



**SoMch**

# **XXXIX CONGRESO CHILENO DE MICROBIOLOGÍA**

**Del 14 al 17 de noviembre 2017  
Hotel Club La Serena  
La Serena, Chile**

# **XXXIX CONGRESO CHILENO DE MICROBIOLOGIA**

# **XXXIX MEETING OF CHILEAN SOCIETY FOR MICROBIOLOGY**

La Serena, November 14-17, 2017

## Tuesday November 14<sup>th</sup>

10:30-14:15

Registration SOMICH Board.

14:30-16:00

Symposium 1 / Salón Elqui 3

Chair: Dr. Alexis Kalergis

**Molecular mechanisms of microbial pathogenesis.**

**Implications in the development of vaccines.**

14:30-14:52

**Dr. Susan Bueno** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Understanding the mechanisms used by *Salmonella enterica* serovar Typhimurium to hijack the immune system and cause systemic diseases.**

14:52-15:14

**Dr. Margarita Lay** (Facultad de Ciencias del Mar y Recursos Biológicos, Universidad de Antofagasta) **The critical role of TSLP in the pathogenesis caused by human Metapneumovirus; Norovirus-Host cell interactions; and a projection towards the production of vaccines manufactured in Chile.**

15:14-15:36

**Dr. Roberto Vidal** (Facultad de Medicina, Universidad de Chile) **New strategy for the development of a vaccine against Shigatoxin-producing Escherichia coli (STEC)ra.**

15:36-16:00

**Dr. Alexis Kalergis** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Interference with the immunological and neurological synapses as virulence mechanisms of RSV. Implications for vaccine design.**

14:30-16:0

**Symposium 2 / Salón Incahuasi**

**Chairs: Dr. Claudia Saavedra - Dr. Mauricio Farfán  
Molecular biology applied to clinical diagnosis.**

14:30-15:00

**Dr. Cecilia Tapia** (Facultad de Medicina, Universidad de Chile) **Impact of molecular diagnostic in clinical microbiology.**

15:00-15:30

**Dr. Mauricio Farfán** (Pediatría, Facultad de Medicina, Universidad de Chile) **Molecular point of care testing.**

15:30-16:00

**Dr. William Acevedo** (Departamento de Infectología, Hospital Lucio Cordova) **Diagnosis and Clinical Monitoring of HIV/AIDS.**

16:15-17:0

**Lecture / Salón Elqui 3**

Chair: **Dr. Susan Bueno**

**Dr. Bianca Sclavi** (CNRS, ENS Paris-Saclay) **Global regulatory mechanisms in bacterial adaptation to sublethal levels of antibiotics.**

17:15-18:4

**Poster Session 1 / Hotel Club La Serena**

19:00-19:4

**Lecture/ Salón Elqui 3**

Chair: **Dr. Juan Ugalde**

**Dr. Audrey Goddard** (Vice President of Research and Development uBiome) **The human microbiome grows-up: Transitioning from basic research to clinical applications.**

21:00

**Welcome Dinner / Hotel Club La Serena**

# Wednesday November 15<sup>th</sup>

## Registration SOMICH Board

08:30-10:00

Symposium 3 / Salón Elqui 3

Chair: **Dr. Ignacio Poblete**

**Engineering microbes driven by systems and synthetic biology for biotechnological applications.**

08:30-09:00

**Dr. Ignacio Poblete-Castro** (Facultad de Ciencias Biológicas, Universidad Andrés Bello) **Engineering *Pseudomonas putida* driven by systems and synthetic biotechnology for the synthesis of biopolymers.**

09:00-09:30

**Dr. Fernan Federici** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Open source biotechnology.**

09:30 - 09:45

**Lorenzo Leiva** (Facultad de Medicina, Universidad de Chile) **Respuesta no transcripcional de Escherichia coli al estrés oxidativo.**

09:30-10:00

**Dr. Thomas Ledger** (Facultad de Ingeniería y Ciencias, Universidad Adolfo Ibáñez) **Bacterial stimulation of *Arabidopsis thaliana* growth and stress tolerance by volatile signals from *Paraburkholderia phytofirmans*: key metabolites and their production.**

08:30-10:00

Symposium 4 / Salón Incahuasi

Chair: **Dr. Inmaculada Vaca**

**Fungal secondary metabolism: evolution, regulation and applications.**

08:30-09:00

**Dr. Inmaculada Vaca** (Facultad de Ciencias, Universidad de Chile) **Biotechnological applications of secondary metabolites produced by filamentous fungi.**

09:00-09:30

**Dr. Renato Chávez** (Facultad de Química y Biología, Universidad de Santiago de Chile) **Secondary-metabolite gene clusters in filamentous fungi: an evolutionary overview.**

09:30-10:00

**Dr. Francisco Fierro** (Departamento de Biotecnología, Universidad Autónoma Metropolitana-Unidad Iztapalapa, Mexico) **AP-1 transcription factors regulate the biosynthesis of secondary metabolites in response to oxidative stress in fungi.**

10:05-10:25

Coffee Break / Hotel Club La Serena

10:30-12:05

New Members Session 1 / Salón Elqui 3

Chair: **Dr. Renato Chávez**

10:30-10:50

**Dr. Mario Vera** (Facultades de Ingeniería, Ciencias Biológicas y Medicina, P. Universidad Católica de Chile) **High throughput proteomic analysis of *At. ferroxidans* biofilms on pyrite.**

10:55-11:15

**Dr. Arturo Levican** (Facultad de Ciencias, P. Universidad Católica de Valparaíso) **The use of two culturing methods in parallel reveals a high prevalence and diversity of *Arcobacter* spp. in a wastewater treatment plant.**

11:20-11:40

**Dr. Pablo González** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Pharmacological induction of Heme oxygenase-1 impairs nuclear accumulation of Herpes Simplex Virus capsids upon infection.**

11:45-12:05

**Dr. Ángela Contreras** (Escuela de Ingeniería. P. Universidad Católica de Chile) **What does *Oenococcus oeni* eat when is under ethanol stress conditions?**

12:15-13:00

ASM Lecture / Salón Elqui 3

Chair: **Dr. Claudia Saavedra**

**Dr. Linda Kenney** (University of Illinois, Chicago, USA)

**Non-canonical activation of OmpR drives acid and osmotic stress responses in single bacterial cells.**

13:00-14:15

Lunch / Hotel Club La Serena

14:30-16:00

Symposium 5 (ALAM) / Salón Elqui 3

Chair: **Dr. Rosalba Lagos**

**Microbial amyloid: a problem for some - a solution for others**

14:30-15:00

**Dr. Rafael Giraldo** (Department of Cellular & Molecular Biology CIB-CSIC, España) **Turning ploughs into swords: Exploring the cutting edge between function and disease in a bacterial intracellular amyloid.**

15:00-15:30

**Dr. Andrés Marcoleta** (Facultad de Ciencias, Universidad de Chile) **Functional amyloids in the microbial world: lessons from a bacterial toxin.**

15:30-16:00

**Dr. Rodrigo Díaz-Espinoza** (Facultad de Ciencias, Universidad de Chile; Facultad de Química y Biología, Universidad de Santiago de Chile) **Expanding the amyloid concept: catalytic amyloids and nanomaterials.**

14:30-16:00

Symposium 6 / Salón Incahuasi

Chairs: **Dr. Claudia Saavedra - Dr. Juan Ugalde**

**Human microbiology: history and future of the next biomedical revolution**

14:30-15:00

**Dr. Elizabeth Bik** (Science Editor, uBiome) **A decade of studies on the human microbiome: challenges and promises.**

15:00-15:30

**Dr. Juan Ugalde** (uBiome) **Microbial diversity in urban environments: Interactions between humans and the built environment.**

15:30-16:00

**Dr. Anilei Hoare** (Facultad de Odontología, Universidad de Chile) **From the microbiome back to the bench: studies in microbial interactions associated to periodontitis.**

16:15-17:00

Lecture (Grupo Bios) / **Salón Elqui 3**

Chair: **Dr. Claudia Saavedra**

**Dr. Carlos Montero** (BIOTEK) **Microbial analysis using quantitative microscopy**

17:15-18:45

Poster Session 2 / **Hotel Club La Serena**

19:00-19:40

**Best Doctoral Thesis Award in Microbiology:  
Agustina Undabarrena.** / **Salón Elqui 3**

Chair: **Dr. Claudia Saavedra**

19:45-20:30

**Tribute Dr. Inés Contreras.** / **Salón Elqui 3**

Chair: **Dr. Carlos Blondel**

# Thursday November 16<sup>th</sup>

## Registration SOMICH Board

08:30-10:00

### Symposium 7 / Salón Elqui 3

Chair: **Dr. Raquel Quatrini**

**Microbial ecology of extreme systems.**

08:30-09:00

**Dr. Alejandra Giaveno** (Facultad de Ingeniería, Universidad Nacional del Comahue, Argentina)

**Acidophilic microbial communities from the Copahue Geothermal System. Rio Agrio as an environmental gradient model system.**

09:00-09:30

**Dr. Beatriz Diez** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Ecology and biochemistry of photoautotrophic microbial mat communities in a thermal gradient.**

09:30-10:00

**Dr. Klaudia Hernández** (Facultad de Ecología y Recursos Naturales, Universidad Andrés Bello) **Microbial productivity in environmental gradients of Chilean aquatic systems.**

08:30-10:00

### Symposium 8 / Salón Incahuasi

Chair: **Dr. Nicole Tischler**

**Chasing RNA viruses: hosts, pathogenesis and spread.**

08:30-08:52

**Dr. Boris Klempa** (Institute of Virology Charité University Medicine, Berlin, Germany) **New hantaviruses emerging in new hosts.**

08:53-09:15

**Dr. Detlev Krüger D** (Institute of Virology, Helmut-Ruska-Haus Charité Medical School) **Pose novel rodent- and insectivore-borne hantaviruses a threat to human health?**

09:15-09:37

**Dr. Nicolás Cifuentes-Muñoz** (Department of Molecular and Cellular Biochemistry, University of Kentucky) **Replication, assembly and spread of human metapneumovirus: lessons learned from a recently discovered human pathogen.**

09:38-10:00

**Dr. Amelia Albornoz** (Laboratorio de Virología Molecular, Fundación Ciencia & Vida, Chile) **Hantavirus receptors expression in a lethal pulmonary syndrome animal model.**

10:05-10:25

Coffee Break / Hotel Club La Serena

10:30-12:00

Oral Session I / Salón Elqui 3

Chairs: **Dr. Claudia Saavedra - Dr. Francisco Remonsellez**

10:30-10:45

**Alan Briones** (Facultad de Ciencias Biológicas, Universidad Andrés Bello) **Transcriptional and post-transcriptional regulation of *ompX* from *Salmonella enterica* serovar Typhimurium under H<sub>2</sub>O<sub>2</sub> stress.**

10:45-11:00

**Dr. Paula Bustamante** (Facultad de Medicina, Universidad de Chile) **Comparative genomics analysis reveals the diversity of toxin-antitoxin systems in *E. coli* isolated from Crohn's disease patients. New insight associated to this emergent *E. coli* patotype.**

11:00-11:15

**Dr. Luis Cottet** (Facultad de Química y Biología, Universidad de Santiago de Chile) **Heterologous expression of the genome of hypovirus CHV1-EP713 in *Botrytis cinerea*: transformation with *Agrobacterium tumefaciens* and evaluation of changes in the fungal phenotype.**

11:15-11:30

**Leandro Fernández-García** (Escuela de Medicina, P. Universidad Católica de Chile) **Polypyrimidine tract-binding protein (PTB) isoforms modulate Dengue virus mRNA translation.**

11:30-11:45

**Jennifer Molinet** (Departamento de Ciencia y Tecnología de los Alimentos, Universidad de Santiago de Chile) **Allelic variants of the GTR1 gene affect nitrogen transporters gene expression and nitrogen consumption in *Saccharomyces cerevisiae* during alcoholic fermentation.**

11:45-12:00

**Emma Rey** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Contribution of Natural Killer T cells to the pathology caused by the Respiratory Syncytial Virus and the Metapneumovirus.**

10:30-12:00

**Oral Session II / Salón Incahuasi**  
Chairs: **Dr. Cecilia Toro - Dr. Mario Tello**

10:30-10:45

**Daniela Gutiérrez** (Facultad de Medicina, Universidad de Chile) **Identification of genes determining survival within macrophages and virulence of adherent invasive *Escherichia coli* strains**

10:45-11:00

**Jorge Levican-Asenjo** (Facultad de Medicina, Universidad de Chile) **Infectious pancreatic necrosis virus (IPNV) enters CHSE-214 cells via macropinocytosis**

11:00-11:15

**Coral Pardo** (Facultad de Ciencias Biológicas, Universidad Andrés Bello) **The transcription factor ArcA modulates in part the ability of *Salmonella Typhimurium* to survive inside neutrophils.**

11:15-11:30

**Camila Pereira** (Facultad de Medicina, Universidad de Chile) **The presence of m6A within the 5'-UTR of the HIV-1 genomic RNA defines its use as mRNA or as the packaged genomeis.**

11:30-11:45

**Angello Retamal-Diaz** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Genetic deletion of glycoprotein D in Herpes simplex virus type 2 enables *in vitro* and *in vivo* T cell activation by dendritic cells.**

11:45-12:00

**Italo Urrutia** (Facultad de Ciencias Químicas y Farmacéuticas, Universidad de Chile) ***Salmonella Typhimurium* virulence factors SopB, SptP and PphB contribute to subvert autophagy in *Dictyostelium discoideum* and RAW264.7 macrophagess.**

12:15-13:45

**Symposium 09 / Salón Elqui 3**  
Chairs: **Dr. Marcelo López-Lastra – Dr. Rafael Medina**  
**Topics in virology: meeting the next generation of Chilean virologists**

12:15-12:30

**Gonzalo Barriga** (Facultad de Medicina, P. Universidad Católica de Chile) **South America as corridor for the introduction of avian influenza virus into Antarctica.**

12:30-12:45

**Jennifer Angulo** (Facultad de Medicina, P. Universidad Católica de Chile) **Clinical and molecular predictors of severity in Andes Hantavirus induced disease.**

12:45-13:00

**Danae Fonseca** (Microbiology Icahn School of Medicine at Mount Sinai) **Positive regulation of virus activated-innate immune signaling by the E3 ubiquitin ligase TRIM65.**

13:00-13:15

**Dr. Tamara García-Salum** (Facultad de Medicina, P. Universidad Católica de Chile) **Clinical and immunological host factors associated to severe influenza A virus infection.**

13:15-13:30

**Jorge Vera-Otárola** (Facultad de Medicina, P. Universidad Católica de Chile) **Role of the Andes Virus NSs protein in the modulation of host innate immunity.**

13:30-13:45

**Dr. Daniela Toro-Ascuy** (Facultad de Medicina, Universidad de Chile) **Isolation of the ribonucleoprotein complexes associated to the HIV-1 Rev protein during viral replication in T-cells.**

14:30-16:00

SOMICH Members Meeting / Salón Elqui 3

## Friday November 17<sup>th</sup>

08:30-10:00

Symposium 10 / Salón Elqui 3

Chair: Dr. Beatriz Diez

**Antarctic microbial ecology.**

08:30-09:00

**Dr. Beatriz Diez** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Marine observatory of Chile Bay: a model study of coastal microbial ecology and biogeochemistry in Antarctica.**

09:00-09:30

**Dr. Nicole Trefault** (Centro de Genómica y Bioinformática, Ciencias, Universidad Mayor) **Functional metagenomics of microbial communities associated to Antarctic sponges: diversity and functionality across the three domains of life in a poorly explored ecosystem.**

09:30-10:00

**Dr. Sebastián Fuentes** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Anthropogenic pressure over the Antarctic microbial world: Stability of soil communities facing hydrocarbon pollution disturbance.**

08:30-10:00

Symposium 11 / Salón Incahuasi

Chair: Dr. Luis Castillo

**Fungi in the food industry: risks and opportunities.**

08:30-09:00

**Dr. Angélica Ganga** (Facultad Tecnológica, Universidad de Santiago de Chile) **Physiological and molecular study and control methods on the spoilage wine yeast *Brettanomyces bruxellensis*.**

09:00-09:30

**Dr. Francisco Salinas** (Centro de Estudios en Ciencia y Tecnología de los Alimentos (CECTA), Universidad de Santiago de Chile) **Fungal LOV domains for optogenetic control of heterologous protein expression and flocculation in yeasts.**

09:30-10:00

**Dr. Evelyn Silva-Moreno** (Instituto de Ciencias Biomédicas, Universidad Autónoma de Chile) **Quest of natural fungicides to control *B. cinerea* on sustainable agriculture industry.**

10:05-10:25

Coffee Break / Hotel Club La Serena

10:30-12:05

New Members Session 2 / Salón Elqui 3

Chair: **Dr. Renato Chávez**

10:30-10:50

**Javiera Ortiz-Severín** (Facultad de Ciencias, Universidad de Chile) **Comparison of *Piscirickettsia salmonis* infection in salmon-derived cell line cultures and zebrafish primary cell cultures.**

10:50-11:10

**Catalina Pardo-Roa** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Effect of pathogenicity island excision in the colonization ability of *Salmonella enterica* serovar Enteritidis in mice.**

11:10-11:30

**Hernán Peñaloza** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **IL-10 production during *Klebsiella pneumoniae* ST258 infection induce an anti-inflammatory environment required for host survival.**

11:30-11:50

**Rodrigo Flores-Ríos** (Fundación Ciencia & Vida) **Characterization of the ICEAfe1 transferosome present in the extreme acidophile *Acidithiobacillus ferrooxidans* ATCC 23270**

11:50-12:10

**Dr. Roberto Orellana.** Centro de Biotecnología "Dr. Daniel Alkalay L.". Universidad Técnica Federico Santa María **Put your models to work: two tales of the use of modeling for insights into microbial physiology and ecology in anaerobic environments.**

12:20-13:00

Lecture / Salón Elqui 3

Chair: Dr. Fernando Valiente-Echeverría

**Dr. Mario Hamuy** (Presidente Comisión Nacional de Investigación Científica y Tecnológica CONICYT) **Proyecto de ley que crea el Ministerio de Ciencia y Tecnología**

13:00 - 14:15

Lunch / Hotel Club La Serena

14:30 - 16:00

Oral Session III / Salón Elqui 3

Chairs: Dr. Juan Carlos Salazar – Dr. Cecilia Toro

14:30-14:45

**María Estrella Alcaman** (Facultad Ciencias Naturales y Oceanográficas, Universidad de Concepción) **Primary production and inorganic nitrogen uptake by active microbial community in the central Arctic Ocean (4-89.5°S)**

14:45-15:00

**Nayaret Chamorro** (Facultad de Medicina, Universidad de Chile) **Diversity of adhered microbial communities in colon mucosa biopsies from Chilean and Spanish patients with ulcerative colitis or Crohn's disease.**

15:00-15:15

**Jerónimo Cifuentes** (Facultad de Ciencias Biológicas, P. Universidad Católica de Chile) **Identity and expression of Proteorhodopsin genes in Chile Bay, Antarctica**

15:15-15:30

**Mario Moreno-Pino** (Program in Integrative Genomics, Universidad Mayor) **Metabolic profiles of bacteria associated to Antarctic sponges indicated by whole-genome analysis.**

15:30-15:45

**Rodolfo Parada** (Facultad de Química y Biología, Universidad de Santiago de Chile) **Isolation and identification of endophytic fungi from two poaceae plant species growing on a mine tailing facility in southern Chile.**

15:45-16:00

**Jaime Romero** (Instituto de Nutrición y Tecnología de Alimentos, Universidad de Chile) **Comparing microbiota between wild and reared fish: exploring microbial clues for aquaculture diversification.**

14:30 - 16:00

Oral Session IV / Salón Incahuasi

Chairs: **Dr. Fernando Valiente – Dr. Luis Castillo**

14:30-14:45

**Natalia Valdés** (Facultad de Química y Biología, Universidad de Santiago de Chile) **Identification of bacteria with probiotic activity against *Flavobacterium psychrophilum* from the microbiota of the gastrointestinal tract of *Salmo salar*.**

14:45-15:00

**Gissela Araya** (Facultad de Ciencias, Universidad de Chile) **The ratio of phosphoenol pyruvate/pyruvate modulates the stability of *Escherichia coli* and *Bacillus subtilis* FtsZ polymers.**

15:00-15:15

**Rubén Peña** (Facultad Tecnológica, Universidad de Santiago de Chile) **Novel antifungal peptide secreted by *Candida intermedia* lamap1790 active against *Brettanomyces bruxellensis*, a wine spoilage yeast.**

15:15-15:30

**Jaime Alcorta** (Ciencias Biológicas, P. Universidad Católica de Chile) **Origins and evolution of the thermal cyanobacteria *Mastigocladus* sp.: lights from comparative genomics.**

15:30-15:45

**Francisco Remonsellez** (Facultad de Ingeniería y Ciencias Geológicas, Universidad Católica del Norte) **Effect of salinity on microbial activity and bacterial diversity in a wastewater biofilter using volcanic stones as filter bed.**

15:45-16:00

**Carla Trigo** (Facultad de Química y Biología, Universidad de Santiago de Chile) **Characterization of lytic bacteriophages and determination of their effectiveness for the biological control of important pathovars of *Pseudomonas syringae*.**

16:15-17:00

Lecture / Salón Elqui 3

Chair: Dr. Juan Carlos Salazar

**Dr. Omar Orellana** (Facultad de Medicina, Universidad de Chile) **Impact of synonymous codons (silent mutations) in the expression, folding and function of proteins.**

17:15-18:45

Poster Session 3 / Hotel Club La Serena

19:00-19:40

Lecture/ Salón Elqui 3

Chair: Dr. Mario Tello

**Dr. Luis G. Bermúdez-Humarán** (Instituto MICALIS, INRA, Francia) **Engineering lactococci and lactobacilli for human health.**

19:40-20:20

Closing Lecture / Salón Elqui 3

Chair: Dr. Claudia Saavedra

**Dr. Andrés Gomberoff** (Facultad de Ingeniería y Ciencias de la Universidad Adolfo Ibáñez) **Los Beatles y El Universo**

21:00

Dinner and Closing Party / Hotel Club La Serena

## Poster Session 1, Tuesday 14<sup>th</sup>

17:15-18:45

**CLP1-01:** **Andueza, F.** Environmental Resistomas in Thermal Waters of the Urauco Spa. Province Pichincha. Ecuador

**CLP1-02:** **Cámaras, B.** Metabolomics-guided identification of a cyclic peptide with antimicrobial activity from a Chilean marine actinomycete

**CLP1-03:** **Cornejo, F.** In the search of a common mechanism of toxicity and response to the soft-metal(loid)s Ag(I), As(III), Au(III), Cd(II), Hg(II) and Te(IV) in *Escherichia coli*

**CLP1-04:** **Díaz, L.** Antimicrobial resistance of shiga toxin-producing *Escherichia coli* (STEC) isolated in Chile

**CLP1-05:** **González, J.** Effect of cadmium nanoparticles (quantum dots) against human flagellate protozoan parasites

**CLP1-06:** **Higuera, S.** Characterization of genetic elements involved in multiple antibiotics resistance in a florfenicol-resistant bacterial bank made from cultivable bacteria associated to salmon farming in Chile

**CLP1-07:** **Toro, CS.** Characterizing trimethoprim resistance genetic elements in Chilean strains of *Shigella sonnei*

**CLP1-08:** **Madrid-Montt, P** Study of the anti-*Listeria monocytogenes* effect of maqui (*Aristotelia chilensis*) extract at 8°C and 37°C

**CLP1-09:** **Aedo, V.** Pirin-mediated epithelial-mesenchymal transition in cervical cancer cells exposed to curcumin

**CLP1-10:** **Ahumada, D.** Synthesis of metal(loid) nanostructures with biotechnological potential using metal(loid)-reducing flavoproteins

**CLP1-11: Arancibia-Diaz, A.** Extraction of hydroxycinnamic acids from spent coffee ground by substrate solid fermentation

**CLP1-12: Aravena, C.** Metabolic engineering of *Pseudomonas putida* for tailor-made PHA synthesis with different properties and industrial applications

**CLP1-13: Bolton, J.** Biological soil-crusts (BSC) forming cyanobacteria favour plant germination and improve the quality of soil contaminated with mining residues

**CLP1-14: Cornejo, D.** Another one bites the dust: Microbial consortia generation for arsenic treatment in flue dust from mining process

**CLP1-15: Delgado Teiguel, K.** Differential expression analysis of metabolic genes of *Sulfovibacillus thermosulfidooxidans* under different growth conditions

**CLP1-16: Ganga, MA.** Evaluation of the response of genes associated with oxidative stress and its relation to the mechanism of resistance to p-coumaric acid in *Brettanomyces bruxellensis*

**CLP1-17: González, V.** Marine actinobacteria from Chilean coasts: a prospective source for the discovery of keratinases for application in poultry processing industries

**CLP1-18: Jorquera-Roman, C.** Characterization of biofilms and bioleaching on pyrite grains by *Leptospirillum ferriphilum*

**CLP1-19: Levican, G.** Genomic insights into the biotechnological applications of the arsenic-tolerant Actinobacterium *Rhodococcus erythropolis S43*

**CLP1-20: Alarcon-Schumacher, T.** Unveiling the viral diversity of Antarctic coastal waters and their representation in global viral estimates

**CLP1-21: Cárdenas, M.** Diversity and structure analysis of actinobacteria and characterization of *Streptomyces* isolated from Ñadi soils

**CLP1-22: Díaz, C.** Genotypic and phenotypic characterization of native PGPR isolated from agricultural soils contaminated with metals

**CLP1-23: Escudero, L.** Microbial diversity at the limits of life in nitrate/iodine deposits in Northern Chile

**CLP1-24: Guajardo, M.** Characterization of Thalassiosirales members from Antarctic phytoplanktonic communities

**CLP1-25: Issotta, F.** Mapping *Acidithiobacillus* populations with high resolution onto a natural environmental gradient

**CLP1-26: Marambio, B.** First report of *Botrytis cinerea* causing gray mold disease on the endemic plant *Echinopsis coquimbana* in the Coquimbo Region, Chile

**CLP1-27: Oliva, V.** Cultivable fungi associated with marine sponges from Collins Bay and Rada Covadonga, Antarctica

**CLP1-28: Valencia, R.** Changes in the distribution of viral communities in aquatic biomes, unveiled through massive metagenomics

**CLP1-29: Cadiz, L.** Hra family adhesins in enterotoxigenic *Escherichia coli*

**CLP1-30: Chávez, R.** Effect of 5-azacytidine on the expression of genes from the secondary metabolism in the Antarctic fungus *Pseudogymnoascus* sp.

**CLP1-31: Cortes, A.** LuxS quorum sensing system in *Bifidobacterium dentium*

**CLP1-32: Gutierrez, N.** Transcriptional changes of genes regulated by *yqgF* gene product in *Salmonella* Typhimurium

**CLP1-33: Plaza, N.** Study of non-coding RNAs in *Vibrio parahaemolyticus* strains

**CLP1-34: Almonacid, LI.** Genomic variations and underrepresented mutations in circulating influenza A viruses

**CLP1-35: Berríos-Pastén, C.** A novel bioinformatics method to specifically identify Genomic Islands in the emerging pathogen *Klebsiella pneumoniae*

**CLP1-36: Valenzuela, C.** Molecular systematics of the genus *Acidithiobacillus*: insights into the phylogenetic structure and diversification of the taxon

**CLP1-37: Berkowitz, L.** Intragastric administration of Cigarette Smoke Condensate alters Paneth cells integrity and functionality in mice

**CLP1-38: Arias, G.** SOCS protein expression and its relationship with the innate immune response in obese infants

**CLP1-39: Amaya, F.** The hydroxylation level of lipid A is critical for the interaction of *Salmonella Enteritidis* with murine macrophages and its ability to colonize the murine host

**CLP1-40: Cartagena, J.** Piscine Orthoreovirus (PRV) detected in Chilean Rainbow trout is related to PRV strains from Norway and Canada

**CLP1-41: Lozano, C.** Effect of sucrose in the expression of virulence genes of *Streptococcus mutans* and *Streptococcus sanguinis* grown in dual-species biofilm

**CLP1-42: Espinoza, J.** Antiviral role of Heme Oxygenase-1 enzyme on the Pneumovirinae viruses hRSV and hMPV

**CLP1-43: Jerez, S.** MarT down regulates STY1408 expression, a new gene involved in virulence of *Salmonella*

**CLP1-44:** López, J. Distinctive gut microbiota is associated with diarrheagenic *Escherichia coli* infections in Chilean children

**CLP1-45:** Salas, B. *Salmonella* Typhimurium proteins PphA and SteC play a role in the manipulation of autophagy in the amoeba *Dictyostelium discoideum*

**CLP1-46:** Acuña-Hinrichsen, F. Herpes Simplex Virus type 1 neuronal infection alters synaptic plasticity processes through Arc protein dysregulation

**CLP1-47:** Barreto, M. Phenotypic diversity in biofilm produced by *Salmonella enterica* isolates from different host in Chile

**CLP1-48:** Celedón, H. Detection and identification by PCR of *Brucella* gender bacteria in peri-domiciliary water samples of urban and rural houses of the region of Los Ríos, Chile

**CLP1-49:** Fuentealba, C. PCR real time as a tool for the evaluation of chemotherapeutic efficacy in chronic chagas disease

**CLP1-50:** Galaz, M. Development of a rapid and efficient detection method for Infectious Salmon Anemia Virus using Reverse Transcription - Loop mediated Isothermal Amplification (RT-LAMP) coupled to a colorimetric assay

**CLP1-51:** Gutiérrez, H. Detection of key bacterial pathogens responsible for human ocular infectious keratitis by multiplex qPCR with fluorescent probes

**CLP1-52:** Martínez, MC. Identification of enteropathogenic bacteria isolated from produce farms and irrigation waters in the Metropolitan Region, Chile

**CLP1-53:** Morales, P. Genotyping of spoilage poultry *Pseudomonas* by RAPD as a simple tool to indirectly identify biofilms in the processing line

## Poster Session 2, Wednesday 15<sup>th</sup>

17:15-18:45

**CLP2-01:** **Cumsille, A.** Assessing the metabolic profile of marine streptomycetes from Chilean coasts

**CLP2-02:** **Fernandez, V.** Synthesis of metal-nanostructures exhibiting antibacterial properties by metal-reducing bacteria

**CLP2-03:** **Gaete-Argel, A.** Regulation of Tellurite-induced stress granules during HIV-1 infection

**CLP2-04:** **Lapierre, L.** Characterization of antibiotic resistance in *Salmonella* isolated from irrigation water and soil samples from the Metropolitan Region, Chile

**CLP2-05:** **Millanao, A.** Importation surveillance of phenicols, quinolones and tetracyclines for use in human and veterinary medicine in Chile from 1998 to 2015

**CLP2-06:** **Santibañez, A.** Activation of cellular response induced by immunobiotics protects salmonids against bacterial infections

**CLP2-07:** **Duchens, D.** Model-driven engineering in *Pseudomonas putida* KT2440 for improved production of medium-chain-length Polyhydroxyalkanoates on glycerol

**CLP2-08:** **Mena, C.** Genome analysis of species of the new bioleaching acidophilic bacterial genus *Acidiferrobacter*

**CLP2-09:** **Levican, G.** Chloride ions induce oxidative stress in *Leptospirillum ferriphilum* DSM14647

**CLP2-10:** **Marín, S.** A transcriptomic approach about cytochromes and oxygen affinity in *Leptospirillum ferriphilum*

**CLP2-11: Gutiérrez, I.** Engineering *Halomonas elongata* for high-level production of PHB under unsterile conditions

**CLP2-12:**

**CLP2-13: Norambuena, R.** Effect of copper on the quality and quantity of the lipopolysaccharide from *Acidithiobacillus ferrooxidans* strains ATCC 23270 and ATCC 53993 grown in the presence of the metal

**CLP2-14: Orellana, R.** Bioremediation of hydrocarbon polluted soils at semi-industrial scale

**CLP2-15: Paredes, P.** Lipids from a novel native *Thraustochytrium* strain: effect of temperature on the lipid composition

**CLP2-16: Pérez, S.** Increment in growth rate and electric current generation under electrogenic and anaerobic conditions of *E. coli* mutants and involvement of NADH/NADPH by Flux Balance Analysis

**CLP2-17: Ríos Silva, M.** Synthesis of Quantum dots CdTe through Tellurite resistant bacterial strains

**CLP2-18: Sazo, F.** Characterization of the pangenome of *Acidithiobacillus ferrooxidans* uncovers differentiating aspects of intrinsic sublineages

**CLP2-19: Villegas, P.** Poly-3-hydroxybutyrate (PHB) production from renewable carbon sources

**CLP2-20: González, D.** Performance of a low pH sulfidogenic bioreactor treating acidic mine water

**CLP2-21: Andueza, F.** Microbiological study of the thermal water of the spa "Piscinas El Cachaco". Calacali, province of Pichincha Ecuador

**CLP2-22: Arroyo, J.** Global metagenomics of hotsprings microbial communities

**CLP2-23: Olivares, L.** *Botrytis* is associated with native and endemic plant in the Coquimbo Region

**CLP2-24: Ortiz, R.** Role of the *Blautia* genus in the modulation of lactose tolerance as a member of the human gut microbiota

**CLP2-25: Morgante, V.** Construction and screening of metagenomic libraries derived from rhizosphere of two Antarctic plants for identification of genes conferring tolerance to lignocellulose-derived inhibitors

**CLP2-26: Romero, J.** Fermented soybean meal increases lactic acid bacteria in gut microbiota of Atlantic salmon (*Salmo salar*)

**CLP2-27: Salgado, O.** CRISPR-Cas systems reveal host-pathogen interaction in the thermal environment of Porcelana (Chilean Patagonia)

**CLP2-28: Vera-Wolf, P.** Signature of the nose microbiome across geographical and temporal changes

**CLP2-29: Cabezas, C.** Participation of *Salmonella* Typhimurium sensors kinase in response to oxidative stress

**CLP2-30: García, K.** Identification of the *zot* gene in highly cytotoxic *Vibrio parahaemolyticus* strains of clinical and environmental origin

**CLP2-31: González, C.** Identification of a new open reading frame from *DbPAD* gene, involved in the production of 4-vinylphenol on the wine-spoilage yeast *Brettanomyces bruxellensis* LAMAP2480

**CLP2-32: Ávila, C.** Functional characterization of c-di-GMP pathway in *Acidithiobacillus* species by comparative proteomic of silvestre and null-mutant strains

**CLP2-33: Inostroza, O.** The Toxin-Antitoxin system YafQ-DinJ from *S. Typhimurium* participates in intracellular survival

**CLP2-34: Kessi-Pérez, E.** Natural diversity in the activation of the TORC1 signaling pathway by glutamine in *Saccharomyces cerevisiae*

**CLP2-35: Bohmwald, K.** An altered brain inflammatory status causes behavioral alterations after infection by the human respiratory syncytial virus

**CLP2-36: Fernández, P.** FNR and ArcA regulate lipid A hydroxylation in *Salmonella Enteritidis* by controlling *lpxO* expression in response to oxygen availability

**CLP2-37: Morales-Reyes, J.** Comparative analysis of different routine method for quantification of *Piscirickettsia salmonis*

**CLP2-38: Oliver, C.** Heat shock protein 60 (Hsp60) as a putative effector translocated by secretory pathways of *Piscirickettsia salmonis*

**CLP2-39: Pérez-Stuardo, D.** Evaluation of the functionality of lysosomes of Atlantic salmon macrophages infected with *Piscirickettsia salmonis*

**CLP2-40: Poblete, N.** Platinum-based antineoplastic drugs promote SG assembly and impact negatively on HIV-1 gene expression

**CLP2-41: Prince, C.** Analysis of virulence factors of Chilean *Pseudomonas syringae* pv. *actinidiae* isolates: causal agent of bacterial canker of Kiwifruit

**CLP2-42: Sabag, A.** High-throughput identification of genes required for intracellular survival of *Salmonella enterica* serovar Typhimurium in murine macrophages and *Dictyostelium discoideum*

**CLP2-43: Salazar, C.** Modulation of gut microbiota of rats exposed to binge-like ethanol exposure during adolescence boosted mitochondrial physiology

**CLP2-44: Schultz, B.** Persistent *Salmonella enterica* serovar Typhimurium infection promotes chronic intestinal inflammation in susceptible mice

**CLP2-45: Luchsinger, V.** Cyclovirus detection in feces from Chilean children and adults by real-time PCR

**CLP2-46: Morales, P.** *Salmonella Enteritidis* in poultry meat and meal: a characterization by PFGE

**CLP2-47: Rojas-Celis, V.** *Porphyromonas gingivalis* AgO contributes to TLR4 increase in cell surface, production of proinflammatory cytokine and migration of OKF6/TERT2 cells

**CLP2-48: Parra-Castro, P.** Development and validation of a real-time Multiplex RT-PCR assay for the detection of Porcine Reproductive and Respiratory Syndrome and Influenza virus in swine

**CLP2-49: Quesille, A.** Genes related to membrane biosynthesis are down regulated in response to exposure of *Listeria monocytogenes* at low temperature and copper

**CLP2-50: Paine, D.** Effect of n-butyrate on the immune response in salmonids cells

**CLP2-51: Sánchez, K.** Detection of intracellular *H. pylori* in yeasts isolated from the oral cavity and from vaginal discharge

**CLP2-52: Santibáñez, N.** Biofilm analysis of *Piscirickettsia salmonis* under different culture conditions

**CLP2-53: Toledo, V.** Communication between *Bifidobacterium dentium* and *Lactobacillus casei*: perspectives of the interaction in dental biofilm

## Poster Session 3, Friday 17<sup>th</sup>

17:15-18:45

**CLP3-01: Luraschi, R.** Identification and characterization of ROS-independent tellurite targets in *Escherichia coli*

**CLP3-02: Retamal, P.** Antimicrobial-resistant *Salmonella enterica* strains belonging to zoonotic serotypes in dairy farms from the Metropolitan Region, Chile

**CLP3-03: Rojas, C.** Bioprospecting marine actinobacteria from Easter Island

**CLP3-04: Sepúlveda, F.** SCCmecCLA; a machine learning approach for the identification, classification and visualization of *Staphylococcal* cassette chromosome *mec*

**CLP3-05: Vásquez, F.** High prevalence of class 1 Integrins in different multidrug-resistant bacteria isolated from *Salmo salar* microbiota and seawater in Chilean salmon farming

**CLP3-06: Veas, R.** Evaluation of microalgae extracts as potential natural Trypanocidal Drugs

**CLP3-07: Dahech, P.** Study of the production of extracellular polymeric substances in the filamentous cyanobacteria *Trichormus* sp.

**CLP3-08: López, F.** Heterologous expression in *Escherichia coli* of a psychrophilic subtilisin-like enzyme from an antarctic isolate of *Polaribacter* sp.

**CLP3-09: Pacheco-Camus, N.** Rewiring the metabolic network of *Pseudomonas putida* KT2440 for the production of tailor-made polyhydroxyalkanoates (PHAs) on glycerol

**CLP3-10: Pérez-Pantoja, D.** Isolation and characterization of novel proteobacterial strains having the ability to use furan aldehydes as the only carbon and energy source

**CLP3-11: Ramos, J.** Global proteomic response of *Acidithiobacillus ferrooxidans* ATCC 53993 to cadmium

**CLP3-12: Rivas, J.** Study of the trajectory of xylose and oxygen uptake rates over the phenotypic phase plane of *Scheffersomyces stipitis* in fed-batch cultures

**CLP3-13: Jara, C.** Influence of the use of native non-*Saccharomyces* yeasts on the aromatic profile of a wine cv Cabernet Sauvignon in co-inoculation with *Saccharomyces cerevisiae*

**CLP3-14: Silva, D.** Influence of NaCl on the PHA synthesis in *Pseudomonas putida* strains on glycerol

**CLP3-15: Valenzuela, S.** Application of metal(oid)-resistant bacteria in remediation

**CLP3-16: Zamora, N.** Prospecting for lipolytic bacterial strains for the treatment of wastewater with high oil and grease content generated in the food service industry

**CLP3-17: Medina, D.** Transcriptomic analysis in a simple consortium of the infant gut microbiome mediated by prebiotics shift in a continuous biorreactor culture

**CLP3-18: Reyes-Matte, O.** Pollution & Inundation: drivers of changes in the diversity and composition in bacteria of coastal soils in Antarctica

**CLP3-19: Saavedra, CP.** Salt response in the recurrent psychro- and halotolerant *Exiguobacterium* sp. SH31 isolated from sediments of the Salar de Huasco, Atacama Desert

**CLP3-20: Tebes, C.** Water content and gypsum textural properties as determinants of endolithic colonization patterns in Salar de Pajonales, Northern Chile

**CLP3-21: Undabarrena, A.** Genomic data mining of the marine *Streptomyces* sp. H-KF8 and functional response to abiotic stressors

**CLP3-22: Thomson, P.** Evaluation of the effect of sucralose on the intestinal microbiome in adults using next-generation sequencing

**CLP3-23: Vásquez, G.** Phylogenetic analyses of Antarctic fungi related to the genera *Geomycetes*, *Pseudogymnoascus* and *Pseudoeurotium*

**CLP3-24: Vergara-Barros, P.** Transcriptomic shift in metabolic related genes of *Stigonematales* cyanobacteria in response to the thermal gradient of Porcelana hot spring

**CLP3-25: Guajardo-Contreras, G.** The complexity of the N-glycosylation at the position 144 on the HA of the Influenza A Virus determines the avidity for its receptor and the evasion of the host immune response

**CLP3-26: Lagos, F.** Contribution of *mnt3* in sclerotia formation and adhesion in the ubiquitous plant pathogen *Botrytis cinerea*

**CLP3-27: Cuevas, M.** Isoflavonoids as modulators of reactivation of HIV-1 latency

**CLP3-28: Sánchez, P.** Genomic and proteomic evidence of a type IV pili-like structure in the fish pathogen *Piscirickettsia salmonis*

**CLP3-29: Méndez, V.** The OxyR transcriptional regulator protects *Burkholderia xenovorans* LB400 against oxidative stress and contributes to the metabolism of aromatic compounds

**CLP3-30: Aguirre, C.** Participation of the two component system ArcAB in the *Salmonella* Typhimurium resistance to Reactive Oxygen Species-related toxicity inside the neutrophil

**CLP3-31: Orellana, P.** Genome sequence analysis of *Pseudomonas* sp. K2I15: an Antarctic bacterium producing bacteriocin-like polypeptides

**CLP3-32: Barrientos, C.** Macrophage disruption by *Piscirickettsia salmonis* and use of immune complex to control of bacterium infection

**CLP3-33:** **Canedo-Marroquín, G.** Contribution of hRSV to the susceptibility to mycobacterial infection in a mouse model

**CLP3-34:** **Céspedes, S.** Vat and Sat, two SPATEs contributing to the adherent-invasive *Escherichia coli* (AIEC) pathogenic phenotype

**CLP3-35:** **Espinosa, A.** Integrity and viability of *Piscirickettsia salmonis* when infects Atlantic salmon macrophages

**CLP3-36:** **Garcias-Papayani, H.** Impact of iron availability and medium acidity on lipid A structure in *Helicobacter pylori*

**CLP3-37:** **González, J.** *Trypanosoma cruzi* trypomastigotes and amastigotes present in the meat of acutely infected mice induces the mammalian infection by oral route

**CLP3-38:** **Sebastian, V.** Effect of Hemoxigenase 1 induction in the severity of *Salmonella enterica* serovar Typhimurium infection in mice

**CLP3-39:** **Navea-Pérez, H.** Evaluation of antimicrobial resistance and cell invasion capacity of *Staphylococcus aureus* strains, according to their persistence or transience in the bovine mammary gland

**CLP3-40:** **Rojas, J.** Dysbiosis induced by bacitracin/neomicin correlated with alterations on innate immune response parameters in *Salmo salar*

**CLP3-41:** **Mora, A.** The loss of genes involved in sensing alternative electrons acceptors modulates the pathogenicity of *Salmonella enterica* serovar Typhi

**CLP3-42:** **Soto, J.** Danish Recombinant BCG strain promotes a protective humoral immune response against the Human respiratory syncytial virus (HRSV) and Human Metapneumovirus (HMPV)

**CLP3-43: Tapia, S.** Evaluation of the antimicrobial cellular activity in shk-1 cell line against *Piscirickettsia salmonis*

**CLP3-44: Valdés, R.** Two novel chaperone-usher fimbriae of enterotoxigenic *Escherichia coli* as adherence determinants

**CLP3-45: Velásquez, F.** Pathogenic and non-pathogenic *Escherichia coli* strains modulate the stress granules assembly

**CLP3-46: Riveros, L.** Effect of carbon source and oxygenation on the growth of *Janthinobacterium lividum* MTR1410 and the production of violacein, a pigment with potential application in aquaculture

**CLP3-47: Spies, J.** Effect of NatControl TM on immunity markers gene expression and the protection against *in vitro* infection with *Piscirickettsia salmonis*

**CLP3-48: Rathnasinghe, R.** Virulence and pathogenic effect of influenza A(H1N1)pdm09 genetic variants with different plaque phenotypes

**CLP3-49: Schäfer, F.** Construction of a luciferase sensitive to cleavage by the IPNV protease

**CLP3-50: Toro, M.** Phenotypic characterization of Shiga toxin-producing *Escherichia coli* (STEC) from different origins in Chile

**CLP3-51: Zapata, C.** Use of modified lactic acid bacteria (LAB) for control disease in salmonids

**CLP3-52: Jara, E.** The immunity to the respiratory syncytial virus is impaired by hypothyroxinemia during gestation

**CLP3-53: Arredondo-Zelada** O Loop-mediated isothermal amplification (LAMP) as a powerful tool for a rapid diagnostic of bacterial pathogens in farmed salmon fish



## AUSPICIADORES

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