

Microbiology Departmental Days 2025 28 & 29th of October Inst. Pasteur Campus

30 Research Teams coming together... 35 Talks ; 42 Posters

TUESDAY, OCTOBER 28th, MORNING

CHAIR S: Ivo GOMPERTS BONECA & Emma MELOTTI

09:00 – 09:10 AM | **JDD Opening** by Frédéric BARRAS

09:10 – 09:40 AM | **INTEGRATED MYCOBACTERIAL PATHOGENOMICS** (R. BROSCH)

Fidel SAYES -- Improved Immune Responses and Tuberculosis Protection by Aerosol Vaccination with rBCG expressing ESX-1 from *Mycobacterium marinum*

Marc SETTELEN (*) -- Deciphering host factors involved in phagosomal membrane damage induced by *Mycobacterium tuberculosis*

09:40 – 10:00 AM | **ECOLOGY AND EVOLUTION OF ANTIBIOTICS RESISTANCE** (P. GLASER)

Nicolas CABANEL -- Spatio-temporal dynamic of β -lactam resistant *E. coli* in diseased calves in Wallonia

10:00 – 10:30 AM | **GENETICS OF BIOFILMS** (J.-M. GHIGO)

Bianca AUDRAIN -- Regulation of biofilm formation in the diderm *Firmicute Veillonella parvula*

Jean-Marc GHIGO -- Airborne interactions mediated by bacterial volatile compounds

10:30 – 10:50 AM | **COFFEE BREAK // SPONSORS** (Organotechnie)

CHAIR S: Alexandre GIRAUD-GATINEAU & Jévier PIZARRO-CERDA

10:50 – 11:10 AM | **MICROBIOME-HOST INTERACTION** (B. CHASSANG)

Quentin LAMY-BESNIER (*) -- The ADAPT clinical trial, a platform to decipher mechanisms behind emulsifier-induced inflammation in the human gut

11:10 – 11:40 AM | **BIOLOGY OF INTRACELLULAR BACTERIA** (C. BUCHRIESER)

Paola MARTINEZ-OCA (*) -- Single-cell Spatial Metabolomics Reveals Metabolic Heterogeneity in Human Macrophages during *Legionella pneumophila* Infection

Gristina Di SILVESTRE (*) -- A secreted arginine methyltransferase inhibits host cell apoptosis to promote *Legionella pneumophila* survival during infection

11:45 – 12:15 AM | **FLASH TALKS SESSION 1**

Lunch time at the Cantine and then Posters & sponsors in the Modules

12:15 – 1:15 PM | **LUNCH TIME**
1:15 – 2:25 PM | **POSTERS // SPONSORS** (Organotechnie)

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TUESDAY, OCTOBER 28th, AFTERNOON

CHAIR S: Philippe GLASER & Marie ROYER

2:30 – 2:50 PM | **MICROBIAL INDIVIDUALITY AND INFECTION** (G. MANIVA)

Margaux PILLON (*) -- How to manipulate the host immune system to reach its goal: the dynamics of *M. tuberculosis* GroEL2 expression and processing.

2:50 – 3:10 PM | **COLLECTION OF THE INSTITUT PASTEUR** (M. PAMIS)

Emnat EL GHALDI (*) -- Building a biobank - Evolution of fungal characterization and nomenclature over time

3:10 – 3:30 PM | **BIOLOGY OF SPIROCHETES** (M. PICARDEAU)

Xilian COULLIN (*) -- When studying adaptation to oxidative stress in *Leptospira* brings in the forefront the poorly characterized *Escherichia coli* *SufR* regulator

3:30 – 3:50 PM | **STRUCTURAL MICROBIOLOGY** (P. ALZAR)

Marc BELLUNONI -- A journey around mycobacterial metabolism

3:50 – 4:00 PM | **SPONSOR Presentation** (Organotechnie)

4:00 – 4:20 PM -- **COFFEE BREAK // SPONSORS** (Organotechnie)

CHAIR S: Carmen BUCHRIESER & Pierre FOUCAULT

4:20 – 4:50 PM | **BACTERIAL TOXINES** (E. LEMOCHÉ)

Amel METTOUCHI -- The *E. coli* CNF1 toxin induces fetal reprogramming of intestinal stem cells and a serrated colorectal cancer transcriptional signature in organoids

Mia PAILLARES (*) -- Development of a tetraivalent equine antitoxin against botulinum neurotoxins

4:50 – 5:10 PM | **BIOLOGICAL RESOURCE CENTER FROM INSTITUT PASTEUR** (P. BETSOU)

Fry BETSOU -- What can microbial biobanks do for me?

5:10 – 5:30 PM | **MICROBIAL EVOLUTIONARY BIOHICS** (E. ROCHA)

Jorge Moura de SOUSA -- Frequent and rapid turnover of defence systems in P2-like phages and their P4-like satellites

5:30 – 5:50 PM | **BACTERIAL INVASIVE INFECTIONS** (M.-K. TAHA)

Muhammad-Khalil TAHA -- When the Gut Feels It: Adipocyte PAL-1 Links Abdominal Symptoms to Meningococcal Sepsis

5:50 – 6:20 PM | **YERSINIA** (J. PIZARRO-CERDA)

Guillaume MAS FOL (*) -- Attenuation of *Yersinia pestis* virulence across three plague pandemics

06:30 PM | **Beer Hour** (Modules below the Cantine)

Eurogentec

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28 & 29th of October
Inst. Pasteur Campus

WEDNESDAY, OCTOBER 29th, MORNING

Duclaux Amphitheater

CHAIR S: Emmanuël LEMICHEZ + Elise PAILLARES

09:00 – 09:20 AM | CHEMISTRY OF BIOMOLECULES (L. MILARD)

Marie BORE-GOCHOT (*) – Biomolecular Chemistry: Bioconjugation and Molecular Tools for Microbiology

09:20 – 09:40 AM | MICROBIAL PALEOGENOMICS (N. RASCOVAN)

Arne Leo WILUGHAM GRUALBA (*) – Microbial Time Capsules: using oral microbes as new models to investigate host-microbe interactions & human demography

09:40 – 10:10 AM | STRESS ADAPTATION AND METABOLISM (F. BARBAS)

Maxime BARRAULT (*) – Fe-S cluster biogenesis polymorphism and adaptation to stress and virulence in *Shigella*

Emile DUPUY (*) – An ancestral machinery for iron-sulfur cluster biogenesis in methanogenic archaea

10:10 – 10:30 AM | **COFFEE BREAK // SPONSORS** (OrganoTechnie, Eurogentec, Eurofins)

CHAIR S: Simonetta GRIBALDO + Soufyan FAKROUN

10:30 – 11:00 AM | SYNTHETIC BIOLOGY (D. BIKARD)

Christophe ROULLON (*) – Immunity, defence, anti-defence... What else?

11:00 – 11:20 AM | BACTERIAL TRANSMEMBRANE SYSTEMS (N. IZADI-PRUNEYRE)

Nadia IZADI-PRUNEYRE – Structure and Dynamics of a Bacterial Molecular Motor

11:20 – 11:40 AM | PASTEUR CULTURES COLLECTION OF CYANOBACTERIA (M. GUIGERY)

Aniket SARAF (*) – Pseudomonas: A basal cyanobacterial lineage with unicellular and filamentous morphotypes

11:40 – 12:10 AM | **FLASH TALKS SESSION 2**

Lunch time of the Contine and then Posters & sponsors in the Modules

12:10 – 1:10 PM | **LUNCH TIME**

1:15 – 2:00 PM | **POSTERS // SPONSORS** (OrganoTechnie, Eurogentec, Eurofins)



WEDNESDAY, OCTOBER 29th, AFTERNOON

Duclaux Amphitheater

CHAIR S: Jean-Marc GHIOU & Srikanth RAVISHANKAR

2:00 – 2:30 PM | EVOLUTIONARY BIOLOGY OF THE MICROBIAL CELL (S. GRIBALDO)

Anna KUBOWSKA (*) – Evolution of the bacterial cell envelope: a role of teichoic acids in the deltam to monoderm transition?

2:30 – 2:50 PM | BACTERIAL CELL CYCLES MECHANISMS (A.-M. WEINKEU)

Adria SOQUES CASTREON (*) – Cryo-EM structure and polar assembly of the PS2 S-layer of *Corynebacterium glutamicum*

2:50 – 3:10 PM | CELL BIOLOGY AND VIROLOGY OF ARCHAEA (M. KRUPONC)

Murielle SEIF ELDAHAN (*) – A New Family of Tiny Archaeal Virus Polymerases with High DNA and RNA Synthesis Potential

3:10 – 3:30 PM | BIOCHEMISTRY OF MACROMOLECULAR INTERACTIONS (D. LADANT)

Alexandre CHENAL – Structural flexibility of the CysA toxin is critical for secretion, folding and host cell intoxication

3:30 – 3:50 AM | **COFFEE BREAK // SPONSORS** (OrganoTechnie, Eurofins)

3:50 – 4:00 PM | Green Team Video

CHAIR S: Miguel GOMEZ RAYA VILANOVA & Mart KRUPONC

4:00 – 4:30 PM | BIOLOGY AND GENETICS OF BACTERIAL CELL WALL (L. GONZALEZ BONECA)

Megana FERNANDEZ (*) – Analyses of *Leptospira* recognition by TLR receptors across host species

Ana OLIVEIRA PAVIA (*) – Mode of action of peptides inhibiting lipoprotein modification enzymes Lgt

4:30 – 4:50 PM | MOLECULAR DIVERSITY OF MICROBES (A. BERNHEIM)

Audis BERNHEIM – Evolution of immunity across domains of life

4:50 – 5:10 PM | INTEGRATIVE STRUCTURAL CELL BIOLOGY (A. BREGOU)

Ariane BREGOU – Cryo-Electron Tomography contributes to our understanding of bacterial interactions with their environment

5:10 – 5:30 PM | PATHOGENESIS OF BACTERIAL ANAEROBES (D. DUPUY)

Guillaume ALTAF FIGUEROA (*) & Claire MORVAN – How gut metabolites influence Clostridioides difficile persistence?

5:30 – 5:50 PM | BACTERIOPHAGE, BACTERIUM, HOST (L. DEMARQUE)

Guillaume SVELLE – Explorations on the mechanisms that bacteria deploy to survive a bacteriophage cocktail challenge

5:50 PM | Gathering & Vote

6:15 PM | Closing Remarks – Prizes and Awards

(*) eligible for a Prize

06:30 PM | **"Ageritf Discontinue"** (Modules below the Contine)

Live Concert from Les O. Bonais (Bass) & Pierre Rosenbaum (Guitar and voice)



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