

# 5<sup>th</sup> Annual Scientific Meeting of GDR RNA

RNA as a tool and a target for medicinal  
chemistry and chemical biology  
GDR 2083

June 10 and 11, 2024 in Strasbourg



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### Monday June 10, 2024 – DAY 1

12:00 Welcome and Lunch

14:00 **Opening & Introduction**  
Maria DUCA, Eric ENNIFAR

#### Session 1. Microbiology

14:15 **Molecular Simulations to Investigate the molecular mechanism of *B. subtilis* rRNA maturation**  
Elise DUBOUE-DIJON  
Institut de Biologie Physico-Chimique (IBPC), Paris

14:35 **Principles of Mg<sup>2+</sup> binding to RNA inferred from the analysis of a 1.55 Å resolution bacterial ribosome structure**  
Pascal AUFFINGER  
Institut de Biologie Moléculaire et Cellulaire (IBMC), Strasbourg

14:55 **Exploring a Novel Class of Flavoenzymes: Identification and Biochemical Characterization of Ribosomal RNA Dihydrouridine Synthase**  
Sabrine TOUBDJI  
Institut de Biologie Paris Seine (IBPS), Paris

15:15 **Structural study of the tmRNA- SmpB complex with the stalled ribosome in ESKAPEE bacteria**  
Balasubramaniam VASANTHAKRISHNAN RADHAKRISHNAN  
Institut de Génétique & Développement de Rennes (IGDR), Rennes

15:35 **The Dihydrouridine synthase DusB: a role in bacterial epitranscript adaptation to stress**  
Zeynep BAHAROGLU  
Institut Pasteur, Paris



15:55 Coffee break

#### Session 2. Chemical Biology (I)

16:30 **Design and synthesis of original chemical probes for the validation of type I toxin-antitoxin systems as antimicrobial targets**  
Maria DUCA  
Institut de Chimie de Nice (ICN), Nice

16:50 **Development of fluorescent nucleic acid-based biosensors for specific detection of metabolites in complex biological environments**  
Janine KEHRLI  
Institut de Biologie Moléculaire et Cellulaire (IBMC), Strasbourg

17:10 **RNA Modifications to the Rescue in the Computational Fragment-Based Design of Aptamer-like Modified Oligonucleotides**  
Fabrice LECLERC  
Institut de Biologie Intégrative de la Cellule (I2BC), Gif/Yvette

17:30 **Design and Evaluation of Azaspirocycles as RNA binders**  
Laurent MICOUIN  
Laboratoire de Chimie et Biochimie Pharmacologiques et Toxicologiques (LCBPT), Paris

17:50 18:00 **Poster session and End of day 1**

**Tuesday June 11, 2024 – DAY 2**

**Session 3. Biology**

- 09:00 **Blocking translation to rescue ALS/FTD phenotypes associated with C9ORF72 repeat expansion**  
Franck MARTIN  
Institut de Biologie Moléculaire et Cellulaire (IBMC), Strasbourg
- 09:20 **The diversity of splicing modifiers acting on A-1 bulged 5'-splice sites reveals rules for rational drug design**  
Florian MALARD  
Acides nucléiques : Régulations naturelles et artificielles (ARNA), Bordeaux
- 9:40 **Identification of an evolutionary conserved binding motif responsible for the recruitment of NMD factors to the UPF1 helicase**  
Marc GRAILLE  
Laboratoire de Biologie Structurale de la Cellule (BIOC), Palaiseau
- 10:00 **The structure of the influenza A RNA genomic segments inside viral particles is constrained by the packaging signals**  
Roland MARQUET  
Institut de Biologie Moléculaire et Cellulaire (IBMC), Strasbourg
- 10:20 Coffee break
- 11:00 **Pre-mRNA quality control by nuclear cap-binding proteins regulates cellular stress and energy metabolism**  
Xavier RAMBOU  
Rochester Medical Center, Rochester, USA
- 11:20 **Alternative splicing of BCL-x is controlled by RBM25 binding to a G-quadruplex in BCL-x pre-mRNA**  
Marc BLONDEL  
Génétique, Génomique fonctionnelle et Biotechnologies (GGB), Brest
- 11:40 **Quadruplexes are everywhere !**  
Jean-Louis MERGNY  
Laboratoire d'Optique et Biosciences (LOB), Palaiseau
- 12:00 Lunch break



**Session 4. Chemical Biology (II)**

- 14:00 **Study of Stable SAM Analogs as promising scaffold for RNA methylation inhibition**  
Batoul MAHCENE  
Cibles Thérapeutiques et Conception de Médicaments (CiTCoM), Paris
- 14:20 **Advancing computational assets towards RNA-targeted drug discovery**  
Stefano BOSIO  
Institut Pasteur, Paris
- 14:40 **High-throughput surface plasmon resonance (SPR) for targeting miRNA sequences**  
Eugénie LAIGRE  
NovAliX, Strasbourg
- 15:00 Awards to young researchers and Closing Remarks