G.E.N.E. GRADUATE SCHOOL Chemistry GRADUATE SCHOOL Université Paris Cité

Synergy between Chemists and Biologists: Advancing Frontiers of Science

(Summer School 2023)

July 10th : Day 1

- **9h: Opening Lecture*:*** *Chemical challenges of Life: A historical perspective,* L. Julien (ENS Ulm, Paris)

Theme 1: Medicinal Chemistry: New therapeutic target for epigenetics and genomics

- ***Impact of the RNA methylation on viral infection****,* B. Sargueil (CitCOM, Univ. Paris Cité)
- ***Upcoming Title****, M. Bouzon Bloch,* Institut de biologie François Jacob, CEA
- ***Bisubstrate strategy to target m6A RNA methyltransferase****,* L. Iannazzo (LCPBT, Univ. Paris Cité)

Theme 2: Vectorization

- ***Non viral nucleic acid vectorization for therapeutic applications****,* P. Bigey (ENSCP, Paris)
- ***Bio-engineering of Extracellular Vesicle-based Delivery Vectors****,* G. Lavieu (U1316, Univ. Paris Cité)
- ***Surface functionalization for targeting****,* M. Hemadi (ITODYS, Univ. Paris Cité)

15h30: Social Activity Student Challenge:

Treasure hunt in the forest of Fontainbleau

17h30: Tutored Collaborative Workshop (Part 1) *Synergy between Biologists and Chemists : What's next?*

19h30 : Garden Party and BBQ

July 11th : Day 2

Thème 3 : Single Biomolecule Sensing

- ***Single-molecule approaches to the study of biological systems***, T. Strick (ENS Ulm, PSL)
- ***Modeling membrane proteins to understand the synapse,*** A. Taly, (LBT, Univ. Paris Cité)
- ***Electrochemical detection and imaging of single biomacromolecules and functional bioparticles***, *A. Chovin* (LEM, U. Paris Cité)

Social Activity Student Challenge: *Cast Away*

Thème 4 : Chimie in-vivo (bioorthogonal) et chimie du vivant (pro-drug)

- ***Recent trends in chemical biology****,* L. Micouin (LCPBT, Univ. Paris Cité)
- ***Exploring the function of epigenetic enzymes and screening for inhibitors,*** J. Berthelet (Epigénétique et Destin Cellulaire, Univ.Paris Cité)
- ***Bioorthogonality in protein modification****,* A. Maruani (LCPBT, Univ. Paris Cité)

14h00 Tutored Collaborative Workshop (Part 2) *Synergy between Biologists and Chemists: What's next?*

- *16h : Go back to Paris*

July 11th : Day 3

- ***9h00 - 9h30 : Welcoming coffee, distribution of badges***

9h30 Virus-based nanomaterials: from synthesis to biological applications, T. Ha Dong (ITODYS, Univ. Paris Cité)
10h Advanced nanotools based on gold and silver nanoparticles for imaging and biosensing, C. Mangeney (LCPBT, Univ. Paris Cité)
10h30 Biosynthesis of specialized metabolites from Cyanobacteria, A. Méjean & O. Plou (LIED, Univ. Paris Cité)

- **11h00 Coffee Break**

11h20 How to study in a laboratory the health impacts of air pollution Patrice Coll (LISA, Univ Paris Cité)
11h50 Printed Biosensors for Biological Applications : Vincent NOEL (ITODYS, Univ. Paris Cité)
12h10 **Tutored Collaborative Workshop (oral presentation)**

- **12h40** ***Lunch***

14h00 Tracking natural fluorescence of insects, *B.* Schollhorn (LEM, Univ. Paris Cité)
14h30 Molecular and Cellular Responses to Xenobiotics, *S. Devineau* (BFA, Univ. Paris Cité)
15h Exploring methylation for applied Research*, Souhila Medjkane (*Epigenetic&Cell Fate, Univ. Paris Cité)
15h30 Computational investigations of environment effects in ribozyme catalysis I. Elise Duboué-Dijon (LBT, Univ. Paris Cité)

- **16h – Conclusive remark**