

MESSAGE FROM THE CELL

A workshop on biophysical studies for structural biology inside cells

June 24-25, 2021 ONLINE

Day 1

Session 1

Chair: Guy Lippens

- 09:00-09:15 Introducing remarks
- 09:15-09:30 Introduction by Guy Lippens, CNRS, INSA, Toulouse, France.
- 09:30-10:10 Keynote 1- **Phil Selenko**, Weizmann Institute of Science, Israel.
A Blueprint for the Structural Biology Department of the Future.
- 10:10-10:25 Talk 1 - **Carine Tisné**, IBPC, CNRS & Université de Paris, France.
Time-resolved NMR monitoring of tRNA maturation.
- 10:25-10:40 Talk 2 - **Johan Revol-Tissot**, Aix Marseille Univ, INSERM, SSA, MCT, FAC PHARM, Marseille, France.
Synthesis of new fluorescent chemical probes targeting bacterial efflux to early detect and fight the first barrier in Gram-negative bacteria antibiotic resistance.

10:40-11:10 Coffee break avatar & Meet the Speakers

Session 2

Chair: Martina Huber

- 11:10-11:50 Keynote 2 - **Daniella Goldfarb**, Weizmann Institute of Science, Israel.
In-cell dimer stability by DEER using Gd(III) spin labeling.
- 11:50-12:05 Talk 3 - **Marie Erard**, CNRS, Univ. Paris-Sud, Université Paris-Saclay, Orsay, France.
Combining quantitative imaging methods with 3D structures to characterize the cytosolic complex of the NADPH oxidase from phagocytes in living cells.
- 12:05-12:20 Talk 4 - **Olav Schiemann**, University of Bonn, Germany.
Trytil spin labels: Studying Biomolecular Conformations within Cells by Pulsed Dipolar EPR.
- 12:20-12:35 **Olivier Zelphati**, OZ – Biosciences, Marseille, France.
Magnetofection: Magnetically assisted and targeted nucleic acids delivery.

12:30-13:00 Coffee break avatar & Meet the Speakers

13:00-14:00 Lunch

Session 3

Chair: Daniella Goldfarb

- 14:00-14:40 Keynote 3 – **Lukas Trantirek**, CEITEC, Brno, Czech Republic.

Nucleic Acids in-cell NMR: Progress, Challenges, and Opportunities.

14:40-14:55 Talk 5 – **Annalisa Pierro**, BIP, CNRS, Marseille, France.
Studying protein dynamics in living cells by Nitroxide-based SDSL-EPR.

14:55-15:10 Talk 6 – **Alberto Collauto**, Goethe University Frankfurt, Germany.
Compaction of RNA duplexes in the cell probed by PELDOR spectroscopy and molecular dynamics simulations.

15:10-15:30 **Poster session 1** – *Flash presentations*

Laura Galazzo, Janet Lovett, Ylenia Beniamino, Shari L. Meichsner, Dominik Gendreizig.

15:30-16:00 Coffee break avatar & Meet the Speakers

Session 4

Chair: **Bela Bode**

16:00-16:40 Keynote 4 – **Malte Drecher**, University of Konstanz, Germany.
In-cell EPR techniques for Studying Intrinsically Disordered Proteins (IDPs)

16:40-16:55 Talk 7 – **Hélène Launay**, BIP, CNRS, Marseille, France.
Redox regulation of photosynthesis in micro-algae monitored by NMR.

16:55-17:35 Keynote 5 – **Marc Tramier**, CNRS/Université de Rennes 1, France.
Quantitative Fluorescence Microscopy for Spatiotemporal Study of Protein-Protein Interactions and Biochemical Activities: FRET by FLIM and 2c-FCS.

17:35-18:00 Coffee break avatar + Meet the Speakers

Day 2

Session 5

Chair: François-Xavier Theillet

13:30-13:40	Introducing remarks
13:40-14:20	Keynote 6- Enrica Bordignon , Ruhr University Bochum, Germany. <i>Conformations of ABC transporters in vitro and in living cells studied by nanobody-assisted DEER.</i>
14:20-14:35	Talk 8 – Jaka Kragelj , University of Texas Southwestern Medical Center, Dallas, USA. <i>Characterizing the in-cell ensemble of the intrinsically disordered α-synuclein using DNP-enhanced MAS NMR spectroscopy.</i>
14:35-14:50	Talk 9 – Jonathan Farjon , Université de Nantes & CNRS, France. <i>Multiscale NMR for deciphering the lipidic metabolism of microalgae.</i>
14:50-15:10	Poster session 2 – Flash presentations Pierre Barraud, Svetlana Kucher, Matthew T. Eddy, Nathan N. Evangelista, Daniele Vitone.
15:10-15:40 Coffee break avatar & Meet the Speakers	

Session 6

Chair: Elisabetta Mileo

15:40-16:20	Keynote 7 – Benesh Joseph , Institute of Biophysics, University of Frankfurt, Germany. <i>In situ observation of membrane proteins using electron spin resonance spectroscopy.</i>
16:20-16:35	Talk 10 - Müge Kasanmascheff , TU Dortmund University, Germany. <i>Tracing Protein Native Radicals in Living Cells with EPR.</i>
16:35-17:15	Keynote 8 – Enrico Luchinat , CERM, University of Florence, Italy. <i>Protein-drug interactions monitored by time-resolved NMR in human cells.</i>
17:15-17:45 Coffee break avatar & Meet the Speakers	
17:45-18:00 Concluding remarks.	