Innovating vectorization of biomolecules | InnoVec

The **Interdisciplinary thematic** institutes of the **University** of Strasbourg & CNRS & Inserm funded under the **Excellence Initiative** program

Winter School

Micro-Technology for vectorization of drugs

5 au 9 Février 2024

ESBS

Amphithéâtre A207

300 Bld Sebastien Brant,
67400 ILLKIRCH-GRAFFENSTADEN

Organisée par N. DUMAS et M.MADEC.

innovec.unistra.fr

Dans le cadre de
l'**Initiative d'excellence**
& FRANCE 2030

CONFERENCES

Workshop – Biosystems Modeling - Only for Students

Mathematical Modeling and Numerical Simulation of Multidisciplinary Systems
at the Interface between Biology and Engineering Sciences.

	MONDAY 5th	TUESDAY 6th	WEDNESDAY 7TH	THURSDAY 8TH	FRIDAY 9TH
08h45	AMPHI A207 **Welcome of participants**	AMPHI A207 **Welcome of participants**	Salle A502-A503 **Morning 8.30 – 12.30**	Salle A502-A503 **Morning 8.30 – 12.30**	Salle A502-A503 **Morning 8.30 – 12.30**
09h00	**Introduction**	**Introduction**			
09h15	Microfluidic-assisted development of synthetic nucleic acids for imaging and beyond **Pr. Michaël RYCKELYNCK**	Electroporation : from the study of molecule transfer mechanism to medical application **Dr. Marie-Pierre ROLS**	**Introduction to Python Programming Language** Most common modules used for system modeling and simulation (numpy, scipy and matplotlib)	**Mathematical Modeling of Biosystems** How to go from a single biological system to a multidisciplinary system	**Team Project**
10H00	Lectin-based tools for future therapeutical applications **Pr. Winfried RÖMER**	Localized drug delivery using focused ultrasound **Dr. Jonathan VAPPOU**			
10h45	**Coffee**	**Coffee**			
11h15	IT Health engineering projects Students - Teachers	Iron Uptake Pathways in Pseudomonas aeruginosa **Dr. Morgan MADEC**			
12h15	**Buffet**	**Buffet**	**Lunch break**	**Lunch break**	**Lunch break**
14h00	AMPHI A301 Microfluidic and AI for Nanoparticles engineering **Dr. Khair ALHARETH**	AMPHI A207 Organoïd maturation in microsystems **Dr . Youri ARNTZ**	Salle A502-A503 **AFTERNOON** **14.00 – 18.00**	Salle A502-A503 **AFTERNOON** **14.00 – 18.00**	Salle A502-A503 **AFTERNOON** **14.00 – 18.00**
14H45	Polymeric microcarriers: from microfluidic elaboration to tunable co-release of incompatible APIs **Pr. Christophe SERRA**	Poster Session	**Mathematical Modeling in System Biology** Deterministic and stochastic simulation, model formalization, dedicated tools and languages	**Team Project** Modeling of a biological switch in a microfluidic circuit and controlled by an electronic circuit	**Presentation of team projects, feedback and discussion**
15h30	**Coffee**	**Coffee**			
16h00	Engineering in industry and therapeutic application Transgene, Fluigent, Delta Diagnostics	Poster prize Closing remarks Students meeting TPS - InnoVec			
17h30	Closing remarks **Invited plenary speakers: social event**		**Gala Dinner for Students Workshop**		