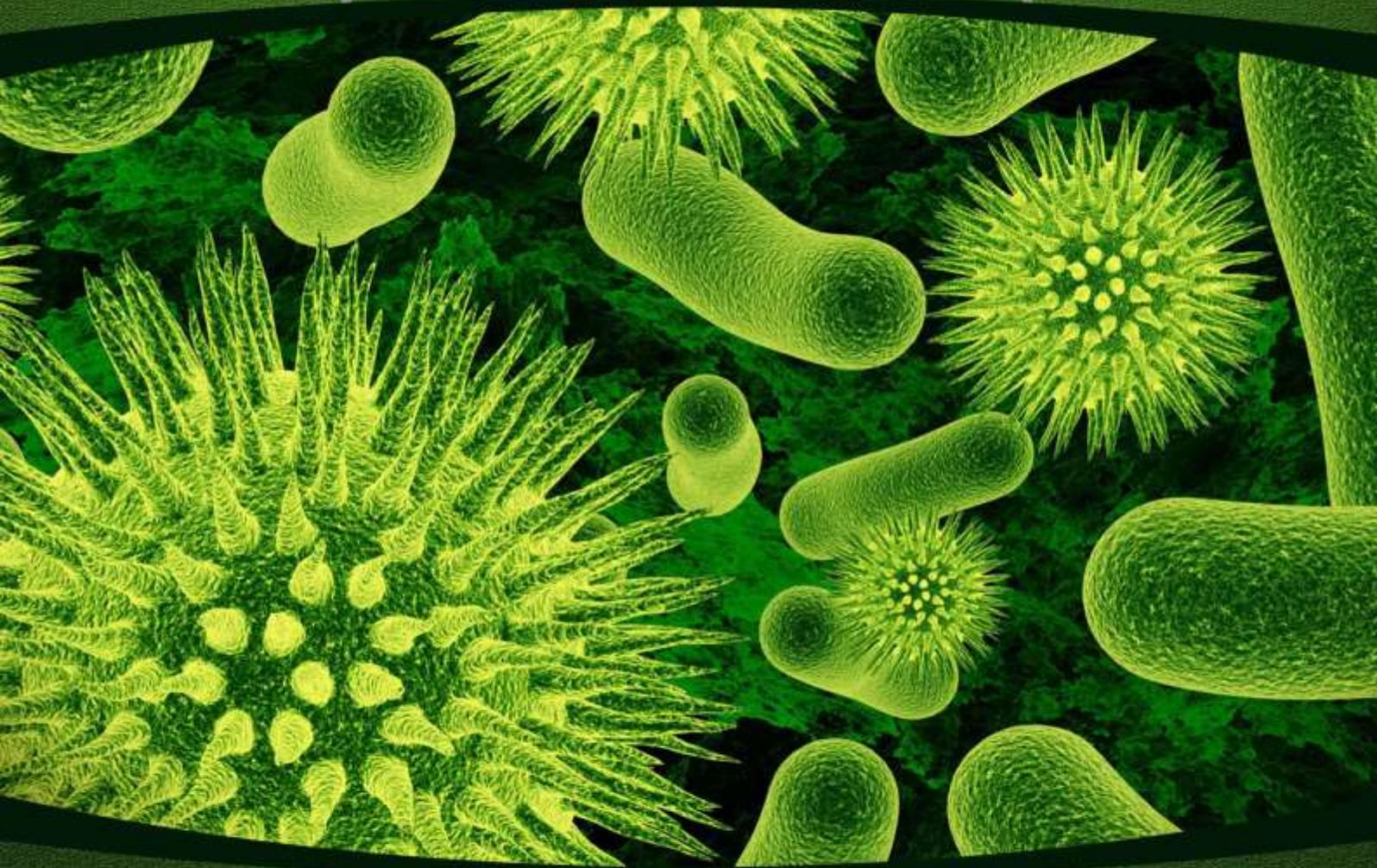


Frontiers of Applied Microbiology

ABSTRACTS



23rd-24th October, 2017
Location: Online

LifeScienceEvents 

DESCRIPTION

This event has [CPD accreditation](#)

www.

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This abstract book will be finalised two weeks before the event

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Invited Speakers:

1) Name: Dr. Giulio Tarro

Affiliation: MD, PhD, Chairman

Title: **Vaccines for Human Viral Diseases as well as for Oncogenic Non-Viral Antigens.**

Abstract: The Variola major, the virus that causes the smallpox, lethal virus in the 30% of the cases, was eradicated in 1979 in the human species, thanks to a capillary vaccination on global scale. Recently the World Health Organization declared that India and Southeast Asia are polio-free, really a great achievement since the vaccine for polio, an infectious disease that can cause paralysis, was certificated safe and useful only 60 years ago. Last year over 800 million doses of combination vaccines are going to be used to vaccinate Chinese children whereas more than 20 million children worldwide do not receive one or more important vaccinations that would protect them from at least one preventable disease. Long years of research were required for busting a new system to fight cancer. Research is going to obtain the complete sequence by proteomics approaches, in order to achieve adequate antigen preparations that might be used to generate assays for a specific anticancer vaccine. Finally, the ability of the immune system to recognize a tumour associated antigen, thus enabling development of a vaccine approach for therapeutic application, represents a main target of this field of research.

2) Name: Dr. Amparo Gamero Lluna

Affiliation: Postdoc Researcher

Title: **High -throughput screening of a large collection of non-conventional yeasts reveals their potential for aroma formation in food fermentation.**

Abstract: Saccharomyces yeast species are the most common yeasts involved in industrial-scale food fermentations. However, there are hundreds of other yeast species poorly studied and highly promising for flavour development, some of which have been identified in traditional food fermentations. The investigation of natural yeast biodiversity regarding aroma formation showed that several non-conventional species produce remarkable aroma compounds in significantly higher quantities than the well-known Saccharomyces species. These species are Starmera Caribbean, Hanseniaspora guilliermondii, Galactomyces geotrichum, Saccharomycopsis vini and Ambrosiozyma monospora. Certain species revealed a strain-dependent flavour profile while other species were very homogenous in their flavour profiles.

3) Name: Dr. Kaustubha Nand Bhatt

Affiliation: Professor

Title: **Exploring alternative method for sustainable Agricultural and Ecological Security.**

Abstract: Expansion of green revolution crops has reached its peak with their dependence on heavy energy inputs leading to climate change. The world is experiencing today the warming stress of higher temperatures during the growing season; the water stress of diminished and more irregular rainfall; and the nutrition stress in diets, all worsened by the changing climate and economic conditions. The existing cultivation method of agricultural crops may be changed by adoption of System of Crop Intensification (SCI) or System of Root Intensification with its tremendous potential of resource use efficiency, ecological security and increased productivity. The real challenge therefore is to develop/adopt strategies based on sound ecological principles and integrate traditional organic farming practices and biodiversity.

4) Name: Dr. Segundo Castillo Mesa

Affiliation: Doctor

Title: **Ultra structural alterations in the brain of foetuses from schizophrenic mothers.**

Abstract: Segundo Mesa Castillo. As Specialist in Neurology, he worked for 10 years in the Institute of Neurology of Havana, Cuba. He has worked in Electron Microscopic Studies on Schizophrenia for 32 years. He was awarded with the International Price of the Stanley Foundation Award Program and for the Professional Committee to work as a fellowship position in the Laboratory of the Central Nervous System Studies, National Institute of Neurological Diseases and Stroke under Dr. Joseph Gibbs for a period of 6 months, National Institute of Health, Bethesda, Maryland, Washington D.C. USA, June 5, 1990. At present he is member of the Scientific Board of the Psychiatric Hospital of Havana and give lectures to residents in psychiatry.

5) Name: Dr. Thomas Webster

Affiliation: Chairman and Director

Title: **Age of Nanobiotics: Killing bacteria with nanotechnology and without Antibiotics.**

Abstract: The Centres for Disease Control (CDC) in the U.S. has recently predicted more deaths from antibiotic-resistant bacteria than all cancers combined by 2050. This talk will cover how nanoparticles and nanostructured features can kill bacteria without resorting to the use of antibiotics. In particular, we have pioneered the use of nanomaterial's to penetrate biofilms and bacteria to kill them while remaining non-toxic to mammalian cells, obtaining FDA approval for many of our approaches which will be covered in this talk.

6) Name: Dr. Michele Stone

Affiliation: Executive Director

Title: **Enhanced immune modulation through superior control of formulation and delivery using the PRINT technology**

Abstract: The future of vaccine development will integrate quality by design at vaccine conception to ensure desired efficacy and safety. The ability to define protective immune responses and desired mechanisms to target appropriate immune cells would be a key advantage in the development of next generation vaccines. Vaccine development has evolved from inactivated whole cell microorganisms, to subunit vaccines that contain protein or protein-PS conjugates, to next generation vaccine candidates that include completely synthetic systems. Novel technologies allowing developers to design vaccines targeting specific immune response via selection of protective antigens with or without adjuvants would enable more directed immune targeting, and potentially provide increased efficacy with improved safety outcomes. Liquidia PRINT technology is a novel particle platform technology designed to incorporate quality by design early in the development process. The PRINT platform enables unique formulation advantages that have broad implications to vaccines development and production methodologies. The induction of potent immune responses to multiple vaccine target antigens without adjuvants has been demonstrated with PRINT particles. Co-delivery of antigens and adjuvants has been shown to improve both T cell and B cell immune responses including adjuvant dose sparing. Formulation of combination vaccine products containing incompatible components has also been shown with PRINT particles. The advantages demonstrated to date by the PRINT technology could profoundly impact the vaccine industry as products are brought to the clinic.

7) Name: Shalini Sehgal

Affiliation: Associate Professor

Title: **Implementation of a Risk-Based Management Approach for Microbial Safety of Fresh Produce.**

Abstract: Fresh produce harbours a diverse range of microorganisms including plant and human pathogens. A study was conducted on the microbial hazards associated with fresh produce and role of handlers in their safety. The practices of the handlers and their awareness about food safety were found to be unsatisfactorily and therefore, pose a threat to the microbial safety of fresh produce. Majority of samples analysed were found to be contaminated. A cost effective remedy of antimicrobial dips was studied to eliminate the surface microbial load. The safety and quality of fresh produce requires implementation of a risk-based management system approach through all stages of production, distribution, storage, and marketing of food products in the complete food chain.

8) Name: Mariela Srednik

Affiliation: Assistant Professor

Title: **Methicillin Resistance and SCC mec typing in Coagulase Negative Staphylococci isolated from Bovine Mastitis in Argentina.**

Abstract: Bovine mastitis is a multifactorial disease that causes economic losses in the dairy industry. Coagulase Negative Staphylococci (CNS) is bacteria that increase somatic cells count (SCC) in milk and may act as reservoir of antimicrobial resistance genes. Beta lactams (BL) are the most common antimicrobials used to treat mastitis in Argentina. BL resistance mechanisms include the production of low affinity penicillin-binding proteins (PBP2a) encoded by *mecA* or *mecC* genes that provides methicillin resistance (MR). *MecA* gene is located on a mobile genetic element called SCCmec. Among a total of 90 CNS isolated from bovine mastitis in Argentina, we found 4.4 % (4/90) isolates positives for *mecA* gene and one positive for *mecC* gene. We found SCCmec II and SCCmec IVa types among MR isolates.

9) Name: Dr. Veerendra Koppolu

Affiliation: Senior Scientist

Title: **Inhibition of Bacterial Virulence by Small Molecule Inhibitors.**

Abstract: Keeping the possible antibiotic resistance in mind, it is of greatest need to develop new ways to treat bacterial infections. Evolution-proof antibiotics that disarm the bacterial pathogens without impacting their survival would be an important strategy towards sidestepping the evolution of resistance. Drugs that disarm the pathogen will generate much weaker selection for resistance than traditional antibiotics. Disarming the pathogens is possible by targeting a family of bacterial proteins called AraC family proteins that regulate the bacteria's ability to infect or damage a host, rather than its ability to survive. We tested this

exciting hypothesis against *Shigella Flexner*, diarrhoea causing bacterial pathogen responsible for causing 165 million cases of illness and more than 1.1 million deaths worldwide. We successfully identified several molecules that selectively inhibited an important *Shigella* protein VirF that is crucial for causing infection. The highly potent molecule “SE-1” is found to not impact the growth of the bacteria but prevent bacteria’s ability to invade and infect cultured human intestinal cells. SE-1 also inhibits infection pathways in other pathogenic bacteria that cause infections such as diarrhoea, pneumonia, and cholera and thus can be developed as a novel agent to treat multiple infections. Targeting such infection pathways may yield non-traditional antibiotics that are more powerful and versatile than our current antimicrobials and would solve the antibiotic resistance issue that has grown to alarming levels.

Oral Presentation Abstracts

Oral presentations will be added after the submission deadline

Day 1:

Day 2:

Day 3:

Poster Presentation:

