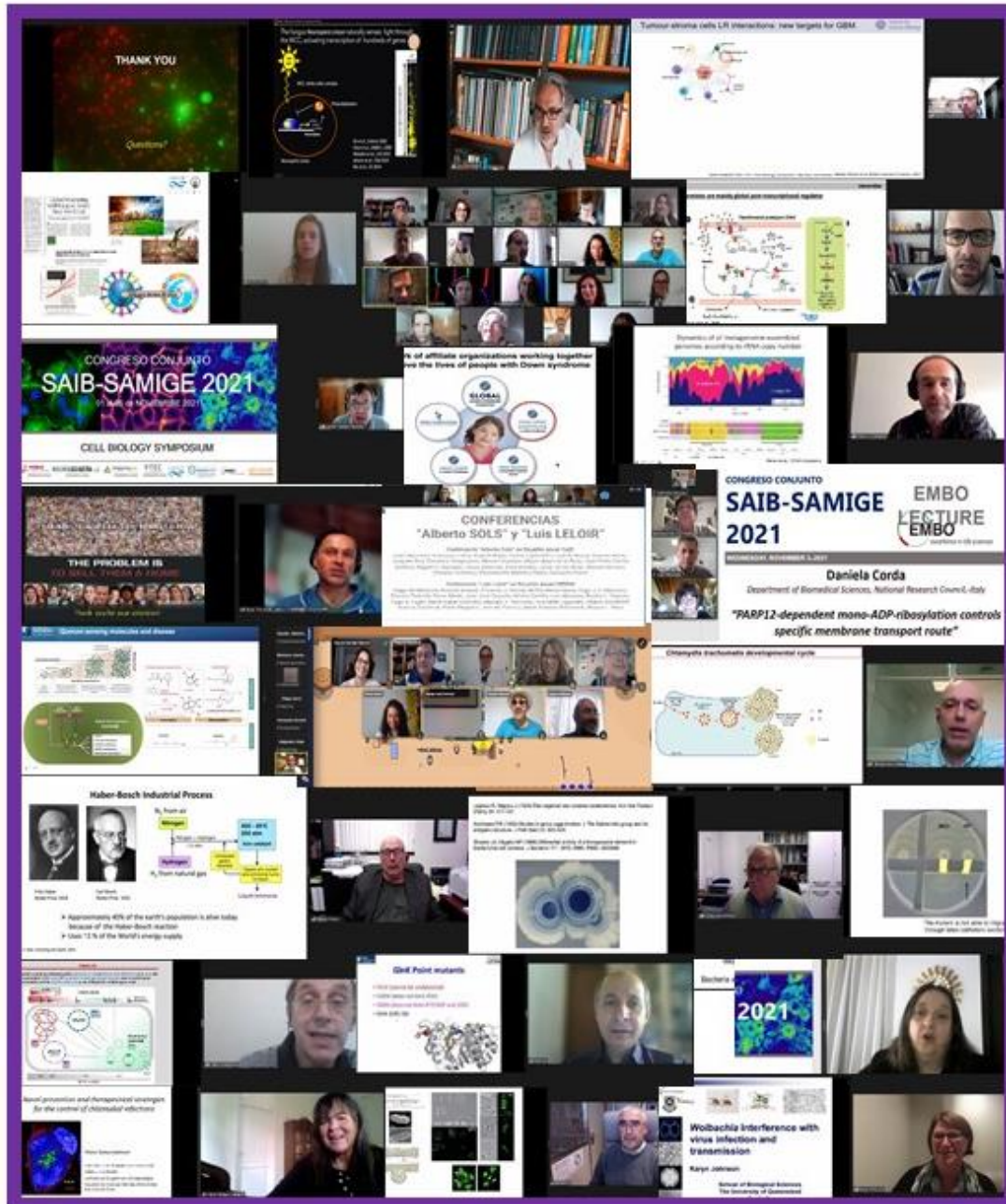


SAIB - SAMIGE Joint meeting 2021 on line



November 1-5, 2021



***LVII Annual Meeting of the
Argentine Society for Biochemistry
and Molecular Biology Research
(SAIB)***

***XVI Annual Meeting of the
Argentinean Society for
General Microbiology (SAMIGE)***

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and consume GBH, glyphosate or the aminomethylphosphonic acid (AMPA), another phosphonate derived from glyphosate degradation, was evaluated. The best degradation performance was observed for bacteria from the genera *Achromobacter*, *Agrobacterium* and *Ochrobactrum*, and mixtures of some of them resulted in even larger degradation. The capacities of these isolated strains to form biofilm and to bind to sand were evaluated and glyphosate degradation was observed in inoculated sands. Our results unveil the importance of discovering new bacterial strains for GBH degradation to develop promising tools for bioremediation processes to be used in glyphosate-contaminated environments.

MI-S15

ECOLOGICAL PLASTICITY OF MICROBIAL COMMUNITIES IN ENVIRONMENTAL BIOTECHNOLOGY SYSTEMS

Erijman L

Instituto de Investigaciones en Ingeniería Genética y Biología Molecular “Dr Héctor N Torres” INGEBI-CONICET. Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires. E-mail: erijman@dna.uba.ar

Microorganisms in nature do not live in isolation, but they form part of diverse communities, where they are subjected to a number of environmental changes and biotic interactions that affect their dynamics and functions. Focusing on microbial ecosystems that provide environmental services, we have carried out experiments to explore how microbial communities respond to disturbances, changes in substrate composition and interactions with predators. The diverse collection of microbes contained in environmental biotechnology systems provides the capacity to adapt to a wide range of environmental conditions. Thus, the anaerobic digester microbiome can adapt rapidly to changes in feedstock composition, the activated sludge microbiome responds to disturbance by adjusting their bacterial composition according to their growth strategies, and bacterial population variations in CRISPR immunity promote stable bacterial-phage coexistence. The low level of specialization and the flexibility in rapidly adjusting to environmental changes are functional features that define the ecological plasticity of the environmental biotechnology system microbiome.

MI-S16

POSTBIOTIC METABOLITES PRODUCED BY LACTIC ACID BACTERIA. A MOLECULAR AND FUNCTIONAL OVERVIEW

Hebert EM, Bulacios G, Cataldo PG, Maldonado G, Elean M, Naja J, Ríos Colombo N, Minahk C, Saavedra L
Laboratorio de Genética y Biología Molecular (CERELA-CONICET). E-mail: lucila@cerela.org.ar

Lactic acid bacteria (LAB) are microorganisms of great industrial relevance and represent a business of billions of dollars worldwide because of their food, biotechnological and therapeutic applications. LAB have a long and safe tradition in the production of various fermented foods since they are widely used as starter cultures. They play a key role in food technology not only for their ability to produce lactic acid and for their contribution to the organoleptic properties of the final product, but also for their beneficial effects on the consumer health. Recently, certain LAB strains have been increasingly marketed as *postbiotic bacteria* referring to preparations of non-viable microorganisms and / or their metabolites and cellular components that, when administered in adequate amounts, exert a beneficial effect on health. Among postbiotic metabolites produced by BAL, some of the better known include B-vitamins, short chain fatty acids (acetate, propionate and butyrate), antimicrobial peptides such as bacteriocins and neurotransmitters such as γ -aminobutyric acid (GABA). Thus, postbiotic metabolites have many health-regulating functions in the body, including absorption of nutrients, detoxification, regulation of the immune system and gut-brain communication. The brain–gut–microbiome axis is a bidirectional communication pathway between the gut microbiota and the central nervous system. The growing interest in the gut microbiota and mechanisms of its interaction with the brain has contributed to the considerable attention given to the potential use of probiotics, prebiotics and postbiotics in the prevention of mental disorders. Here, I will present our recent advances about the molecular and functional analysis of metabolites produced by autochthonous LAB strains (CERELA Culture Collection) and postulate the potential impact on the gut microbiota ecology. *Supported by FONCyT [PICT2017-0924 to LS].*

ST-S01

WHEN BIO AND NANO MEET: DEVELOPMENT AND PRODUCTION OF DIAGNOSTIC TESTS IN THE FIGHT AGAINST COVID-19.

Comerci DJ

*Instituto de Investigaciones Biotecnológicas “Dr. Rodolfo Ugalde”. IIB-UNSAM-CONICET.
E-mail: dcomerci@iib.unsam.edu.ar*

In December 2019, a beta-coronavirus called SARS-Cov 2 emerged in the Chinese city of Wuhan, causing an outbreak of unusual and severe bilateral pneumonia. The virus managed to spread rapidly, expanding westward with a high contagion rate, unleashing the most important pandemic of the last hundred years. This generated a collapse not only in health systems but also in international trade, cutting the supply chain of medical supplies. The first official case registered in our country occurred