

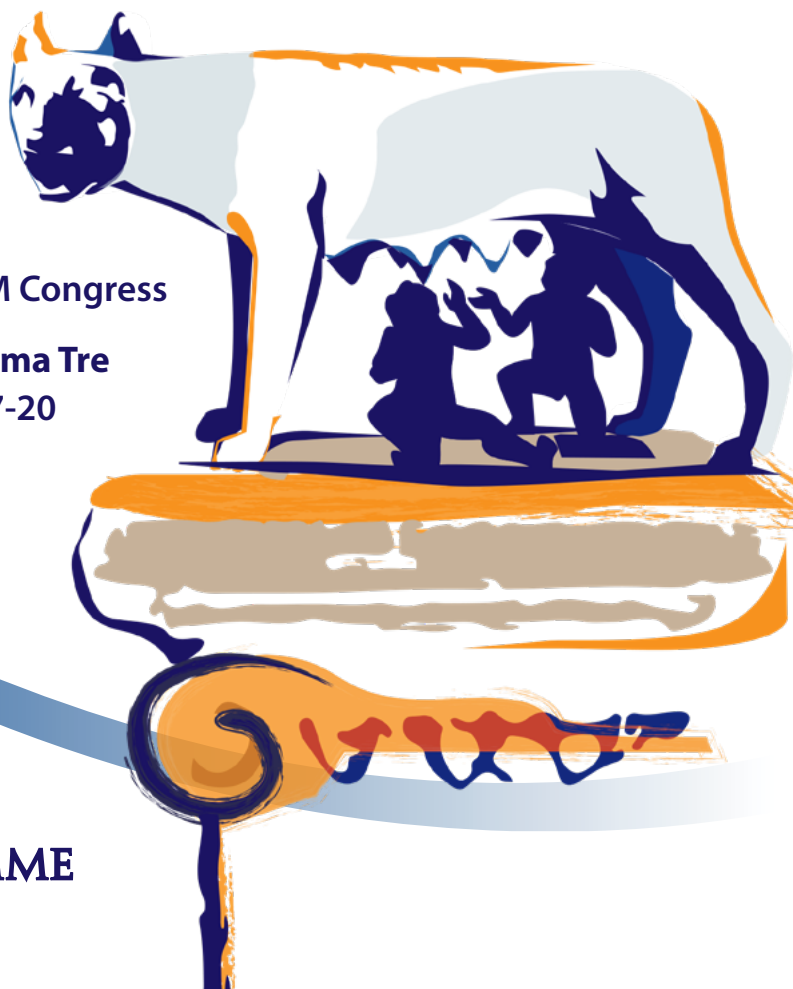


SIMGBM
Società Italiana di
Microbiologia Generale
e Biotecnologie Microbiche

MICROBIOLOGY 2025

XXXV SIMGBM Congress

University Roma Tre
September 17-20



PROGRAMME

Programme

Wednesday, 17th September 2025

14.00 Registration

15.40-16.00 Welcome and introductory information

16.00-17.00 | OPENING LECTURE

Chairs: **P. Landini** and **M. Ventura**

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 **Marcela Hernández** (*University of East Anglia, UK*)

Microbiology of volcanic gases and the metabolism of one carbon compounds

17.35 **Samuel Chaffron** (*University of Nantes, France*)

Community network models to reveal marine plankton systems ecology and evolution

18.10 **Donato Giovannelli** (*University of Naples, Federico II, Italy*)

Geosphere-biosphere coevolution

18.35 **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: **S. Buroni** and **E. Perrin**

- 09.00 **Mattia Zampieri** (*University of Basel, Switzerland*)
Unlocking new drug modes of action by multidimensional high-throughput metabolic profiling
- 09.35 **Francesco Imperi** (*University of Roma Tre, Italy*)
Genetics and evolution of polymyxin resistance in *Pseudomonas aeruginosa*
- 10.00 **Marco Fondi** (*University of Florence, Italy*)
Microbial interactions and antibiotic resistance
- 10.25 **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 Coffee Break

11.30-13.30 | PLENARY SESSION 3

New frontiers in human and animal microbiome research

Chairs: **F. Turroni** and **C. Viti**

- 11.30 **David Berry** (*University of Vienna, Austria*)
Development of the gut microbiota-immune-brain axis in extremely premature infants
- 12.10 **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 **Gabriele Andrea Lugli** (*University of Parma, Italy*)
Bifidobacteria as a model microbial group of the human gut microbiome
- 12.50 **Matteo Daghighio** (*University of Florence, Italy*)
Polyphenol-rich by-products to modulate the activity of rumen microbiota
- 13.10 **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 Lunch and Posters viewing

15.00-17.00 | PLENARY SESSION 4

“Survive, escape, and kill”: mechanisms of host-pathogen interactions

Chairs: **L. Leoni** and **G. Prosseda**

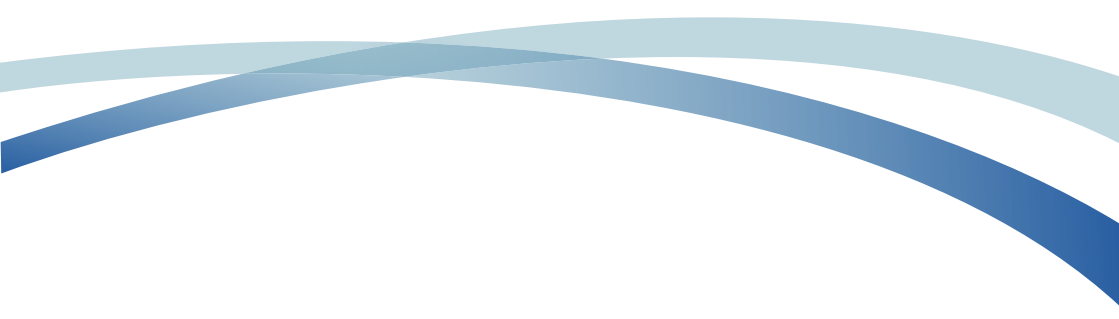
- 15.00 **Andres Floto** (*Cambridge University, UK*)
How bacteria evolve from environmental organisms into specialized pathogens
- 15.40 **Giovanni Delogu** (*Università Cattolica del Sacro Cuore, Rome, Italy*)
Host directed therapies for mycobacterial infections
- 16.00 **Marco R. Oggioni** (*University of Bologna, Italy*)
Not macrophages but sinusoids capture bacteria in the human spleen
- 16.20 **Vittorio Venturi** (*ICGEB, Trieste, Italy*)
LuxR solos represent a major family of cell-cell signaling regulators in the plant microbiome
- 16.40 **Arianna Tavanti** (*Università di Pisa, Italy*)
Fatal Attraction: role of adhesins in the virulence of the opportunistic pathogen *Candida parapsilosis*

17.00 Coffee Break

17.30-18.30 | PLENARY LECTURE 1

Chairs: **E. Ricca** and **P. Visca**

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: **R. De Francesco** and **F. Esposito**

- 09.00 **Urs Greber** (*University of Zurich, Switzerland*)
Dissecting viruses - From stepwise entry to assembly by x-scale imaging
- 09.30 **Clovis Palmer** (*Tulane University School of Medicine Louisiana, USA*)
Metabolic remodeling drives viral persistence and comorbidities
- 10.00 **Enzo Tramontano** (*University of Cagliari, Italy*)
Impact of West Nile Virus on the infected cell: a multiomics approach
- 10.20 **Marta Giovanetti** (*University of Rome, Italy*)
Emerging pathogens: unveiling the impact of climate change on global disease dynamics
- 10.40 **Anna Luganini** (*University of Turin, Italy*)
Calcium-conducting viroporins in viral replication and pathogenesis

11.00 Coffee Break

11.30-13.30 | PLENARY SESSION 6

Phage Biology: from basics to applications

Chairs: **M. Di Luca** and **A. Danielli**

- 11.30 **Luisa De Sordi** (*Sorbonne Paris, France*)
Of phages and flames: virus-host interactions in inflammatory bowel disease
- 12.00 **Federica Briani** (*University of Milan, Italy*)
Elucidating key steps and players in the adsorption of DEV phage to its *Pseudomonas aeruginosa* host
- 12.25 **Marco Maria D'Andrea** (*University of Rome Tor Vergata, Italy*)
Lytic bacteriophages against *Klebsiella pneumoniae* and their impact on bacterial virulence
- 12.50 **Francesco Santoro** (*University of Siena, Italy*)
Liaisons dangereuses: lysogenic phages, antibiotic resistance, virulence and horizontal gene transfer in *Streptococcus pyogenes*
- 13.10 **Martina Cappelletti** (*University of Bologna, Italy*)
Phylogenetic and functional analyses of the prophages in bacteria inhabiting pristine and extreme terrestrial environment

13.30 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 Coffee Break

17.10 **Italbiotec short presentation**

17.20 **PRIZE PRESENTATIONS**

Franco Tatò Prize 2025 (Kindly supported by Italbiotec)

GenProbio Prize 2025

SIMGBM Prize 2025 – PhD Thesis 2025

SIMGBM Prize 2025 – Best paper

ADVISE Prize

18.30 **Annual assembly of SIMGBM members**

20.30 Social dinner



Saturday 20th September 2025

9.30-12.30 | 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: **F. Iannelli** and **R. Provvedi**

12 oral presentations from selected abstracts for each session

SATURDAY



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