



MICROBIOLOGY 2023

XXXIV SIMGBM Congress

Cagliari, September 21–24, 2023

Sessions held at University of Cagliari

Thursday, September 21

- 17.30-19.30 **Registration**
- 18.30-19.30 **Opening Lecture**, Chairs: P. Landini, G. Rampioni
Natalia Tschowri (Leibniz University, Hannover, Germany)
Cyclic-di-GMP signalling in bacterial differentiation and metabolism
- 19.30 **Welcome Reception at the Botanical Garden**

Friday, September 22

- 08.00-09.00 **Registration**
- 09.00-11.00 **Plenary Session 1: Biology of nitrogen-fixing bacteria and their applications**
Chairs: M. Bazzicalupo, M. Varcamonti
- 09.00-09.45 **Alessio Mengoni** (Univ. Firenze)
Evolutionary genomics of nitrogen fixing bacteria
- 09.45-10.10 **Marco Nuti** (S.S. Sant'Anna, Pisa)
Application of nitrogen fixing bacteria to sustainable agriculture
- 10.10-10.35 **Carmen Bianco** (IBBR-CNR, Napoli)
Bacterial production of indole-3-acetic acid (IAA) and its effect on nitrogen fixation in different host plants
- 10.35-11.00 **Maurizio Chiurazzi** (IBBR-CNR, Napoli)
Genetics of nitrate transport and signaling in N-fixing symbioses
- 11.00-11.30 **Coffee break**
- 11.30-13.30 **Plenary Session 2: Metabolic adaptation to stress conditions**
Chairs: L. Baccigalupi, F. Imperi
- 11.30-12.15 **Forest Rohwer** (SDSU, San Diego, CA, USA)
The holobiont approach in health and disease
- 12.15-12.40 **Pietro Alifano** (Univ. Salento, Lecce)
Metabolic changes of Neisseria meningitidis during host infection
- 12.40-13.05 **Gianni Prosseda** (Univ. Sapienza Roma)
Polyamine metabolism during Shigella infection
- 13.05-13.35 **Emanuela Frangipani** (Univ. Urbino)
Fighting Staphylococcus aureus through iron starvation
- 13.30-15.30 **Lunch & Posters viewing (odd numbers)**

- 15.30-16.30 **Plenary Lecture 1**, Chairs: D. Cavalieri, E. Ricca
Silvia Bulgheresi (University of Vienna, Austria)
Cell division in nematode symbionts
- 16.30-16.45 **Short Presentation**
Stefano Donadio (NAICONS, Milano)
Presentation of the micro4all Platform, the first “Search-and-Order Molecules Engine”
- 16.30-17.30 **Prize Presentations**
Franco Tatò Prize
SIMGBM Prize- (*Kindly supported by Microorganisms*)
GenProbio Prize
- 17.30-19.00 **Annual assembly of SIMGBM members**
- 20.30 **Social dinner**

Saturday, September 23

- 09.00-11.00 **Plenary Session 3: Cell envelope remodeling to shape bacterial fitness in response to the host and environment**
Chairs: B. Colonna, A. Polissi
- 09.00-09.45 **Simonetta Gribaldo** (Institut Pasteur, Paris, France)
One or two membranes? Diderm Firmicutes illuminate the evolution of the bacterial cell envelope
- 09.45-10.20 **Víctor Hernández-Rocamora** (Newcastle University, UK)
Peptidoglycan remodeling and bacterial fitness under stressful conditions
- 10.20-10.40 **Alessandra Martorana** (Univ. Milano)
Peptidoglycan remodeling and amidases activation under lipopolysaccharide biogenesis defects
- 10.40-11.00 **Orietta Massidda** (Univ. Trento)
Regulation of peptidoglycan synthesis during growth and division
- 11.00-11.30 **Coffee break**
- 11.30-13.30 **Plenary Session 4: Functional microbial diversity in polluted environments**
Chairs: A. Franzetti, M. Petruccioli
- 11.30-12.15 **Ibrahim M. Banat** (University of Ulster, Northern Ireland, UK)
Microbial biosurfactants: current trends and applications in environmental, agricultural and biomedical industries
- 12.15-12.40 **Isabella Gandolfi** (Univ. Milano-Bicocca)
Microbial ecosystem functions in polluted environments
- 12.40-13.05 **Silvia Crognale** (Univ. Tuscia, Viterbo)
Mycoremediation in TPH polluted environments: fungal and bacterial interactions
- 13.05-13.30 **Elena Tamburini** (Univ. Cagliari)
Benthic microbial response to pollutants in anthropized marine sediments
- 13.30-15.30 **Lunch & Posters viewing (even numbers)**

15.30-16.30 **Plenary Lecture 2**, Chairs: P. Visca, D. Zannoni

Ray J. Turner (University of Calgary, Alberta, Canada)

Role of metal-based antimicrobials in the Antimicrobial Resistance Era

16.30-19.00 **Parallel sessions: Short Talks from Selected Abstracts**

Session A: Microbial genetics and genomics

Chairs: M. Ventura, E. Rossi

Session B: Environmental and industrial microbiology

Chairs: P. Quatrini, C.E. Parolin

Session C: Interactions between microbes/viruses and their hosts

Chairs: A. Tavanti, N. Grandi

12 oral presentations from selected Abstracts for each session

Sunday, September 24

Joint Meeting

Società Italiana di Microbiologia – SIM

Società Italiana di Microbiologia generale e Biotecnologie Microbiche- SIMGBM

Sessions held at Palazzo Doglio

- 09.00-09.30 **Greetings from the Societies' Presidents**
- 09.30-13.00 **Plenary Session 1: Novel therapeutic approaches against viruses**
- 09.30-10.10 **Benjamin Berkhout** (University Medical Centers, Amsterdam, NL)
CRISPR-Cas gene editing approaches to attack the HIV provirus in the cellular reservoir
- 10.10-10.50 **Raffaele De Francesco** (University of Milan)
New therapies on the horizon for hepatitis B: are we close to a cure?
- 10.50-11.20 **Session break**
- 11.20-12.00 **Angela Corona** (University of Cagliari)
Exploiting Ebola virus suppression of the innate immune activation as target for drug development
- 12.00-12.40 **Rob Lavigne** (University of Leuven, Belgium)
Phage genomics and therapy
- 12.40-13.00 **Round table discussion**
- 13.00-14.00 **Lunchtime break**
- 14.00- 17.00 **Plenary Session 2: Bacterial physiology: back to the future of Microbiology**
- 14.00- 14.40 **Frédéric Barras** (Institut Pasteur, Paris, Fr)
Redox condition adaptation, energy metabolism and antibiotic sensitivity in Escherichia coli
- 14.40-15.20 **Paolo Visca** (University of Roma Tre)
Bacterial iron metabolism; turning basic physiology into drug development
- 15.20-16.00 **Giovanni Delogu** (Università Cattolica, Roma)
Title TBD
- 16.00-16.40 **Francesco Santoro** (University of Siena)
Title TBD
- 16.40-17.00 **Round table discussion**