Organisation & Support

The Interdisciplinary Thematic Institut of Hierarchical and Functional Materials is dedicated to the development of advanced composite materials with appealing and outstanding properties for health, environment and energy applications, and trains young researchers in the pluridisciplinary domain of material science. This year the summer school is organized in partnership with the ITI InnoVec (Innovating vectorisation of biomolecules).

The summer school is supported by the University of Strasbourg Initiative of Excellence, and partner institutions.

The summer school is sponsored by Soft Matter (RSC) and Springer Nature : European Physical Journal E.



Innovating vectorization of biomolecules | InnoVec The interdisciplinary thematic institutes of the University of Strasbourg

General & contact information

- ₿ iti-hifunmat.unistra.fr
- 🖽 4th 7th of July 2023
 - Pharmacy faculty 74 route du Rhin - CS 60024 67401 Illkirch-Graffenstaden

Gala dinner - Bateau de l'III 18 Rue du Général Picquart

奈 WIFI: Osiris

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Scientific organisation Antonio Stocco | Institut Charles Sadron Béatrice Heurtault | Laboratoire de Conception et

Application de Molécules Bioactives **Carole Arnold** | Institut de Science des Matériaux de Mulhouse **Maria Vittoria Spanedda** | Laboratoire de Conception et Application de Molécules Bioactives

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Project Managers **Melodie Galerne** | ITI HiFunMat melodie.galerne@unistra.fr **Angelique Savariat** | ITI InnoVec





Summer school Materials for health: from biophysics to biomedecine

Health is one of the major concerns of modern society. The development of new infectious diseases, the increase in cancer cases, the strike of periodical epidemics, and global health risks, challenge researchers to innovate and propose new alternatives in the search for a healthier future.

This summer school aims to train young scientists in understanding sanitary and health issues. It offers interdisciplinary scientific courses and seminars that tackle virus transmission, drug delivery, and bone engineering.

To complete the scientific aspect, a start-up compagny in the medical secteur will speak on the research themes and how to create a start-up. The program is completed by 'equity and equality in science' interventions in the early afternoons.

04 July

Virus transmission

08h45 Registration & Introduction

- 09h00 C1. Capillarity, Wetting, Droplet hydrodynamics Wiebke Drenckhan | ICS, FR
- 10h15 C2. Particle Surface interactions in Colloidal systems Pascal Hebraud | IPCMS, FR

11h30 Coffee break

- 11h45C3. On the hunt for Viruses: let's
try to understand how they are
transmitted
Emmanuel Boutant | Pharmacy, FR
- 13h00 Lunch
- 14h00 Equity and equality in science: Inequality wheel sketches Madeline Vauthier, Isabelle Kraus, Valérie Caps | Réferentes égalités Unistra & CNRS
- 15h30 Coffee break
- 15h45 S1. Pathogen transmission via speech-induced aerosols Ashley Nord | CBS, Montpellier FR

05 July

Drug delivery in the vascular system

08h45 Introduction

- 09h00 C4. Physical optimization for drug vectorization Sébastien Harlepp | ICANS, FR
- 10h00 C5. Biochemical aspects of anticancer drug delivery Alexandre Detappe | ICANS, FR

11h00 Coffee break

11h30 C6. Engineering of magnetic-based nanoplatforms for theranostic Sylvie Begin | IPCMS, FR

12h30 Lunch

13h30 Equity and equality in science: March of Inequalities Madeline Vauthier, Isabelle Kraus, Valérie Caps | Réferentes égalités Unistra & CNRS

15h30 Coffee break

16h00 S2. Potentialization of therapeutic antibodies through vessel structure normalization Xavier Pivot | ICANS, FR

17h00 🗇 Poster session

06 July

Bone engineering

08h45 Introduction

- 09h00 C7. Material Elasticity and deformation modes Jean Farago | ICS, FR
- 10h30 Coffee break
- 10h45 C8. Biomechanics and Mechanobiology of Bone Davide Ruffoni | Université de Liege, BE

12h15 Lunch

- 13h15 Equity and equality in science: regulations and testimonials Madeline Vauthier, Isabelle Kraus, Valérie Caps | Réferentes égalités Unistra & CNRS
- 14h45 C9. Bone tissue characteristics in health and disease Markus A. Hartmann | Ludwig Boltzmann Institute of Osteology, AUT

16h15 Coffee break

- 16h30 S3. From current biological bone reconstruction technique to bone tissue engineering Florelle Gindraux | CHU Besançon, FR
- 19h00 쓴 것 Gala dinner Bateau de l'Ill

07 July

Polymers for drug delivery

08h45 Introduction

- 09h00 C10. Medicines in the digital age Atheer Awad | University of Hertfordshire, UK
- 09h50 S4. Molecularly Imprinted Polymers (MIPs) in Drug delivery Francesco Puoci | University of Calabria, IT

10h45 Coffee break

11h15 S5. ALBUPAD the creation of a start-up Eya Aloui & Jordan Beurton | Start-up ALBUPAD, Strasbourg

12h15 Lunch

13h30 Equity and equality in science: Existing action plans & mentoring Madeline Vauthier, Isabelle Kraus, Valérie Caps | Réferentes égalités Unistra & CNRS

Coffee break

- ^{14h30} Closing talk. ₃D tissue models
- 15h00 Sandra Hofmann | TU Eindhoven, NL



