



MICROBIOLOGY 2025

XXXV SIMGBM Congress - Rome, September 17th-20th, 2025

Wednesday, 17th 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: E. Tamburini 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 18th 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/ARAID Foundation, 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: G. Prosseda 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 19th 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 in viral replication and pathogenesis
- 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**
- 17.20-18.20 **Prize 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
- 18.30-19.30 **Annual assembly of SIMGBM members**
- 20.30 **Social dinner**

Saturday 20th 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