

MICROBES Symposium by Young Researchers

February 5-6, 2024

Grand Amphi, B timent 530, rue Andr  Riviere, 91400 Orsay, France

February 5, 20249h00 - 9h30 **Welcome - Breakfast & Coffee**9h30 - 9h40 **Introduction****Session 1 - Health and Disease**

Chairs: Julia Gendre & Sara Dendene

9h40 - 10h05 **Gabriela Sarango (Institut Cochin, Paris)**

Selective autophagy receptors in MHC-II-restricted antigen presentation and their highjacking by viruses to escape T cell immunity

10h05 - 10h30 **Julian Bulsico (IMM, Marseille)**

Single-bacterium/Single-phage techniques to unveil novel virus-host dynamics during antibiotic stress

10h30 - 10h55 **Simon Barral (Institut Curie, Paris)**

Loud Bacteria: How gas vesicles affect acoustic bacteria

Pitch Session10h55 - 11h00 **Debora Pinamonti (INRAE, France/ University of Udine, Italy)**A new electrochemical genosensor for detection of tetracycline and β -lactams resistance genes: focus on *Staphylococcus aureus* and *Escherichia coli* isolated from milk and meat in Italy11h00 - 11h05 **Marcel Zimmeck (I2BC, Gif-sur-Yvette)**

Beyond Vaccinia: Exploring the Structural Diversity of Poxviruses

11h05 - 11h10 **Clarisse Plantady (Institut Cochin, Paris)**Determining the main causes of phage resistance in clinical strains of *Pseudomonas aeruginosa*11h10 - 12h10 **Poster session - Coffee**12h10 - 13h40 **Lunch time****Session 2 - Biotechnology and Engineering**

Chairs: David Morgado & Adam Gargasson

13h40 - 14h05 **Jort Alterburg (Wageningen University, Wageningen)**

Process optimization of the baculovirus expression vector system for vaccine production

14h05 - 14h30 **Tim Michelberger (University of Padova, Padova)**

Improving microalgae biomass productivity by modulating photoprotection

14h30 - 14h55 **Claire-Jing Rouchet (INRAE, Antony)**Role of bacterial membrane in cell elongation in *Bacillus subtilis***Pitch Session**14h55 - 15h00 **Isokjon Pozilov (Institut Galien, Orsay)**

Development of Smart Lipid-Porphyrin Nanoassemblies for Enhanced Photothermal and Photodynamic Therapy: A Novel Approach to Combat Antibiotic-Resistant Bacterial Infections

15h00 - 15h05 **Aur lien Barbotin (INRAE, Jouy-en-Josas)**

Direct measurement of membrane fluidity in bacteria using TIR-FCS

15h05 - 15h10 **Giovany Rubio (CentraleSupélec, Gif-sur-Yvette)**

Exploration of microbial dynamics based on the thermokinetic approach of the microbial transition state theory

15h10 - 15h40 **Coffee**

Session 3 - Giving some space to microbes

Chairs: Brittany Baker & Aur lien Ricard

- 15h40 - 16h05 **B r n ce Dupont (ESPCI, Paris)**
Acoustic levitation of cyanobacteria for life support system
- 16h05 - 16h30 **Lucas Bourmanc  (MNHN, Paris)**
Exploring a new world: a dive-in into salt crystals

Pitch Session

- 16h30 - 16h35 **Elsa Denakpo (ICSN, Gif-sur-Yvette)**
Imputation of missing antibiotic susceptibility values in *Pseudomonas aeruginosa* using machine learning
- 16h35 - 16h40 **Emma BOHUON (CNRS, Pessac)**
Investigating deep-sea vents microbial ecosystems using microfluidic approaches
- 16h40 - 16h45 **Christina Wichmann (Friedrich-Schiller-University, Jena)**
Mode of action of marginolactone on bacterial membranes

16h45 - 18h15 **Poster session – Drinks**19h15 **Dinner at Brass & Co 24 - 26 Mail Pierre Potier, 91190 Gif-sur-Yvette****February 6, 2024**9h00 - 9h30 **Breakfast & Coffee****Session 3 - Giving some space to microbes (continued)**

Chairs: Brittany Baker & Aur lien Ricard

- 9h30 - 9h55 **Taha Laroussi (Ecole Polytechnique, Palaiseau)**
Short-term memory effects in the phototactic behavior of microalgae

Pitch Session

- 9h55 - 10h00 **Roza Mohammadi (I2BC, Gif-sur-Yvette)**
Role of the CckA ChpT DivL complex in the phosphorylation of the master regulator CtrA during the cell cycle and nitrogen fixing symbiosis in *Sinorhizobium meliloti*
- 10h00 - 10h05 **Yining Zhao (Institut Pasteur, Paris)**
SARS-CoV-2 Orf9b: Effects on mitochondrial physiology
- 10h05 - 10h10 **Louise Rigaud (INRAE, Antony)**
Selection, adaptation and characterization of electrosynthetic microbial communities
- 10h10 - 10h15 **Hoang Linh Phan (ICSN, Gif-sur-Yvette)**
Specialized metabolites with antiviral properties from a Vietnamese plant: Isolation and synthesis

10h15 - 11h15 **Poster session - Coffee****Session 4 - Ecology and Evolution**

Chairs: Brittany Baker & Nathalie Laforge

- 11h15 - 11h40 **Cyprien Gu rin (INRAE, Jouy-en-Josas)**
Continuous culture in custom computer-controlled mini-bioreactors

Pitch session

- 11h40 - 11h45 **Tha s Vilela Rodrigues (Inrae/Paris Saclay/AgroParisTech)**
Towards the structural characterization of MAM (Microbial Anti-inflammatory Molecule), from *Faecalibacterium*

11h45 - 11h50 **Emily Plumb (INSERM, Nice)**

Tolerance to the antifungal drug fluconazole is associated with increased cytoplasmic crowding/viscosity

12h00 - 12h05 **Tommaso Redaelli (ETH Zurich)**

Unravelling complex interactions in fluctuating habitats

12h05 - 13h30 **Lunch time**

Session 4 - Ecology and Evolution (continued)

Chair: Brittany Baker & Nathalie Laforge

13h30 - 13h55 **Josh Hamm (Netherlands Institute for Sea Research, Den Hoorn)**

Selective lipid recruitment by an archaeal DPANN symbiont from its host

13h55 - 14h20 **Reem Tambosi (CNRS, Gif-sur-Yvette)**

Reduction and Biosorption of Silver Nanoparticles by Bacteria

Pitch Session

14h20 - 14h25 **Wanchao Hu (INSERM, Paris)**

Minibioreactor arrays (MBRAs) to model microbiome response to tryptophan and alcohol in the context of alcohol-associated liver disease (ALD)

14h25 - 14h30 **Sibylle Tabuteau (INRAE/AgroParisTech, Palaiseau)**

Iron acquisition mechanisms as a factor in structuring microbial communities on cheese surfaces

14h30 - 14h35 **Ingrid Adriaans (INRAE, Jouy-en-Josas)**

Single-filament imaging of the actin homologue MreB

14h35 – 15h30 **Poster session - Coffee break**

Session 5 - Agriculture and Food

Chair: Julia Gendre & Nathalie Laforge

15h30 - 15h55 **Florencia Oviedo Hernandez (Universit  de Bordeaux, Villanave d'Ornon)**

Phage bacteria co-evolution in wine. The virulent *Krappator 27 phage* selects for unique genomic changes in the lactic acid bacterium *Oenococcus oeni*

15h55 – 16h20 **Emmanuelle Baudu (Universit  Paul Sabatier, Auch)**

Characterisation of a biofilm at the air-liquid interface: Toward a link between biochemical composition and physical properties

16h20 - 16h45 **Mich le Bou Habib (INRAE, Montigny-le-Bretonneux)**

Bacteriophages: can we predict their impact on cheese-making?

16h45 - 17h00 **Awards - Closing - Organizing committee**

17h00 - 17h30 **Drinks**