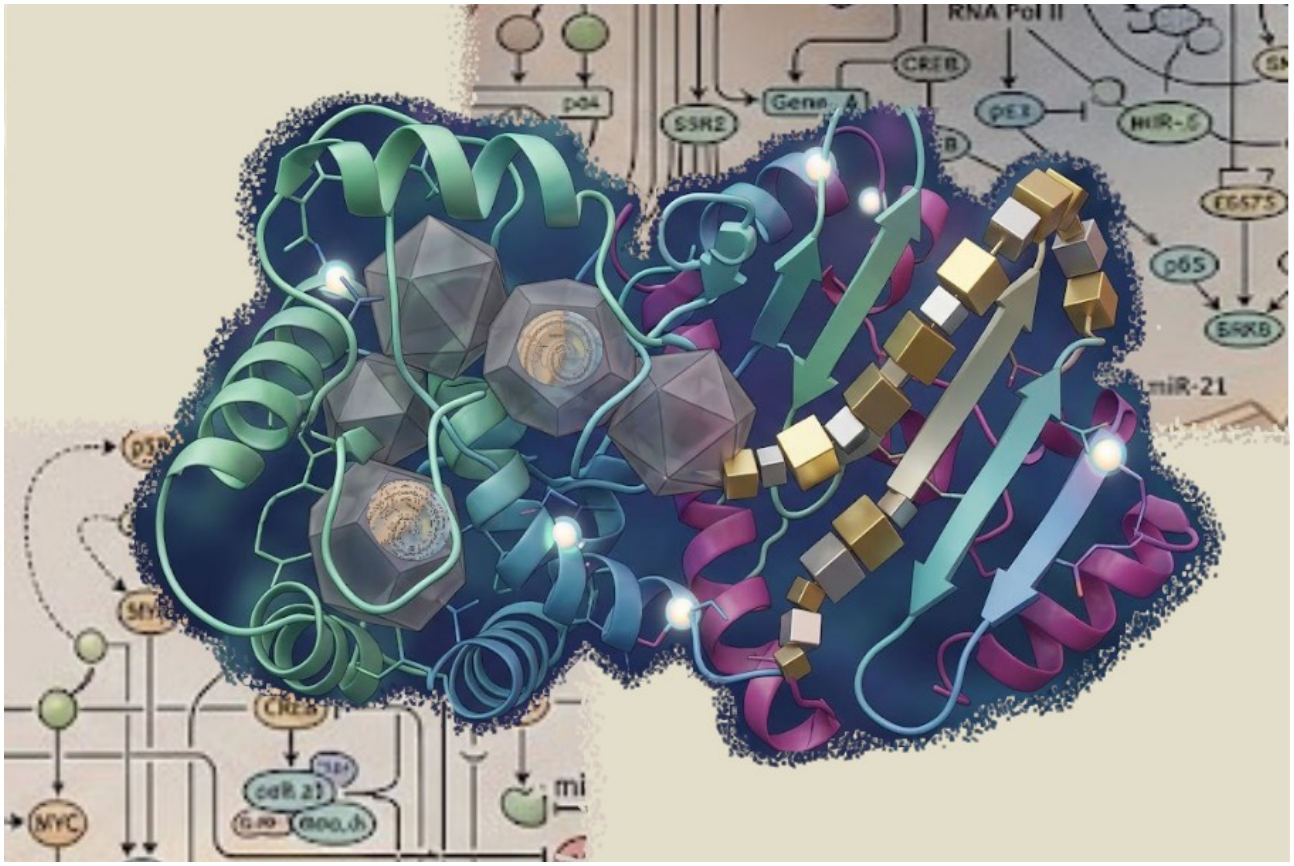
Workshop « Biophysics and Geometry »



Workshop « Biophysics and Geometry »

Institut de Chimie Physique et Matériaux, Laboratoire de Physique et Chimie Théoriques, Metz Technopole, June 11-12, 2026.

Thursday 11 June

10:00 -10:30 Pause café

10:30 – 11:15 Decoding the molecular response of plants exposed to biotic stresses from multi-omics, gene regulatory networks and artificial intelligence
Silvia Bottini
Team SMILE, INRAE and Université Côte d'Azur

11:15 – 12:00 Exploring the Relationships between Protein Structure Determination and Abstract Combinatorial Problems
Antonio Mucherino
IRISA, University of Rennes

12:00 – 12:45 A complete and bi-continuous invariant of protein backbones under rigid motion
Vitaliy A. Kurlin
Materials Innovation Factory, University of Liverpool, UK

12:45 – 14:00 Lunch (buffet)

14:00 – 14:45 When dense packing enables dipolar columnar cohesion
René Messina
Laboratoire de Physique and Chimie Théoriques, UMR 7019 Université de Lorraine

14:45 – 15:30 Interpreting biomacromolecular structure and dynamics using deep learning
Benjamin Bouvier
Enzyme and Cell Engineering Lab (GEC), CNRS UMR 7025,
Université Picardie Jules Verne, Amiens

15:30 – 16:00 Pause café

16:00 – 16:45 Deciphering the Structure/Activity relationship of ECM molecules: key role of multi-scale modeling and imaging approaches

Stéphanie Baud
Université de Reims Champagne-Ardenne, CNRS, MEDyC UMR 7369, 51097 Reims, France.

16:45 – 17:30 Uncovering allosteric and pH effects in the proteins using nonequilibrium simulations
A. Sofia F. Oliveira
University of Bristol, Bristol, BS81TS, UK

Friday 12 June

9:30 – 10:15 The translational links between sequences, structures, dynamics and functions of proteins
Jung-Hsin Lin
Research Center for Applied Science, Academia Sinica, Taipei, Taiwan

10:15 – 10:45 Pause café

10:45 – 11:30 Self-assembly and dynamics of magnetic colloids under a rotating field
Lydiane Bécu
Laboratoire de Chimie et Physique – Approche Multi-échelles des Milieux Complexes (LCP-A2MC)–Université de Lorraine

11.30 – 12:15 Multiscale Modeling of Biological Systems in Environmental and Biomechanical Contexts
Charline Fagnen
CNRS, Université de Reims Champagne-Ardenne

12:15 – 12:35 In silico study of the stability for the type 1A polymorph of α-synuclein
Marina Botnari
Laboratoire de Physique et Chimie Théoriques UMR 7019 Université de Lorraine, École Doctorale Chimie-Mécanique-Matériaux-Physique, Metz

12:35 – 12:45 Bioinformatic analysis and coarse-grained modeling of alpha-synuclein fibril formation
Lorene Schad
Université de Reims – Champagne-Ardennes, M2 Biomecanique, Biomateriaux, Santé

12:45 – 14:00 Lunch (buffet)

14:00 – 14:45 Twist to tear open – how twisters induce pores in fluid bilayer membranes
Martin Michael Müller
Laboratoire de Physique et Chimie Théoriques UMR 7019 Université de Lorraine

14:45 – 15:30 Influence of Stereochemistry in a Local Approach for Calculating Protein Conformations
Thérèse E. Malliavin
Laboratoire de Physique et Chimie Théoriques UMR 7019 Université de Lorraine

15:30 – 16:00 Pause café

16:00 – 17:00 Open discussions