



UNIVERSITÀ  
DI TRENTO

Dipartimento di  
Biologia Cellulare, Computazionale e Integrata - CIBIO

# 25 SEPTEMBER

**10.30 A.M.**

ROOM A109 - POVO 1

# LJILJANA SJEKLOCA

PHD IN STRUCTURAL AND FUNCTIONAL GENOMICS, SISSA, TRIESTE



## ● ● **PROTEIN AND NON-CODING RNA INTERACTIONS IN NEUROLOGICAL DISEASES FXTAS AND ALS**

Fragile X-associated tremor/ataxia syndrome (FXTAS) and amyotrophic lateral sclerosis (ALS) are neurodegenerative disorders characterized by neuromuscular and cognitive decline. FXTAS arises from CGG repeat expansion in the FMR1 gene, while ALS is mostly sporadic but can involve mutations in genes such as C9orf72, SOD1, TARDBP, and FUS. Both conditions share pathological inclusions of RNA-binding proteins and RNAs.

Research highlights include interactions of FMRP with the non-coding RNA bc1, evolutionary links between bc1 and tRNAs, and TDP-43 binding to tRNAs. Modifications of proteins and tRNAs are discussed in relation to disease mechanisms and therapeutic prospects. Finally, the role of G-quadruplex RNA structures and the effects of benzothiazole derivatives on their stability are presented.