



ISSCT MOLECULAR BIOLOGY WEBINAR

2nd August 2022

11 a.m. GMT

“Genome Editing of Sugarcane”

Short Biodata about the Presenters

Prof. Fredy Altpeter (University of Florida, USA)

Dr. Fredy Altpeter is faculty member at the University of Florida since 2001 and was promoted to Professor in 2012. He was group leader at the Plant Genome Resource Center at the IPK Gatersleben, Germany from 1997 to 2001 and was postdoctoral research associate with Indra Vasil at the University of Florida on genetic transformation of wheat from 1994 to 1997. Fredy received a Dipl. Ing. agr. degree (MS equivalent) in Crop Science and a Dr. sc. agr. degree (PhD. equivalent) in Plant Breeding and Biotechnology from the University of Hohenheim in Germany.

In 2013 and again in 2018 he was awarded the University of Florida Research Foundation Professorship in recognition of his distinguished research program in biotechnology of grasses. His research program integrates genome editing and biotechnology with translational genomics to identify critical heredity units and develop genetically improved grasses with a focus on sugarcane. He has published more than 70 peer reviewed research articles. Fredy’s teaching activities include graduate and undergraduate level courses in Molecular Genetics, Crop Biotechnology and Plant Breeding. He is very active in mentoring undergraduate and graduate students and visiting scientists.

Fredy serves/served as associate editor of reputed journals including “Scientific Research”; “The Plant Genome”; “Plant Cell Tissue and Organ Culture”; “Plant Breeding” and “Crop Science”. He served as chair of the C7 division of the Crop Science Society of America (CSSA) and on the board of directors for the Society for In Vitro Biology (SIVB), as SIVB program chair and on various committees. He received the SIVB Distinguished Scientist award in 2020, was elected SIVB Fellow in 2018 and CSSA Fellow in 2021.

Dr. Jan-Hendrik (Hennie) Groenewald (Biosafety South Africa Executive Manager; ISBR Board member)

Dr Hennie Groenewald is the Executive Manager of Biosafety South Africa, a national service platform under the auspices of the Department of Science and Innovation, that

facilitates sustainable bio-innovation. It is the principal instrument within the national bio-innovation system that enables compliant, sustainable, and effective research, development, innovation, and commercialization. Hennie has >25 years of experience in biotechnology research and development, teaching, biosafety risk analysis and governance, science communication, business development and innovation management in the public, private and academic sectors. Prior to joining Biosafety South Africa, he worked at Stellenbosch University, the South African Sugarcane Research Institute and North-West University. Hennie is a founding member of two successful South African biotech start-ups and has served on numerous international and national bodies tasked with responsible research and innovation, biosafety, risk governance, capacity building, medicine regulation, science communication and sustainable biotech- and agricultural innovation.

Viktoriya Coneva (Centro de Tecnologia Canavieira, CTC, Brazil)

Dr. Coneva is a molecular biologist with a broad background in plant development and genetics. During her PhD and several post-docs she led diverse academic projects, including the characterization of molecular components of flowering time in maize and leaf patterning in tomato, the physiological function of sterile spikelets in Andropogoneae grasses, and the evolutionary conservation of seasonally cued reproductive development. Currently, she enjoys working with CTC to establish efficient genome editing tools for sugarcane and to apply these tools for the generation of new biotechnology trait products.

Germán Serino (Chacra Experimental Agrícola Santa Rosa, Argentina)

After obtaining a biology degree from the University of Buenos Aires in 1992, Germán Serino received a PhD in Microbiology and Molecular Genetics from Rutgers University in 1998. He was a postdoc at Johnson and Johnson, where he developed a flow cytometry-based nucleic acid detection system. He joined Bio Sidus in 1998 as plant biotechnology program manager, where he led the team that achieved the first GM sugarcane in Argentina (2003) and was responsible for the identification of virus-resistant potato event, TIC-AR233-5. In 2004 Dr. Serino joined Chacra Experimental Agrícola Santa Rosa to lead the sugarcane biotechnology program, establishing the first GM sugarcane trial in Argentina. He led the development of glyphosate-resistant sugarcane and developed fully virus-resistant sugarcane by genetic engineering. In 2009 Germán Serino joined Advanta Seeds as Plant Transformation Lab Manager, where his team developed and tested transgenic sorghum for drought and salt tolerance, nitrogen use efficiency, and insect resistance. He co-founded SYZ Biotechnology in 2015, a Company focusing on developing doubled haploid production in maize and wheat. Since 2016 he has led sugarcane breeding and biotechnology cultivar development programs at Chacra Experimental Agrícola Santa Rosa as a Director.

Jershon Lopez (Centro de Investigación de la Caña de Azúcar, CENICAÑA, Colombia)

Leader of the transformation and gene editing laboratory at the Colombian Sugarcane Research Center, Cenicaña, since January 2006. He received his doctorate from

Kansas State University, USA in plant pathology with emphasis on molecular biology. He has 25 years of experience working in different crops using molecular markers for the identification of genes associated with resistance to pathogens of agronomic importance, as well as experience in the development of genetic maps for identification of QTLs in rice, *Brachiaria* and sugarcane. He is currently involved in projects on sugarcane genetic transformation and gene editing as well as molecular biology using marker-assisted selection as the basis of future developments to obtain high sucrose, water-use efficient and high biomass sugarcane varieties as required for full implementation within the 2030 strategic plan. His research is mainly focused on using biotechnology tools to support the Variety Program by transforming sugarcane varieties and discovering new genes and editing them to obtain better sugarcane varieties that will make sugarcane in Colombia more sustainable and competitive.

Yogesh Parmessur (Mauritius Sugarcane Industry Research Institute, MSIRI, Mauritius)

Yogesh Parmessur, born in 1971 in Mauritius, completed his first degree in Biotechnology at King's College London and completed his master's degree in 2004 in Plant Breeding and Biotechnology at the University of East Anglia/John Innes Centre, UK. He obtained his PhD in Plant Biotechnology at the University of Mauritius in 2016. His PhD project was entitled 'Linkage mapping of sugarcane variety M 134/75 to identify markers linked to Yellow Spot Disease resistance'. He joined the Biotechnology Department of Mauritius Sugarcane Industry Research Institute (MSIRI) in 1998 and is now the officer in charge. He started his career on a project involving the elimination of pathogens from sugarcane by tissue culture, extending his area of research to plant pathology and marker-assisted breeding. His focus is now on the application of Gene Editing technologies to sugarcane improvement. He has been a committee member of the ISSCT Molecular Biology section since 2015.