

II Workshop in Microbial Molecular Biology

Convention Center - University of Campinas - UNICAMP

Campinas - São Paulo - Brazil

December 5-7 2022

Organizing Committee

Prof. Dr. Marcelo Brocchi – Depto. Genética, Evolução, Microbiologia e Imunologia - IB/UNICAMP

Profa Dra. Cristina E. Alvarez Martinez– Depto. Genética, Evolução, Microbiologia e Imunologia - IB/UNICAMP

Scientific Advisory Committee

Profa Dra. Marílis do Valle Marques – Depto. Microbiologia, Instituto de Ciências Biomédicas - USP

Prof Dr. Frederico Gueiros Filho – Depto. de Bioquímica – Instituto de Química - USP

Profa Dra. Andrea Balan – Depto. Microbiologia, Instituto de Ciências Biomédicas - USP

Preliminary Program

Dec 5 - MONDAY

8:30 AM – OPENING

8:45 – 9:25 AM - CONFERENCE (40 min)

Transcriptional regulation in *Helicobacter pylori*: few players, complex circuits and a master switch

Davide Roncarati, Università degli Studi di Bologna, Italy

9:25 – 10:05 AM – CONFERENCE (40 min)

Searching the new targets for the development of novel antimicrobials

Albert Guskov, University of Groningen, Netherlands

10:05 -10:25 AM: Coffee Break

10:25 AM – 12 PM – SYMPOSIUM

ANTIMICROBIAL RESISTANCE: MECHANISMS AND DRUG DEVELOPMENT

Chair: Marílis do Valle Marques

Investigating Small-Molecule Entry Rules in Bacteria

Rebeka Fanti - Centro de Química Medicinal (CQMED/UNICAMP)

New insights about the missense mechanisms of resistance of *Mycobacterium tuberculosis* against the clinically relevant antituberculosis drug isoniazid.

Marcio V. B. Dias, Department of Microbiology, Biomedical Sciences Institute, University of São Paulo, Brazil

Cold shock induces *Pseudomonas aeruginosa* antibiotic resistance

Regina Lúcia Baldini, Department of Biochemistry, Chemistry Institute, University of São Paulo, Brazil

12:00 – 1:30 PM LUNCH

1:30 - 2:10 PM – CONFERENCE (40 min)

Mario Feldman – Washington University School of Medicine in Saint Louis – USA

2:10 – 15:25 PM SYMPOSIUM

MACROMOLECULAR MACHINES AND TRANSPORT IN BACTERIA

Chair: Marcelo Brocchi

The bactericidal Type IV Secretion System in *Xanthomonadaceae* bacteria

Chuck S. Farah, Department of Biochemistry, Chemistry Institute, University of São Paulo, Brazil

***Salmonella* in action: the arsenal of effectors used in biological conflicts**

Ethel Bayer-Santos, Department of Microbiology, Biomedical Sciences Institute, University of São Paulo, Brazil

Oral presentation selected from abstracts submitted by students and early career scientists (15 min)

DEC 6, TUESDAY

8:30 – 9:10 AM - CONFERENCE (40 min)

A Bacterial Mechanism to Detect Competitor Species and Mobilize a Defense

Paul Straight - Texas A&M, Department of Biochemistry and Biophysics - USA

9:10 – 9:50 AM - CONFERENCE (40 min)

Mechanisms of sensing and repair of mycobacteria-induced membrane damage are part of *Dictyostelium* cell-autonomous immunity

Thierry Soldati – Department of Biochemistry – University of Geneva (live streaming)

9:50 - 10:10 AM – COFFEE BREAK

10:10 AM – 12:10 PM – SYMPOSIUM

MOLECULAR ASPECTS OF HOST-PATHOGEN INTERACTION

Chair: Andrea Balan

Interaction of *Legionella pneumophila* with Innate Immune receptors

Dario Zamboni, Department of Cell and Molecular Biology and Pathogenic Bioagents, University of São Paulo, FMRP/USP

CsLIEXP1 as a new susceptibility gene to *Xanthomonas citri* subsp. *citri* and a new target for the development of citrus canker resistance using CRISPR/Cas9

Alessandra Alves de Souza, Centro de Citricultura Sylvio Moreira / Instituto Agronômico, Cordeirópolis, São Paulo, Brazil

Regulation of immune response to pathogens by bacterial metabolites

Marco Aurélio Ramirez Vinolo, Department of Genetics, Evolution, Microbiology and Immunology, Biology Institute, UNICAMP

Ohr – OhrR systems, a neglected and highly efficient antioxidant system at the host pathogen interface

Luis Eduardo Soares Neto, Department of Genetics and Evolutionary Biology, Bioscience Institute, University of São Paulo, Brazil

12:10 – 2 PM – LUNCH

2 – 2:40 PM – CONFERENCE (40 min)

Putting ribosomes to bed – and waking them up

Jonathan Dworkin – Department of Microbiology and Immunology – Columbia University (live streaming)

2:40 – 3 PM – COFFEE BREAK

3 – 5 PM SYMPOSIUM

GENETICS AND PHYSIOLOGY OF MICROORGANISMS

Chair: Frederico J. Gueiros Filho

Mechanisms of metal homeostasis in the interaction of *Chromobacterium violaceum* with the host

José Freire da Silva Neto Department of Cell and Molecular Biology and Pathogenic Bioagents, University of São Paulo, FMRP/USP

Role of DEAD-box RNA helicases in *Caulobacter* cold shock response

Marilis V. Marques, Department of Microbiology, Biomedical Sciences Institute, University of São Paulo, Brazil

Integrative and Conjugative Elements (ICEs) in *Proteus mirabilis*: epidemiology and relationship with the SOS response

Rodrigo da Silva Galhardo, Department of Microbiology, Biomedical Sciences Institute, University of São Paulo, Brazil

A multifaceted network that integrates the nitrogen, carbon and energy metabolism

Edileusa Marques Gerhardt, Department of Biochemistry and Molecular Biology, Federal University of Paraná (UFPR)

5 – 7:00 PM – Poster Session*

***Poster Session may change to Monday afternoon, according to the World Cup schedule.**

DEC 7, WEDNESDAY

8:30 – 9:10 AM - CONFERENCE (40 min)

Control of a self-lysis pathway in *Pseudomonas aeruginosa*

Simon L Dove, Division of Infectious Diseases, Boston Children's Hospital, Harvard Medical School, Boston, MA, USA

9:10 – 9:40 Selected Oral Presentations

Oral presentation selected from abstracts submitted by students and early career scientists (15 min)

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9:40 AM – 11:30 AM – SYMPOSIUM

A non-canonic ATP-Binding Cassette of *Mycobacterium tuberculosis* and its interaction with PknF kinase

Andrea Balan, Department of Microbiology, Biomedical Sciences Institute, University of São Paulo, Brazil

Resource sharing by outer membrane vesicles from a citrus pathogen

Cristiane R. Guzzo Carvalho, Department of Microbiology, Biomedical Sciences Institute, University of São Paulo, Brazil

Fungal extracellular vesicles as virulence factors

Fausto Bruno dos Reis Almeida, Department of Biochemistry and Immunology, University of São Paulo, FMRP/USP

Closing Remarks