

Bioenergy & Sustainability Symposium

The World Bank, 28th September 2015

Bio Profiles of Invited Experts

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Title, Name, Surname	Associate Professor, Maria Victoria R. Ballester
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Dr. Ballester's main research fields are landscape ecology and land use change in tropical regions and their impacts on freshwater ecosystems, including large river basins such as the Amazon and La Plata. Dr Ballester scientific production includes 62 papers, 14 book chapters and 20 complete papers in conference proceedings peer review. She has trained 09 PhD and 13 Masters students. Ballester has participated as PI and Co-Pi in 20 research projects funded by Brazilian (FAPESP, CNPq), Canadian (IDRC) and US agencies (NSF and NASA)

Education/Training : 1986 – Undergraduate, Biology major. Federal University of Rio Grande Do Sul (Brazil) ; 1989 – Master in Ecology and Natural Resources. Federal University of São Carlos (Brazil) ; 1994 – PhD. Ecology Program. Federal University of São Carlos (Brazil) ; 1996 – Pos doctor. CENA-University of São Paulo (Brazil). Professional History : 1997- 2001 – Young Researcher in Emergent Centers. FAPESP Program ; 2001 – 2003 – Visiting Professor. CNPq/ Center of Nuclear Energy in Agriculture, University of Sao Paulo ; 2004 – 2005. Laboratory Technician Center of Nuclear Energy in Agriculture, University of Sao Paulo ; 2005-2008 – Assistant Professor. Center of Nuclear Energy in Agriculture, University of Sao Paulo ; 2008 – Associate Professor. Center of Nuclear Energy in Agriculture, University of Sao Paulo.

Title, Name, Surname	Scientific Director – Prof. Carlos Henrique de Brito Cruz
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Dr Brito Cruz graduated in Electronics Engineering (ITA, 1978) and has a doctorate in Physics (UNICAMP, 1983).

He was a visiting researcher at the Quantum Optics Laboratory at the Università di Roma, at the Femtosecond Research Laboratory at the Université Pierre et Marie Curie, and a resident researcher at the AT&T's Bell Laboratories, in Holmdel, New Jersey. Brito was the Director of Unicamp's Physics Institute, Pro-rector for Research, Rector of the university, and the President of FAPESP from 1996 to 2002.

DR Brito Cruz is a member of the Brazilian Academy of Sciences, received the Ordre des Palmes Academiques de France, the Order of the Scientific Merit from the Federative Republic of Brazil, and the Order of the British Empire, Honorary (OBE).

Title, Name, Surname	Dr. Helena Chum
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Helena Chum is a Research Fellow at the U.S. Department of Energy's National Renewable Energy Laboratory (NREL). Her expertise is in renewable fuels, transportation systems, renewable energy systems activities, including agriculture, forestry, bioenergy, bioproducts, biofuels, and biorefineries and sustainability. As an IPCC author, she co-led the Bioenergy chapter in the Special Report on Renewable Energy Sources in Climate Change Mitigation (2011) and had a lead role in the Energy

Systems, contributed to Agriculture, Forestry and Other Land Use and Transportation chapters of the 5th Assessment Report (2014). She is a Fellow of the American Association for the Advancement of Science, American Chemical Society, and the International Academy of Wood Science. Biofuels Digest 2015 “Top 125 People in the Advanced Bioeconomy.”

Title, Name, Surname	University Distinguished Professor, Bruce E. Dale
Affiliation, City, Country	Michigan State University, East Lansing, Michigan, United States
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Prof. Bruce Dale is University Distinguished Professor of Chemical Engineering at Michigan State University. Editor in Chief and Founding Editor of *Biofuels, Bioproducts and Biorefining*. Charles D. Scott Award (1996), Sterling Hendricks Award (2007), Award of Excellence of the Fuel Ethanol Workshop (2011), Fellow of the American Institute of Chemical Engineers (2011). Professor Dale is the highest-ranked academic in the Top 100 People in Bioenergy (*Bioenergy Digest*), has published over 260 journal papers and has received 42 US and international patents. Research interests are cellulosic biofuels, the relationship between energy and societal wealth, life cycle assessment and design of integrated agroecosystems for producing sustainable fuels, chemicals, food and animal feed.

Title, Name, Surname	Dr. Virginia Dale
Affiliation, City, Country	Oak Ridge National Laboratory, Oak Ridge, Tennessee USA
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Dr. Virginia H. Dale is Director of the Center for BioEnergy Sustainability at Oak Ridge National Laboratory. Her primary research interests are environmental decision making, land-use change, landscape ecology, sustainability, and bioenergy systems. Virginia has authored 10 books and more than 235 published articles. She has served on national scientific advisory boards for five agencies of the United States. She was recognized as a ‘Distinguished Landscape Ecologist’ by the US Chapter of the International Association for Landscape Ecology in 2013 and contributed to the Intergovernmental Panel on Climate Change Scientific Assessment that in 2007 received with Al Gore the Nobel Peace Prize.

Title, Name, Surname	Thomas D. Foust, Director, Bioenergy Program
Affiliation, City, Country	National Renewable Energy Laboratory , Golden Colorado, USA
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Dr. Thomas Foust is the Director of the National Renewable Energy Laboratory’s National Bioenergy Center (NBC). The NBC is a world leading organization of approximately 175 engineering and scientific staff performing cutting edge work to develop cost effective, environmentally sustainable technology for producing transportation fuels and products from biomass by delivering innovative, cost-effective biofuels solutions.

Dr. Foust is a comprehensive expert in the biofuels field. His areas of expertise include feedstock production, biomass conversion technologies to fuels and products, and environmental and societal sustainability issues associated with biofuels and bioenergy. He has over 25 years of research

and research management experience specializing in biomass feedstocks and conversion research. He has over 100 publications in the biomass field covering all aspects of biofuels technology.

Dr. Foust has a Ph.D. in Mechanical Engineering and a M.S. in Mechanical Engineering from the Johns Hopkins University, and a B.S. in Mechanical Engineering from the Pennsylvania State University. He is a licensed Professional Engineer.

Title, Name, Surname	Prof. Angela Karp FSB
Affiliation, City, Country	Scientific Director, Rothamsted Research, Harpenden, UK
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Angela Karp is a geneticist with over thirty years' experience in crop genetic improvement. She leads the Institute Strategic Programme on 'Cropping Carbon' at Rothamsted Research and is head of the AgroEcology Department.

Her current research focuses on optimising the sustainable yield and composition of perennial biomass crops (especially willows) for bioenergy, biofuels and other industrial products, under the constraints of low-input arable systems. She has over 125 refereed publications, has co-authored a text book on genetics and is co-editor of books on genetics and on bioenergy. She received the RASE Research Medal in 2007 and the Alfred-Toepfer prize for research achievements in willow in 2008.

The Rothamsted Cropping Carbon programme aims to optimise carbon captured into plant biomass and sequestration of carbon by biomass crops and grasses in soils to underpin the UK transition to a low carbon economy. As part of this effort, Prof. Karp is responsible for the UK willow breeding programme.

Title, Name, Surname	Prof. Lee Rybeck Lynd
Affiliation, City, Country	Dartmouth College, Hanover, NH, USA
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Lee Rybeck Lynd is the Paul and Joan Queneau Distinguished Professor of Engineering and an Adjunct Professor of Biology at Dartmouth College, Cofounder and Chief Scientific Officer of Enchi Corporation, Focus Area Lead for Biomass Deconstruction and Conversion at the DOE Bioenergy Science Center, and Executive Committee Chairman of the Global Sustainable Bioenergy Initiative.

Professor Lynd is an expert on the production of energy from plant biomass and conducts leading research on microbial cellulose utilization. He leads one of the largest academic groups in the US devoted to biomass conversion, encompassing biotechnology, process engineering, resource and environmental analysis, economic development, and entrepreneurship. Lynd has testified three times before the United States Senate, and his work has been featured in Wired, Forbes, and Nova and the Nobel Conference.

Title, Name, Surname	Prof. Rubens Maciel Filho
Affiliation, City, Country	State University of Campinas, Campinas, Brazil
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BS, Chemical Engineering, Federal University of São Carlos-1981, Nuclear Engineering-1981, M.Sc. Chemical Engineering- State University of Campinas-1985, PhD Chemical Engineering, University of

Leeds, UK-1989, Full Professor School of Chemical Engineering, State University of Campinas, Coordinator of the Laboratory of Optimization Design and Advanced Process Control (LOPCA) since 1990, and from 2007, Head of Laboratory of Innovation of Biofuels- Unicamp (LIB), Coordinator of Engineering Division of Bioen Program of FAPESP, Coordinator of National Institute of Biofabrication-Biofabris, since 2010.

The main research areas cover bio-based Process Development, Modeling of Chemical and Biochemical Process, Computer Aided Design, Biofabrication, Biopolymers, Operation and Control and on/off-line Optimization, with special focus in Green Chemical Process Development, specially with biofuels and bioethanol as well as bioproducts from fermentation and chemical synthesis from renewable feedstock.

Title, Name, Surname	Dr Artur Yabe Milanez
Affiliation, City, Country	BNDES-Banco Nacional de Desenvolvimento Econômico e Social, Rio de Janeiro, Brazil
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Academic background:

- Bachelor in Business Administration – Fundação Getulio Vargas of São Paulo
- Master Science Degree in Economics – Federal University of Rio de Janeiro

Professional experience:

- Currently responsible for managing the BNDES support for innovation investments in the biofuels sector. Conducted both the planning and the implementation of PAISS and PAISS Agrícola Programs, which resulted in investments over US\$ 2 billion for the development of new technologies for the sugarcane industry.
- Coordinates a team focused in develop studies which identify problems or opportunities for biofuels industry and, based on that, indicate public policies for both the BNDES Board and other Brazilian Government Institutions.
- Previously to BNDES, worked at the Brazilian Innovation Agency (FINEP) from 2001 to 2004.

Title, Name, Surname	Ph.D. Mech.Eng. Francisco Nigro
Affiliation, City, Country	University of Sao Paulo, Sao Paulo, Brazil
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Graduated as Mechanical Engineer by Escola Politecnica from the University of Sao Paulo in 1968. His entire career was developed as a Professor at the same School and Researcher at IPT - Technological Research Institute of the State of Sao Paulo, from where he retired in 2006 as Director. He still teaches at the University. Major interest in the development of alternative fuels application in internal combustion engines, mainly ethanol and biodiesel, and more recently in jet biofuel. Had an intense participation in the Brazilian Pro-alcohol Program and in the launching of flexible fuel vehicles in Brazil. He is recognized in Brazil as one of the pioneers of straight ethanol and flexible fuel vehicles and has coordinated several research projects and participated in many publications about the subject.

Title, Name, Surname	Prof. dr Patricia Osseweijer
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Patricia Osseweijer is full professor and Section Leader Biotechnology and Society, Department of Biotechnology, Delft University of Technology. She was recently awarded the Royal Academy of the Netherlands distinguished Lorentz fellowship for integrating social sciences and technology. Patricia builds on a long management career including managing director of the Kluiver Centre for Genomics of Industrial Fermentation. She developed the Genomics and Society Program and was appointed Principal Investigator of the Centre for Society and Life Sciences.

In 2010 she became Flagship Manager of the 12 M Euro program Societal embedding of a Biobased Economy of BE-Basic (Biotechnology based Ecologically Balanced Sustainable Industrial Consortium, BE-Basic.org), one of the worlds largest public-private partnerships in this field (45 M Euro/year). She is responsible for the BE-Basic internationalisation program with Brazil, the US and Malaysia. In 2012 BE-Basic and TU Delft opened an office in Campinas, Brazil, with an education/research program of 3 M Euro/year. She chairs the Dutch Biobased Economy innovation program “Economy, Policy and Sustainability” with a project portfolio of industry, academia, NGOs and governments.

She is member of many international committees, has published over 85 articles, reports and papers and gave more than 100 presentations.

Title, Name, Surname	Prof. Jon Samseth
Affiliation, City, Country	Department of Technology, Art and Design at Oslo and Akershus University College (HiOA), Oslo, Norway
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Jon Samseth is professor in energy physics at Oslo and Akershus University College, adjunct professor in the Department of Chemical Engineering at the Norwegian University of Science and Technology, and science advisor in the Department of Process Technology at SINTEF materials and chemistry. Prof. Samseth has been working within the fields of nanotechnology and soft condensed matter as well as with energy issues. He received his Ph.D. from the Department of Physics at the Massachusetts Institute of Technology (MIT) and is a graduate of the French École nationale supérieure du pétrole et des moteurs and the Norwegian University of Science and Technology (NTNU). He chairs the IUPAP working group on energy, and the energy and industry group of the Norwegian Physical Society where he is also a member of the board. Prof. Samseth is Member of the Norwegian Academy of Technological Sciences.

Title, Name, Surname	Dr. Glauca Mendes Souza
Affiliation, City, Country	FAPESP, University of São Paulo, São Paulo, Brazil
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Dr. Glauca Souza is the President of FAPESP Bioenergy Program (BIOEN). BIOEN aims at articulating public and private R&D, in academic and industrial laboratories, to advance and apply knowledge in fields related to bioenergy. Research ranges from biomass production and processing to biofuel technologies, biorefineries and sustainability (<http://bioenfapesp.org>).

Dr. Souza is the Chairperson of the SCOPE Bioenergy & Sustainability project (<http://bioenfapesp.org/scopebioenergy/index.php>), a global assessment of current status and latest developments on bioenergy production and use to produce policy recommendations for the sustainable expansion of bioenergy in the world. The project involves contributions from 137 experts from 24 countries. Souza, G. M., Victoria, R., Joly, C. Verdade, L. (Editors). (2015). Bioenergy & Sustainability: Bridging the gaps. SCOPE. Vol.72, p.779. Paris. ISBN 978-2-9545557-0-6

Title, Name, Surname	Prof. Luuk van der Wielen
Affiliation, City, Country	Chairman Steering Committee of BioPort Holland; Chairman of Executive Board of BE-Basic Foundation; Distinguished Professor for Biobased Economy, TU Delft, The Netherlands
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Prof. Luuk van der Wielen is Distinguished Professor for Biobased Economy, Delft University of Technology (TUD), The Netherlands. From 1997- to the present, he is Full professor and (since 1998), Group leader BioSeparation Technology, Department of Biotechnology, Faculty of Applied Sciences, TUD. He received his PhD Bioprocess Technology, TUD following his MSc Chemical Engineering, Twente University, The Netherlands in 1987. He is Director of BE-Basic, the public private partnership for Biobased Ecologically Balanced Sustainable Industrial Chemistry since 2010, Scientific director of B-Basic, the private-public consortium for Biobased Sustainable Industrial Chemistry, within the Netherlands Research Council (NWO-ACTS), from 2004-2010, Visiting Professor at the University of San Carlos, Cebu City, The Philippines, since 2001, and Principle Scientist Biotechnology (part-time), Royal Dutch Shell, The Netherlands, 2007.

Chair of scientific conferences (ESBES 2002, BPP 2005, RRB 2008); Member of several national member of several national and European committees, such as the Supervisory Board of the Dutch Separation Technology Institute, of the governmental Platform Renewable Feedstocks, Sustainable Energy Cie of the Royal Netherlands Academy of Sciences (KNAW), Steering Group of the EU Technology Platform Suschem/ Industrial Biotechnology, Advisory Committee BIO4EU (European Commission), Steering Committee BBE (Min LNV) and BioPort (thinktank Rotterdam Climate Initiative), and advisor to several national and international industries.

Research interests: thermodynamics for biotechnological processes; process chromatography on several scales, crystallization and precipitation processes; multifunctional bioreactors; in-situ-product recovery as well as miniaturized ('on-chip') and computational, high-throughput technology for rapid process development; process integration for bioenergy, biofuels and biochemicals manufacturing.

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Title, Name, Surname	Dr Marie-Anne Van Sluys
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Marie-Anne Van Sluys graduou-se em Ciências Biológicas pela Universidade do Estado do Rio de Janeiro (UERJ) em 1983 e doutorou-se pela Université Paris-Sud 11 (U. Paris XI) em 1989. É professora titular do Departamento de Botânica da Universidade de São Paulo desde 2007 e coordenadora do laboratório GaTE-Genomes and Transposable Elements. Foi presidente da comissão de pesquisa do Instituto de Biociências 2006-2008, chefe do Departamento de Botânica 2010-2012 e, desde 2008, é membro da Coordenação Adjunta de Ciências da Vida junto à Diretoria Científica da Fundação de Amparo à Pesquisa do Estado de São Paulo, FAPESP.

Foi líder de um dos grupos da Rede ONSA (Organização para Sequenciamento e Análise de Nucleotídeos, na sigla em inglês), que integrou os laboratórios responsáveis pela conclusão do primeiro genoma de um fitopatógeno, publicado na revista Nature em 2000. Em decorrência, assumiu a liderança internacional da colaboração com a USDA-ARS e foi convidada pelo National Research Council (NRC-EUA) a participar do Comitê do de Avaliação das prioridades em pesquisa na doença de Pierce's na Califórnia em 2003. O trabalho em genômica e elementos de transposição contribuiu para demonstrar a associação destes elementos móveis com ilhas genômicas que definem patótipos de

Xanthomonas. Autora de mais de 80 trabalhos publicados na área de genética com ênfase em biologia molecular de plantas e bactérias. Sua área de pesquisa concentra-se nos seguintes temas: genômica; reparo de DNA em plantas e elementos de transposição em bactérias e plantas.

Recentemente, participou da elaboração do programa transversal de pesquisa em Bioenergia (BIOEN-FAPESP) com foco em cinco divisões: Biomassa, Processos Industriais, Alcoolquímica, Motores e Impactos Socioeconômicos, Ambientais e uso da terra no Estado de São Paulo. Sua liderança motivou a adesão ao grupo GaTE de 32 profissionais em diferentes estágios de formação científica, estando atualmente inseridos no setor público e privado.

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<https://uspdigital.usp.br/tycho/CurriculoLattesMostrar?codpub=B7A0B0B2A22B>

Title, Name, Surname	Dr. Luciano M. Verdade
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Agronomist (1985) by the University of São Paulo and Ph.D. in Wildlife Ecology and Conservation by the University of Florida (1997). Currently, Associate Professor at the Center for Nuclear Energy in Agriculture (CENA) of the University of São Paulo (USP). Member of the Steering Committee of the Biota Program / FAPESP, the Biodiversity Commission of the state of Sao Paulo Secretary of the Environment and the Species Survival Commission / IUCN. Current research in Applied Ecology, with special interest in wildlife management in agricultural landscapes and adaptive processes of vertebrates to anthropogenic environmental changes.

Title, Name, Surname	Prof. Reynaldo Victoria
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Reynaldo Victoria received a BA in agricultural engineering from ESALQ-USP in 1972, MA in nuclear energy use in agriculture from the USP CENA in 1975; a PhD in soil and plant nutrition from the ESALQ-USP in 1980. In 1990, he became tenured professor in the ESALQ-USP Department of Physics and Meteorology and in 1996 a full professor at CENA. Dr. Victoria was an intern at the University of Saskatchewan (1976-77), pursued his postdoctoral studies at the University of California, Davis (1981-1982) and the University of Washington (1992-1993) in Seattle.

He was Director of CENA (2002-05), and member of various college boards during his career at USP. He was and is currently the coordinator of the Committee for the Study of Environmental Problems of the USP Dean's Office for Culture and University Extension and member of numerous USP bodies.

Dr. Victoria is a former president and current member of the Directive Council of the *Instituto de Pesquisa Ambiental da Amazônia*, a former member of the IGBP Biospheric Aspects of the Hydrological Cycle, and serves on the Executive Committee of SCOPE.

Dr. Victoria received the Fernando Costa Medal from the São Paulo State Association of Agricultural Engineers for his contribution to research. He has also received a commendation from the Brazilian National Order of Scientific Merit. He is a full member of the Brazilian Academy of Sciences, active in the field of earth sciences.