

Joint Event on



Euro Congress on

BIOTECHNOLOGY

&

International Conference on

GENOMICS AND

MOLECULAR BIOLOGY

&

Global Congress on

CANCER SCIENCE AND THERAPY

November 26-27, 2018 | Madrid, Spain

DAY 1

Keynote Forum

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November 26 - 27, 2018 | Madrid, Spain

Kampon Sriwatanakul, J RNA Genomics 2018, Volume 14



Kampon Sriwatanakul

Vita Stem Co.Ltd, Thailand

Biography

Kampon Sriwatanakul is the president of Vita Stem Co.Ltd. Bangkok and an internationally recognized pioneer of stem cell therapy. He is currently engaged in research and development projects related to the application of mesenchymal stem cell in the anti-aging and regenerative medicine.

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INNOVATIVE PRODUCTS DERIVED FROM PROBIOTICS AND NANOTECHNOLOGY

Probiotics are microbial strains that have been proved to be highly beneficial for restoring the composition of the gut's microbiome and provide beneficial functions to gut microbial communities, leading to amelioration or prevention of gut inflammation and various intestinal and systemic diseases. The human body consists of trillions of microbes, mostly within the small intestine and colon. Most probiotic products currently available are developed with several strains of microbes including *Lactobacillus*, *Bifidobacterium*, *Lactococci*, *Streptococci*, *Bacillus Escherichiae*, *Propionibacterium* and *Saccharomyces*. Our group is developing probiotic products for the treatments of diabetes, metabolic syndrome, autoimmune and inflammatory conditions. This presentation will report on some pilot studies being performed on diabetes and irritable bowel syndrome. Developing adequate food delivering matrix and probiotic formulations using nanotechnology will also be addressed. Nanotechnology involves research and technology development at the 1-100 nm range and will be used to increase survival of the probiotics in the stomach; deliver and co deliver of pre and probiotics to the colon and improve survival during technological processing and storage.



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Michael Dean Kaltenbach, J RNA Genomics 2018, Volume 14



Michael Dean Kaltenbach

University of Pennsylvania, USA

Biography

Michael Dean Kaltenbach is a part-time lecturer at Rutgers University School of social work, teaching a course in human behavior in the social environment. He has previously taught BSW and MSW level courses in crisis intervention and brief therapy, introduction to social welfare / human services, communication in social work practice, human behavior and the social environment, and emotional disorders in childhood and adolescents at Temple University and the University of Southern California.

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CHANGES IN SEXUAL BEHAVIORS DUE TO THE UTILIZATION OF PREP AS A PREVENTIVE METHOD FOR THE TRANSMISSION OF HIV

According to the joint united nations programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO), approximately 33.4 million individuals throughout the world have been affected by HIV/AIDS in the last 30 years or so (Bonacquisti & Geller, 2013). The medication *truvada* otherwise known as pre-exposure prophylaxis (PrEP) has been introduced to serve as a harm reduction technique to combat the spread of HIV infection. PrEP is an antiretroviral drug that lowers the risk of HIV exposure. This is a qualitative study examining the sexual behaviors of gay and bisexual men prescribed PrEP as a preventive method for the transmission of HIV. The study was conducted by 30 semi structured in depth interviews of people who had been prescribed PrEP for at least 30 days in three cities: Los Angeles, Philadelphia and New York City. The results indicate that contextual factors shaped the sexual behaviors of participants on PrEP leading them to lower risk at times and elevate it at others. PrEP caused individuals to experience changes within their communication patterns with their medical providers and their sexual partners. The results shed light on the way people on PrEP engage in sexual and health seeking behaviors and help to develop a blueprint for the way service providers engage with this community.



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Kirankumar S Mysore, J RNA Genomics 2018, Volume 14



Kirankumar S Mysore

Noble Research Institute, USA

Biography

Kirankumar S Mysore is a Professor at the Noble Research Institute. He also holds Adjunct Professorship at the Department of Entomology and Plant Pathology, Oklahoma State University. He received his Bachelor's Degree in Agriculture at the University of Agricultural Sciences, Bangalore, India. He did Master's Degree in Horticulture at Clemson University and PhD in genetics at Purdue University in 1999. He did his Postdoctoral training at the Boyce Thompson Institute for Plant Research, Cornell University. His main research interests center on molecular plant-microbe interactions. Research approaches in his group include genetics and genomics to better understand how plants defend against pathogens. He has published over 180 papers and book chapters in international journals.

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INSERTION MUTAGENESIS IN *MEDICAGO TRUNCATULA* AND ITS UTILIZATION TO IDENTIFY NOVEL SOURCES OF RESISTANCE AGAINST ASIAN SOYBEAN RUST

Retrotransposons, retrovirus like elements which encode proteins required for their own replication and transposition can be used for insertional mutagenesis. Tobacco retrotransposon, *Tnt1*, has been used to mutagenize and tag the whole genome of a model legume *Medicago truncatula*. *Tnt1* is very active and transpose into on average, 25 different locations during *M. truncatula* tissue culture. Mutations induced by *Tnt1* insertion are stable during seed to seed generation. We have generated over 20,000 independent *Tnt1*-containing lines encompassing more than 500,000 insertion events. Over 400,000 *Tnt1* flanking sequence tags (FSTs) have been recovered and a database has been established. We have pooled genomic DNA from all the lines for customized reverse genetic screening and the frequency of insert identification in this pool for average sized gene is approximately 85%. The range and diversity of mutant phenotypes obtained to date suggest that *M. truncatula* offers a great opportunity to dissect symbiotic and developmental pathways for comprehensive understanding of legume biology. A forward genetics approach using *Tnt1* tagged *M. truncatula* lines has been established (Fig. 1) to identify genes that confer non host resistance to Asian Soybean Rust pathogen *Phakopsora pachyrhizi*. Several *M. truncatula Tnt1* mutants with altered response to *P. pachyrhizi* have been identified and being characterized. *irg1* (inhibitor of rust germ-tube differentiation1) mutant inhibited pre-infection structure differentiation of *P. pachyrhizi* and several other bio-trophic pathogens. *IRG1* encodes a Cys (2) His (2) zinc finger transcription factor, *PALM1* that also controls dissected leaf morphology in *M. truncatula*. Characterization of other mutants will also be presented.



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Manuela Pintada, J RNA Genomics 2018, Volume 14



Manuela Pintada

Universidade Católica Portuguesa, Portugal

Biography

Manuela Pintada is BSc in Pharmacy (Faculty of Pharmacy of the University of Porto, 1991) and PhD in Biotechnology (Portuguese Catholic University – UCP, 1999). She is Associate Professor in UCP, Director of CBQF – State Associate Laboratory and Associate Director of the College of Biotechnology of UCP. She is the leader of Biobased and Biomedical products group and coordinates the Bioactives and Bioproducts Research Laboratory. She co-authored 300 papers in international journals, a creator of 16 patents, h-index=38 and she has been involved in the supervision/co-supervision of 22 concluded PhD theses and coordinated/co-coordinated 85 externally funded projects.

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ENZYMATIC HYDROLYSIS AS TOOL FOR AGROFOOD BY PRODUCTS VALORIZATION

The food processing sector generates a large amount of waste annually, and without the development of innovative technologies, the amount of waste will increase up to 126 million tonnes by 2020. The enzymatic hydrolysis alone or combined with other technologies is a cost-efficient technology that allow natural production of added-value compounds, namely those with potential biological and functional properties. Several examples of enzymatic conversion of components from by-products into new added value ingredients/products with application in food, feed and cosmetics have been studied recently. Peptide sequences released by hydrolysis of protein byproducts as bioactive peptides have demonstrated different biological properties, namely antihypertensive, antimicrobial, immunostimulant, antioxidant and prebiotic. Oligosaccharides are polymers with two to ten monosaccharide residues that can also be obtained from agrofood byproducts by specific hydrolysis treatment with physiological effects on human health, namely prebiotic, antioxidant and antimicrobial. This presentation comprises a review of recent studies to demonstrate the potential of enzymatic hydrolysis for agrofood byproducts valorization encompassing research cases studies developed by our research group on enzymatic hydrolysis of plant, animal and fermentation byproducts. Hydrolysis using different types of enzymes applied to by-products from various food sectors (whey, brewer's spent yeast, fish losses and skin, blood and bones, and fruit & legumes) for obtaining ingredients with technological and nutritional value, and health properties will be presented. Some examples of the potential application of these new ingredients in the development of functional foods, feed solutions, or new alternatives for the cosmetic industry will also be presented.



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Gil Atzmon, J RNA Genomics 2018, Volume 14



Gil Atzmon

University of Haifa, Israel

Biography

Gil Atzmon is Professor of Human Biology at Haifa University in Israel, where he runs the Laboratory of Genetics and Epigenetics of Aging and Longevity, and at Albert Einstein College of Medicine in New York. The foremost focus of Prof Gil Atzmon's entire research career has been the understanding of the association of the whole genome to disease, performance, health and longevity. Since 2001, he has focused on human genome and its impact on aging and longevity.

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DETECTION OF EPIGENOMIC VARIATION ASSOCIATED WITH LONGEVITY AMONG MULTI ETHNIC CENTENARIAN POPULATION IN ISRAEL

Genetic, epigenetic and environmental factors play a crucial role in determining life span. Epigenetics has emerged as an important factor in the control of gene expression and therefore effect disease risk. Specifically, methylation changes at specific gene regions have been associated with cancer risk and autoimmune disorders. Studies have shown that age related epigenetic changes could serve as a marker for chronological age. We hypothesize that *i) aging is associated with epigenetic changes in humans, and ii) centenarians have distinct pattern of methylation that protects them from age-related diseases, and therefore affects healthy lifespan.* We propose that epigenetic changes are one of the central mechanisms by which aging predisposes to many age-related diseases, and therefore influence disease risk and lifespan. We test this hypothesis using a unique population of individuals with prolonged life span (i.e. centenarian) who represent a very small segment of human population. We systematically assess the contribution of genomic methylation changes in three major sub-groups, of centenarians:

1. **Survivors:** Those who survive after onset of major age associated disease like diabetes, CVD or metabolic syndrome at an age comparable to general population, i.e at the age of 60+/-5 years (thus long life span but short healthy lifespan),
2. **Delayers:** Develop age related diseases mentioned above much later that control population i.e at the age of 80+/-5 years (therefore have a longer healthy life span)
3. **Dodgers:** Fail to develop age-related illnesses naturally at the age of 100+/-5 years. We hypothesize that subjects within the three groups will exhibit differential methylation at sites distinct from each other as well as appropriate age matched controls (healthy cohort subjects available for 60+/-5 and 80+/-5 yr old). Furthermore, we found that the survivors and delayers exhibit different gene expression pattern as they approach their chronic life time condition. We test our hypothesis, by employing novel high-throughput technology (genome-wide methylation assay- Infinium MethylationEPIC) to probe into the epigenomic methylation hallmark for healthy life span in a unique population (i.e. Israeli multi ethnic centenarian study cohort) of subjects between ages 55-110. In addition, we did a combination of large-scale epigenomic studies to identify the most distinctive epigenetic loci (i.e. those with the greatest differential methylation). We then perform Multi-locus validation for methylation status using MassARRAY (Sequenome). We incorporated validation of candidate epi-loci in extended original population, to define the role of epigenetics on specific mechanisms related to age related diseases and healthy lifespan (such as mitochondrial mutations, oxidative stress).

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Sorin Buga, J RNA Genomics 2018, Volume 14



Sorin Buga

City of Hope, USA

DISTRESS IN CANCER POPULATION: AN INSTITUTIONAL PERSPECTIVE

Patients faced and fighting with a cancer diagnosis are facing multiple distressing factors that could adversely affect compliance with medical care and the outcomes of cancer therapy and even the overall survival. City of Hope has developed a screening tool named Support Screen that identifies biopsychosocial problems related distress and facilitates patient, physician and multi-specialist communication. This presentation will share with the audience the data collected in our institution regarding various distressing factors (emotional, communication, social, physical, spiritual, etc.) to our general cancer population and to various cancer diagnosis groups (GI, Breast, Lung, etc.).

Biography

Sorin Buga is an Associate Clinical Professor in the Department of Supportive Care Medicine at City of Hope, Duarte, California. He is Board Certified in Internal Medicine And Hospice And Palliative Medicine and a Fellow of the American College of Physicians and of the American Academy of Hospice and Palliative Medicine. He completed his fellowship in palliative medicine at H. Lee Moffitt Cancer Center in Tampa, Florida. He is the City of Hope's representative on the NCCN Adult Cancer Pain Panel and an Active Member of the American Academy of Integrative Pain Management, the American Academy of Hospice and Palliative Medicine, the International Association for Hospice and Palliative Care and International Association for the Study of Pain. He has published in the peer review literature and is often invited to speak at scientific meetings.

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