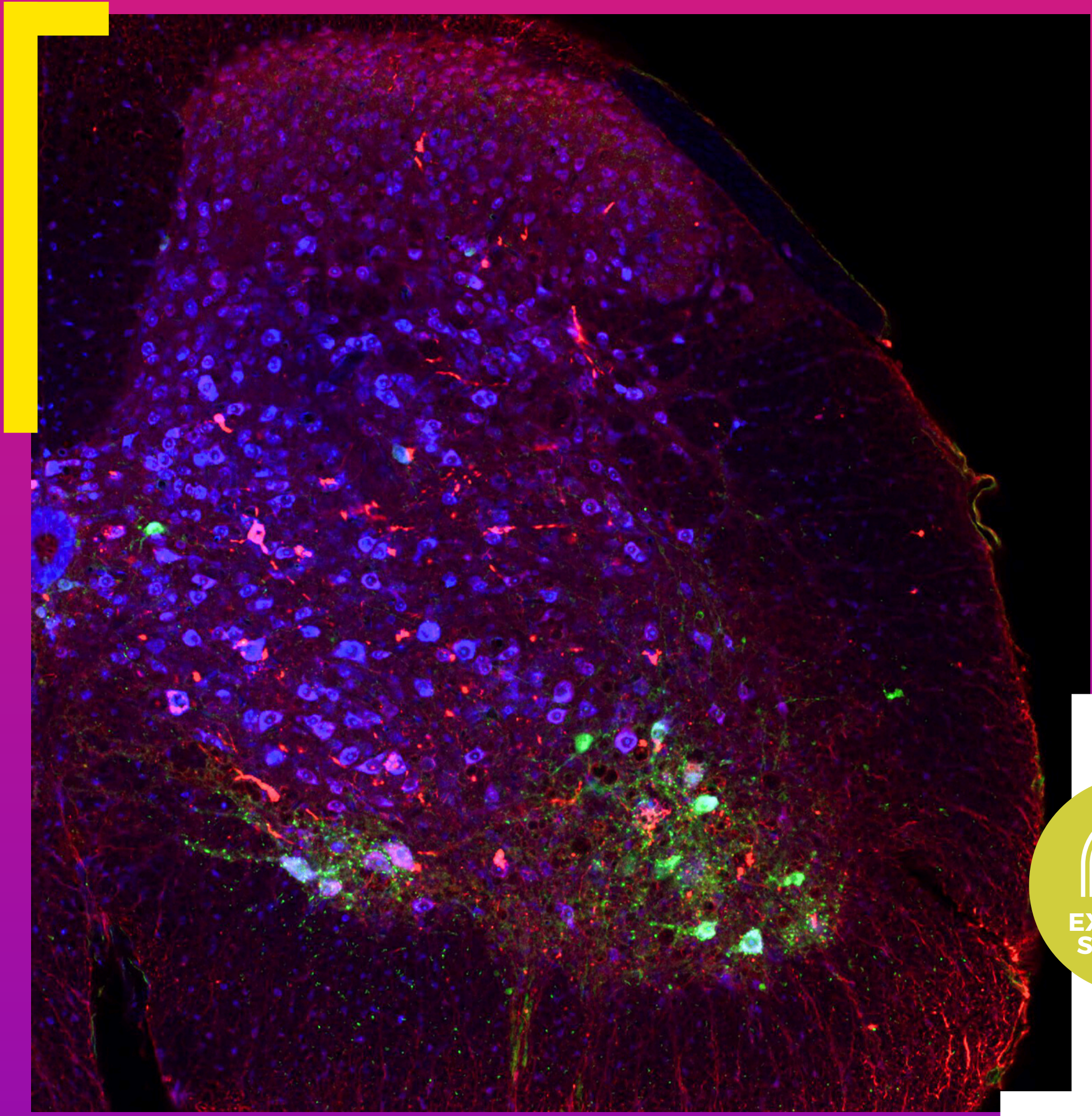
# 19 SEPTEMBER

**11.30 A.M.**

ROOM A106 - POVO 1

# VALERIA GERBINO

FONDAZIONE SANTA LUCIA, EUROPEAN CENTER FOR BRAIN RESEARCH



## ● ● **TBK1: A DOUBLE-EDGED SWORD IN ● ● AMYOTROPHIC LATERAL SCLEROSIS ● ● DISEASE PROGRESSION**

DNA sequence variants in the TBK1 (TANK-Binding Kinase 1) gene associate with the neurodegenerative diseases Amyotrophic Lateral Sclerosis (ALS) and FrontoTemporal Dementia (FTD). We have generated and characterized mice bearing human ALS/FTD-associated TBK1 missense loss-of-function mutations. We observed that TBK1 mutations affect distinct intracellular pathways (autophagy and the Type-I Interferon response) in specific cell types (motor neurons and glia), and at different stages of disease progression. Our work further highlighted a key role of the TBK1-dependent Type-I Interferon response in driving ALS disease severity in mice and humans, and highlighted its potential as a therapeutic target to slow neurodegenerative disease progression.