

Structure and topology of RNA in living systems



Monday, 30 January 2023 - Thursday, 2 February 2023

ECT*

Scientific Programme

Day 1 (Monday, 30. 01.)

Session I, 09:00 - 10:30

Luca Tubiana, "Introduction"

Mauricio Comas-García, "Selective packaging of HIV-1 genomic RNA"

Session II, 11:00 - 12:30

Roe Amit, "Using synthetic biology to unravel RNA tertiary interactions"

Michael Hagan, "Computational modeling of icosahedral shell assembly and encapsulation of flexible polymers"

Session III, 14:30 - 16:00

Marta Szachniuk, "Spiders, entanglements, and RNA structure prediction"

Redmond Smyth, "Probing the structure and function of long viral RNAs"

Short talk session 1, 16:30 - 17:30

Valerio Piomponi, "Molecular Dynamics to investigate Impact of RNA modifications on RNA structural dynamics and recognition"

Michał Żurkowski, "WebTetrado, your assistant in the G4 space"

Day 2 (Tuesday, 31. 01.)

Session IV, 09:00 - 10:30

Cristian Micheletti, "Physical models for the degradation resistance of xrRNAs"

Anže Božič, "RNA as a randomly branched polymer"

Session V, 11:00 - 12:30

Manja Marz, "RNA secondary structures in RNA viruses"

Giovanni Bussi, "Dissecting RNA dynamics combining molecular simulations and solution experiments"

Session VI, 14:30 - 16:00

Guillaume Stirnemann, "Conformational space exploration of minimal ribozymes for autocatalytic networks"

Joanna Trylska, "Simulations of RNA structural dynamics and ligand association paths: the case of an aminoglycoside-sensing riboswitch"

Day 3 (Wednesday, 01. 02.)

Session VII, 09:00 - 10:30

Konstantin Roeder, "RNA structural ensembles from energy landscape explorations"
Horacio Guzman, "Quantitative electrostatic force tomography for proteinaceous capsids in interaction with an approaching nanoscale substrate"

Session VIII, 11:00 - 12:30

Samuela Pasquali, "Integrative modeling strategies and RNA polymorphism"
Maciej Antzcek, "RNAComposer-based modeling of RNA 3D structures in CASP15"

Session IX, 14:30 - 16:00

Reidun Twarock, "The regulatory roles of viral genomes in virus assembly and genome release"
Bruno Sargueil, "Differential SHAPE probing to screen computationally designed RNA and to detect pseudoknot and non-canonical interactions"

Discussion, 16:30 - 17:30

Moderators: Samuela Pasquali, Luca Tubiana, Anže Božič

Day 4 (Thursday, 02. 02.)

Session X, 09:00 - 10:30

Letizia Chiodo, "Prediction of ncRNA structure: the case of lncRNA DLEU2"
Roland Marquet, "Deciphering the mechanism of influenza A genome packaging using genome-wide approaches"

Short talk session 2, 11:00 - 12:30

Michela Quadrini, "RNA Abstractions for Structural Comparison and Classification"
Giovanni Mattiotti, "Computational 3D structure characterization of CCMV RNA2 fragment"