



# MICROBIOLOGY 2025

XXXV SIMGBM Congress - Rome, September 17<sup>th</sup>-20<sup>th</sup>, 2025

## Wednesday, 17<sup>th</sup> September 2025

- 14.00**            **Registration**
- 16.00-17.00**    **Opening Lecture** - Chairs: M. Ventura and P. Landini  
**Jan Michiels** (VIB, Center for Microbiology, KU Leuven, Belgium)  
*Antibiotic Persistence: Exploring Mechanisms and Evolutionary Pathways*
- 17.00-19.00**    **Plenary Session 1: Planetary microbiology: the role of microorganisms in a changing earth**  
Chairs: I. Gandolfi and L. Vezzulli
- 17.00-17.35    **Marcela Hernández** (University of East Anglia, UK)  
*Microbiology of volcanic gases and the metabolism of one carbon compounds*
- 17.35-18.10    **Samuel Chaffron** (University of Nantes, France)  
*Community network models to reveal marine plankton systems ecology and evolution*
- 18.10-18.35    **Donato Giovannelli** (University of Naples, Federico II, Italy)  
*Geosphere-biosphere coevolution*
- 18.35-19.00    **Paola Quatrini** (University of Palermo, Italy)  
*The role of the soil microbiota in mitigating desertification in Southern Europe*
- 19.00**            **Welcome reception**

## Thursday 18<sup>th</sup> September 2025

- 09.00-11.00**    **Plenary Session 2: Multidisciplinary approaches to tackle antibiotic resistance**  
Chairs: E. Perrin and S. Buroni
- 09.00-09.35    **Mattia Zampieri** (University of Basel, Switzerland)  
*Unlocking new drug modes of action by multidimensional high-throughput metabolic profiling*
- 9.35-10.00    **Francesco Imperi** (University of Roma Tre, Italy)  
*Genetics and evolution of polymyxin resistance in *Pseudomonas aeruginosa**
- 10.00-10.25    **Marco Fondi** (University of Florence, Italy)  
*Microbial interactions and antibiotic resistance*
- 10.25-11.00    **Santiago Ramón García** (University of Zaragoza, Spain)  
*Novel in vitro tools to inform pre-clinical and clinical progression of tuberculosis combination therapy*
- 11.00-11.30**    **Coffee break**

- 11.30-13.30** **Plenary Session 3: New frontiers in human and animal microbiome research**  
Chairs: F. Turrone and C. Viti
- 11.30-12.10 **David Berry** (University of Vienna, Austria)  
*Development of the gut microbiota-immune-brain axis in extremely premature infants*
- 12.10-12.30 **Carlotta de Filippo** (CNR, Institute of Agricultural Biology and Biotechnology, Pisa, Italy)  
*Gut microbiota drives colon cancer risk associated with diet: a comparative analysis of meat-based and pesco-vegetarian diets*
- 12.30-12.50 **Gabriele Andrea Lugli** (University of Parma, Italy)  
*Bifidobacteria as a model microbial group of the human gut microbiome*
- 12.50-13.10 **Matteo Daglio** (University of Florence, Italy)  
*Polyphenol-rich by-products to modulate the activity of rumen microbiota*
- 13.10-13.30 **Emilia Ghelardi** (University of Pisa, Italy)  
*In vitro models as cutting-edge tools for studying the gut microbiota: from static bioreactors to pocket dynamic platforms*
- 13.30-15.00** **Lunch & Posters viewing**
- 15.00 -17.00** **Plenary Session 4: “Survive, escape, and kill”: mechanisms of host-pathogen interactions**  
Chairs: A. Tavanti and L. Leoni
- 15.00-15.40 **Andres Floto** (Cambridge University, UK)  
*How bacteria evolve from environmental organisms into specialized pathogens*
- 15.40-16.00 **Giovanni Delogu** (Università Cattolica del Sacro Cuore, Rome, Italy)  
*Host directed therapies for mycobacterial infections*
- 16.00-16.20 **Marco R. Oggioni** (University of Bologna, Italy)  
*Not macrophages but sinusoids capture bacteria in the human spleen*
- 16.20-16.40 **Vittorio Venturi** (ICGEB, Trieste, Italy)  
*LuxR solos represent a major family of cell-cell signaling regulators in the plant microbiome*
- 16.40-17.00 **Arianna Tavanti** (Università di Pisa, Italy)  
*Fatal Attraction: role of adhesins in the virulence of the opportunistic pathogen Candida parapsilosis*
- 17.00-17.30** **Coffee break**
- 17.30-18.30** **Plenary Lecture 1** - Chairs: P. Visca and E. Ricca  
**Bianca Colonna** (University of Rome, La Sapienza, Italy)  
*Hiking the trails of bacterial regulation*

## Friday 19<sup>th</sup> September 2025

- 09.00-11.00**     **Plenary Session 5: Virus and host cell interplay**  
Chairs: F. Esposito and R. De Francesco
- 09.00-09.30     **Urs Greber** (University of Zurich, Switzerland)  
*Dissecting viruses - From stepwise entry to assembly by x-scale imaging*
- 09.30-10.00     **Clovis Palmer** (Tulane University School of Medicine, Louisiana, USA)  
*Metabolic remodeling drives viral persistence and co-morbidities*
- 10.00-10.20     **Enzo Tramontano** (University of Cagliari, Italy)  
*Impact of West Nile Virus on the infected cell: a multiomics approach*
- 10.20-10.40     **Marta Giovanetti** (University of Rome, Italy)  
*Emerging Pathogens: Unveiling the Impact of Climate Change on Global Disease Dynamics*
- 10.40-11.00     **Anna Luganini** (University of Turin, Italy)  
*Calcium-conducting Viroporins: their role in viral replication and pathogenesis, when cellular genes became VIRAL*
- 11.00-11.30**     **Coffee Break**
- 11.30-13.30**     **Plenary Session 6: Phage Biology: from basics to applications**  
Chairs: M. Di Luca and A. Danielli
- 11.30-12.00     **Luisa De Sordi** (Sorbonne Paris, France)  
*Of Phages and Flames: Virus-Host Interactions in Inflammatory Bowel Disease*
- 12.00-12.25     **Federica Briani** (University of Milan, Italy)  
*Elucidating key steps and players in the adsorption of DEV phage to its Pseudomonas aeruginosa host*
- 12.25-12.50     **Marco Maria D'Andrea** (University of Rome Tor Vergata, Italy)  
*Lytic bacteriophages against Klebsiella pneumoniae and their impact on bacterial virulence*
- 12.50-13.10     **Francesco Santoro** (University of Siena, Italy)  
*Liaisons dangereuses: lysogenic phages, antibiotic resistance, virulence and horizontal gene transfer in Streptococcus pyogenes*
- 13.10-13.30     **Martina Cappelletti** (University of Bologna, Italy)  
*Phylogenetic and functional analyses of the prophages in bacteria inhabiting pristine and extreme terrestrial environment*
- 13.30-15.00**     **Lunch and posters viewing**
- 15.00-15.50**     **Plenary Lecture 2** - Chairs: B. Colonna and P. Visca  
**Eric Cascales** (Institut de Microbiologie de la Méditerranée, Aix Marseille Univ, Centre National de la Recherche Scientifique, Marseille, France)  
*Bacterial war: architecture, biogenesis and mechanism of action of a bacterial nanoweapon, the type VI secretion system*
- 15.50-16.40**     **Plenary Lecture 3** - Chairs: D. Baccigalupi and P. Alifano  
**William Martin** (Heinrich Heine Universität, Düsseldorf, Germany)  
*Chemical antiquity in metabolism connects life to Earth*
- 16.40-17.10**     **Coffee Break**

- 17.10-17.20      **Italbiotec short presentation**
- 17.20-18.10      **Prizes Presentations**
- Franco Tatò Prize 2025 (Kindly supported by Italbiotec)**
- GenProbio Prize 2025**
- SIMGBM Prize 2025 – PhD Thesis 2025**
- SIMGBM Prize 2025 – Best paper**
- ADVICE Prize**
- 18.10-19.10      **Annual assembly of SIMGBM members**
- 20.30              **Social dinner**

**Saturday 20<sup>th</sup> September 2025**

- 9.00-12.00      **Parallel sessions: Short Talks from Selected Abstracts**

**Session A: Microbial genetics and genomics**

Chairs: R. Isticato and A. Martorana

**Session B: Environmental and industrial microbiology**

Chairs: E. Bona and T. Rinaldi

**Session C: Host-pathogen interactions**

Chairs: R. Provvedi and F. Iannelli

*12 oral presentations from selected Abstracts for each session*