



ENTREPRENEURSHIP WORKSHOP FOR SCIENTISTS AND ENGINEERS IN BRAZIL

17 – 21 October 2016

ORGANIZERS:

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VENUE AND OBJECTIVES

The entrepreneurship workshop for scientists and engineers in Brazil will be held from 17th to 21st of October 2016 in São Paulo, Brazil. It will take place in the ICTP-SAIFR, located on the first floor of the Instituto de Física Teórica (IFT-UNESP) building in the Barra Funda campus of UNESP improved university by the 2016 Nature Index.

This will be a one-week intensive workshop for South America students and graduates who are interested in gaining entrepreneurial skills to commercialise their scientific ideas and inventions. The workshop will consist of lectures from invited national and international speakers, case studies, group discussions and role-playing sessions related to the commercialization of products. Topics include opportunity and value assessment, intellectual property (IP), basics of patenting, IP management and global IP protection, business plan fundamentals, technology readiness levels, invention to product, timelines and processes.

SPONSORS

- South American Institute for Fundamental Research (ICTP-SAIFR)
- Institute of Physics (IOP)
- São Paulo State University (UNESP)
- Brazilian Physics Society (SBF)
- Institute of Enterprise and entrepreneurs (IOEE)
- American Physical Society (APS)
- Institute of Electrical and Electronics Engineers (IEEE)

Supporters

- International Centre for Theoretical Physics (ICTP)
- The Brazilian Society for the Advancement of Science (SBPC, in Portuguese)
- Brazilian Chemistry Society (SBQ)
- ET Cube International

Speakers

- Dr Surya Raghu
- Dr Dawood Parker
- Mr Richard Brooks
- Dr Fernando Galembeck
- Dr Carlos Henrique de Brito Cruz
- Dr Julio Cesar R. F. de Oliveira
- Dra. Maria Inez Fernandes Faraldo
- Dr. Luciano Avalone Bueno
- Dra. Maria Valnice Boldrin Zanoni
- Daniel Gurgel
- Estácio Terui
- Dra Vanderlan da Silva Bolzani
- Eng. Rita de Cassia Cortazzi Costoya
- Dr Nathan Jacob Berkovits
- Dr Rodrigo Fernando Costa Marques

KEY PARTNERS

SOUTH AMERICAN INSTITUTE FOR FUNDAMENTAL RESEARCH (ICTP-SAIFR)

The ICTP South American Institute for Fundamental Research (ICTP-SAIFR) is a South American regional centre for theoretical physics created in 2011 through a collaboration of the Abdus Salam International Centre for Theoretical Physics (ICTP), the São Paulo State University (UNESP) and the Sao Paulo Research Funding Agency (FAPESP). The ICTP-SAIFR's goals are:

- Conduct theoretical physics research at the highest international standards
- Provide an international centre for schools and workshops
- Support research in those South American countries where theoretical physics research is not yet well-developed

The ICTP-SAIFR is located on the first floor of the Instituto de Fisica Teorica (IFT-UNESP) building in the Barra Funda campus of UNESP. Its activities are modelled on those of the ICTP and include schools and workshops, as well as an active visiting scientists program. Since beginning its activities in 2012, it has organized more than 75 schools and workshops with the participation of more than 2000 masters/PhD students and 1000 researchers. Its outstanding research played a crucial role in São Paulo State University (UNESP) being named the most improved university by the 2016 Nature Index.

INSTITUTE OF PHYSICS (IOP)

The Institute of Physics is a leading scientific society. The IOP is a charitable organisation with a worldwide membership of 50,000, working together to advance physics, education, research and application. We engage with policymakers and the general public to develop awareness and understanding of the value of physics and, through IOP Publishing, are world leaders in professional scientific communications.

The IOP works internationally to foster international collaboration in physics, both to expand the boundaries of knowledge and to solve global challenges, as well as engaging with our members wherever they are in the world and providing opportunities to people in low-and-middle-income countries who may benefit from an education or training in physics.

In 2015 the IOP launched a new strategy focusing on five main areas:

Education: Make access to high-quality physics education open to all Everyone will have the opportunity to choose to study physics, and those that do will have access to high-quality education and well-informed choices about careers.

Economy: Position businesses to actively exploit new physics-based research Physics will be recognised for the contribution it makes to the economy, and businesses will have access to a highly qualified and skilled workforce and, whether large or small, have an understanding of how they can actively exploit new and emerging physics-based research.

Society: Engage people's interest in physics and showcase its value to society. We will work to widen participation in, and enjoyment of, physics and to raise the appreciation of the important role that physics plays in our culture and society.

Discovery: Strengthen our core discipline while breaking traditional boundaries. We will work to strengthen our core discipline and promote the international nature of physics, and we will encourage and support those who look to collaborate with others across traditional boundaries.

Community: Increase member participation in our programme of activities. Our membership will be engaged and inspired by what we do and we will be an organisation that people want to join and collaborate with

SÃO PAULO STATE UNIVERSITY (UNESP)

Listed among the three largest and most important Brazilian universities, UNESP stands out as an example of extreme success among the multi-campus institutions around the world. As one of three public universities maintained by the government of the state of São Paulo, UNESP offers quality education while developing strategic research and interacting with the society through the provision of services for the community.

UNESP's knowledge education complex comprises today 34 units in 24 cities, being 23 in the countryside (one at the coast of the state) and one at the capital of the state, where its administration is centralized. The response that the labor market and enterprises in Brazil and abroad have been providing denotes the quality of education taught in the institution and the credibility of the research developed. UNESP's position in the most expressive rankings confirms such statements. The institution is respected nationally and internationally, featuring a qualified faculty, recognized programs and a solid research base.

The infrastructure of the University includes about 1,900 laboratories and 30 major libraries, with about 900,000 books. Museums, gardens, vivarium's, botanical gardens and five experimental farms (5,000 ha), being maintained continuously and carefully, are available to students and faculty. UNESP has an important University Hospital, located in the city of Botucatu, with 462 beds and approximately 450.000 attendances per month, besides the State Hospital of Bauru, where 318 beds are managed and 50.000 attendances per month are carried out. Three veterinary hospitals and three dentistry clinics, psychology and physical therapy clinics, as well as oral cancer centers, children with special needs and a social legal center also integrate the facilities of one of the most successful Brazilian initiatives in the higher education field.

BRAZILIAN PHYSICS SOCIETY (SBF)

Created in 1966, the SBF aims to bring together the physical and physics teachers from Brazil; ensure the freedom of education, research and the interests and rights of physical and teachers of Physics; uphold the prestige of science in the country; stimulate research in physics; stimulate the improvement of physics teaching at all levels; contact the institutes and societies of physics and related sciences, the country and abroad; encourage and promote exchanges between professionals from Brazil and around the world; promote scientific meetings, specialized congresses, conferences, courses and related activities, including popular science character; edit magazines for publishing scientific and educational work in the field of physics; edit reports on the activities of the Brazilian Association of Physics and on

general topics related to the development of physics; encourage the dissemination of knowledge in physics, through the publication of books, texts, monographs, as well as through the press, radio, television and internet.

INSTITUTE OF ENTERPRISE AND ENTREPRENEURS (IOEE)

IOEE is the UK's Professional Institute dedicated to developing enterprise and entrepreneurial skills.

Part of SFEDI, the Government recognised standard setting body, its work is built upon the extensive research that underpins the National Occupational Standards.

IOEE has over 30,000 members from across the spectrum of enterprise activity – students who have yet to start a business, entrepreneurs in the early stages of running their business, business owners looking to grow their business, managers working in an enterprising way, mentors and support professionals, and recognised learning providers.

IOEE offer enterprise related training and qualifications, enterprise events and enterprise resources working with a range of private and public sector partners and delivering through a network of Centres of Enterprise Excellence and Enterprise Academies

AMERICAN PHYSICAL SOCIETY (APS)

The American Physical Society is a non-profit membership organization working to advance and diffuse the knowledge of physics through its outstanding research journals, scientific meetings, and education, outreach, advocacy and international activities. APS represents over 50,000 members, including physicists in academia, national laboratories and industry in the United States and throughout the world. Society offices are located in College Park, MD, Ridge, NY, and Washington, DC.

INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS (ICTP)

Founded in 1964 by the late Nobel Laureate Abdus Salam, ICTP has been a major force in stemming the scientific brain drain from the developing world. ICTP seeks to accomplish its mandate by providing scientists from developing countries with the continuing education and skills that they need to enjoy long and productive careers in their home countries. ICTP operates under a tripartite agreement between the Italian government, the International Atomic Energy Agency (IAEA), and the United Nations Educational, Scientific and Cultural Organization (UNESCO). ICTP alumni serve as professors at major universities, chairpersons of academic departments, directors of research centers and ministers of science and technology in nations throughout the developing world. Many of them have been recognized in their own countries and internationally for their contributions to science and science policy. The impact of ICTP extends well beyond the Centre's facilities to virtually every corner of the Earth. Since 1970 over 120,000 scientists from 186 countries have visited the ICTP—now roughly 6000 per year-- to lecture or to obtain advanced training in the physical sciences. It is the first, and remains the leading global centre for science and development, supported by an annual budget of approximately 23M Euro and a staff of 30 permanent scientists.

ICTP has been a key partner of IOP for the Entrepreneurship Workshops since the beginning of the program and is the host of the Entrepreneurship Workshops during alternate years including the first workshop in 2006 and also a partner and sponsor of the workshops conducted in other countries. In addition, ICTP organizes more than 60 international conferences and workshops every year in the field

of physics and related subjects at its campus and supports another 70 workshops and schools regionally through its Office of External Activities (OEA).

THE BRAZILIAN SOCIETY FOR THE ADVANCEMENT OF SCIENCE (SBPC)

The Brazilian Society for the Advancement of Science (SBPC, in Portuguese) is a non-profit and non-partisan organization that focuses on defending scientific and technological advancement, as well as educational and cultural development in Brazil. Since its foundation, in 1948, SBPC has played an important role in expanding and perfecting the national science and technology system, and in disseminating and popularizing science in the country.

Headquartered in São Paulo, SBPC is present in the other Brazilian states through its Regional Representatives. It represents over 100 associated scientific societies and over 6 thousand active members, including Brazilian researchers, professors, students and individuals interested in science and technology.

SBPC participates actively in debates on issues that guide the directions of science and technology (C&T, in Portuguese) and education policies in Brazil. SBPC has a permanent seat on the National Science and Technology Council (CCT, in Portuguese), a consultative body to the Federal Government for the definition of policies and priority actions in the C&T field. Moreover, SBPC has official representatives in over 20 governmental councils and commissions. SBPC periodically establishes work groups aiming at studying and presenting proposals on specific issues of national interest.

Annually, SBPC holds several national and regional events to discuss public policies on C&T and to disseminate science advancements. Its Regional Representatives also organize other activities for science outreach. SBPC also contributes to the permanent discussion of issues related to the field through different publications, such as the *Jornal da Ciência*, the journal *Ciência e Cultura*, its web portal, and the publication of books on a variety of themes related to science in Brazil.

BRAZILIAN CHEMISTRY SOCIETY (SBQ)

The Brazilian Chemical Society had a namesake predecessor, founded in 1922, headquartered in Rio de Janeiro and which existed until 1951 held conferences and published between 1929 and 1951 the Brazilian Journal Magazine *Chimica* and its successor, the *Journal of the Brazilian Chemical Society*. The current Brazilian Chemical Society was founded in 1977, during the Annual Meeting of the SBPC. The SBQ has grown rapidly, mobilizing chemistries from around the country in its annual meetings held as part of ARs SBPC. SBQ soon took on a role of dialogue with officials responsible for the scientific and technological development policies of the country, which was exercised for the common good. The SBQ has added and included people of different profiles and interests but always focusing on the national interest, scientific quality and training of human resources of high level for teaching, researching and professional practice of chemistry and related areas.

ET CUBE INTERNATIONAL

Dr. Surya Raghu and Ms. Yumiko Hamano founded ET Cube International in 2013 - a non-profit organization registered in the USA and provides consultancy and customised training services in entrepreneurship tech-transfer and research commercialization. Its focus is on training scientists and engineers to commercialize their research ideas through start-ups and spin-offs. Dr Raghu and Yumiko have a joint experience of conducting such training in more than 50 developing countries.

SPEAKERS

DR SURYA RAGHU

Surya Raghu has been a co-director and speaker in workshops on Entrepreneurship for Scientists and Engineers in Argentina, Ethiopia, Ghana, Guatemala, India, Indonesia, Italy, Jordan, Kenya, Lebanon, Mexico, Morocco, Oman, Pakistan, Philippines, South Africa and Tanzania, a member of the missions/invited talks on behalf of various organizations to Algeria, Brazil, China, Kenya, Morocco, Oman, Pakistan, S. Africa and Tanzania on STEM Education, High Technology, Tech Transfer and Research Commercialization topics. His recently developed Entrepreneurship Course Module has been implemented in several universities in the developing countries for training university students in the basics of entrepreneurship.

He received his Ph.D. degree in mechanical engineering from Yale University in 1987 and is the founder-president of Advanced Fluidics LLC since 2001. His earlier affiliations were with Yale University, Technical University of Berlin, SUNY Stony Brook, and Bowles Fluidics Corporation. He has also been a visiting scientist at NIST and AFOSR Laboratories and a guest lecturer at Kyushu Institute of Technology, Japan.

Dr. Raghu has inventions related to aerospace, automotive, consumer and biotechnology applications and has been awarded 14 US patents and has over 10 pending patents/invention disclosures as an inventor or co-inventor. He has experience in the development of products from inventions related to physiological monitoring, DNA testing, wireless corrosion sensors, aerodynamic flow control and spray technology and has active research collaborations with many institutions in the US and Europe.

Dr. Raghu is a recipient of the Alexander von Humboldt award from Germany and an Associate Fellow of the AIAA. He has served as an invited member of the Special Emphasis Review Panels on Micro and Nanotechnology at the National Institutes of Health.

DR DAWOOD PARKER

Dawood Parker read Physics and Mathematics at the University of Cape Town and obtained his PhD in Physics at Southampton University. He was a lecturer in Medical Physics in University College, London where he founded and was appointed Director of the Medical Instrumentation Unit, a research group which collaborated with and was supported by industry. He played a significant role in the development of continuous invasive and non-invasive techniques used in the care and management of pre-term infants. In 1978 he spent a year as a consultant at Critikon Inc., Irvine, California, (a Johnson and Johnson company), where he was involved in the research, development and production of sensors for patient monitoring.

He became a Fellow of the Institute of Physics in 1985. In 1986 he was awarded a personal chair in Physics in the University of Wales, Swansea, where he was the Director of the Biomedical Sensors Unit.

From 1984 to 1989 he was Consultant Director of Research and Development, Novamatrix Medical Systems Inc, Wallingford, Connecticut. He has been a consultant to a number of major pharmaceutical companies.

In the last few years he has been involved in university-industry collaboration and has initiated a number of start-up companies which have resulted in the launch of successful patient monitoring instrumentation. Three of his start-up companies were acquired by major international pharmaceutical companies. He is currently Managing Director of Melys AFS Ltd and Melys Diagnostics Ltd, both of which companies are involved in the development of non-invasive patient monitoring systems.

He has published many scientific papers and holds a number of patents. He was awarded the MBE in 2013.

MR RICHARD BROOKS

Since co-founding FD Solutions (www.fdsolutions.uk.com) in the early 1990s, Richard has been integral to FD Solutions becoming the leading provider of flexible Director services in the UK.

In addition to Finance Directors the company also provides HR Directors.

Specialist sectors include technology start-ups, food, retail, manufacturing and not-for-profit organisations. In addition to helping technology start-ups with financial and business planning he also has invested in a few.

Richard has a Bachelor of Commerce degree from Edinburgh University and trained as a Chartered Accountant with Ernst & Young, admitted to the Institute of Chartered Accountants of Scotland in 1984 is also:

Chairman of iMedTrust a medical education charity

<http://www.imedtrust.org/>

Vice-chairman of PraxisUnico (<http://www.praxisunico.org.uk/>) the educational not-for-profit organisation supporting innovation and commercialisation of public sector and charity research for social and economic impact.

Member of Audit and Risk Committee of The Honourable Society of Lincoln's Inn

<http://www.lincolnsinn.org.uk/>

Former Board member of the Bio Industry Association Finance and Taxation Committee

<http://www.bioindustry.org/advisory-committees/finance-and-tax-advisory-committee-ftac/>

Presenter on IOP entrepreneurship workshops since 2008

http://www.iop.org/about/international/development/entrepreneurship/page_44527.html

Member of the advisory board of the London Chamber Orchestra,

<http://www.lco.co.uk/about/trustees-and-advisers>

DR FERNANDO GALEMBECK

Prof. Fernando Galembeck graduated in chemistry in 1964 and finished his Ph.D. in 1970, both at the University of São Paulo. He worked as a postdoc in the Universities of Colorado (1972-3) and California (Davis, 1974). Currently Professor of Chemistry at the University of Campinas, teaching courses on Colloid and Surface Science, Polymers, Applied Chemistry, Physical Chemistry and Microscopy including topics on Nanotechnology. Recent contributions are on polymer surfaces, adhesion, wetting and electrostatic behavior, non-crystalline solids (especially aluminum phosphates), electrostatic adhesion and analytical microscopy (electronic and scanning probe). Many among the former collaborators are making good careers in universities and industry, some abroad. Two Ph.D. theses were awarded national prizes, including the Capes Prize for the best thesis in the year (2005). Dr Galembeck authored many licensed patents that originated two products with continuing partnerships and consulting activities with companies, especially on the development of new advanced materials and the respective fabrication processes. Held managing and consulting functions in Unicamp, MCT, CNPq, ABC, SBQ, SBPC e SBMM, Fapesp, and Capes. Participated from the conception, elaboration and implementation of PADCT, that had a large role in improving Brazilian science and especially Brazilian Chemistry and Chemical Engineering. Received the most important prizes in Brazil: Retorta de Ouro (SIQUIRJ), Fritz Feigl (CRQ-4), Simão Mathias e Inovação (SBQ), Inovação (Abiquim), Eloísa Mano (ABPol), Pelúcio Ferreira (Finep) and the prize Álvaro Alberto de Ciência e Tecnologia (CNPq/Wessel), the most important in Brazilian science and technology. He is members of the TWAS. In 2014 become Fellow of the Royal Society of Chemistry.

DR CARLOS HENRIQUE DE BRITO CRUZ

An electronic engineer and a physicist, Brito Cruz is a professor at the Gleb Wataghin Physics Institute, of the State University of Campinas (Unicamp), where he was the rector from 2002 to 2005.

He graduated in electronic engineering at the Aeronautics Technology Institute of (ITA in the Portuguese acronym). He took a master's degree and a doctorate at Unicamp's Gleb Wataghin Physics Institute. He has been a professor at the Unicamp's Physics Institute since 1982. Presently is a full professor at the Quantum Electronics Department.

Brito Cruz 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. At Unicamp he was the Director of Unicamp's Physics Institute from 1991 to 1994 and from 1998 to 2002; Pro-rector for Research from 1994 to 1998, and Rector of the university from 2002 to 2005. He was the the President of FAPESP from 1996 to 2002.

Brito Cruz is a member of the Brazilian Academy of Sciences and a Fellow of the American Association for the Advancement of Science. He 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) in 2015.

DR JULIO CESAR R. F. DE OLIVEIRA

Degree in Electrical Engineering from the Federal University of Campina Grande (UFCG) 2003 MA and PhD in Electrical Engineering from the State University of Campinas (Unicamp) in 2004 and 2007, respectively. Between 2004 and 2014 he held the researcher positions (204/206), coordinator (2006/2010), division manager (2010/2012) and general manager (2012/2014) of the optical

communications area CPqD. Since 2014 is the President/CEO of BrPhotonics Products Optoelectronics SA, working in research and development aimed at the arrival of products on the market in the areas of photonics and microelectronic devices for optical communications in the global chain (Transmitters and Optical Receivers operating at 100 Gb/s and above). He has participated in 14 R&D projects, coordinating 10 of them, has 10 patents filed (INPI), 20 journal articles, 88 in the annals of national and international conferences, and has transferred to the industry more than 10 technology products. He has served leading research and developments in telecommunications, particularly in areas connected to optical transmission of high speed (100Gb/s), reconfigurable optical networks, photonic devices and ASICs for optical systems. In addition he is the co-directing graduate students (Unicamp).

DRA. MARIA VALNICE BOLDRIN ZANONI

Bachelor Degree in Chemistry from the University of São Paulo (1980), Master in Chemistry Institute of Chemistry, University of Sao Paulo, Sao Carlos (1985), Doctor of Science by the Institute of Chemistry, University of São Paulo (1989), Full Professor in Analytical Chemistry at the Chemistry Institute of Universidade Estadual Paulista Julio de Mesquita Filho. Has been working in the Department of Analytical Chemistry, Chemistry Institute, UNESP Araraquara since 1987. Held three stages of post-doctoral (Analytical Chemistry in the University of Loughborough, England in 1992-1994 (prof. AG Fogg), Electroanalytical at the University of Wisconsin, Madison, USA in 2002 (Prof. MA Anderson) and Analytical Chemistry, next to Oxford University in 2008 (Prof. R. Compton). She is currently advisor of the Pro-rector of Research development at UNESP. She was coordinator of Graduate Program in Chemistry from 2004-2007 and coordinator of FAPESP thematic project in the area of analytical chemistry of dyes from 2009-2015. She has experience in analytical chemistry and acts primarily in the following research topics: development of electroanalytical and chromatographic methods for the analysis of dyes, drugs and molecules of environmental interest, methods of degradation using photoelectrocatalytic processes, electrochemical sensors and photoelectrocatalysis.

DR A. MARIA INEZ FERNANDES FARALDO

Twenty years of experience in research in universities: five years (UNESP-Botucatu, SP) participating in scientific projects in general genetics, basic genetics and genetics applied to traditional breeding with crops such as peanut and palm; 11 years (ESALQ/USP, Piracicaba, SP) in the area of genetics and Plant Breeding, with cassava using phytogeographic data, genetic reconstruction, molecular analysis, multivariate analysis; and four years (ESALQ/USP, Piracicaba, SP) in the area of intellectual property with an emphasis on biotechnology processes, especially for eucalyptus cultivation.

With a degree in Biology and Law and a PhD in Molecular Biology, Genetics and Plant Breeding in Department of Genetics, Escola Superior de Agricultura "Luiz de Queiroz" (ESALQ/USP) from the University of São Paulo (USP).

Dr Faraldo has legal training combined with scientific training, mastery of specific business of agribusiness and biotechnology and compliance of its regulations, expertise in intellectual property, varietal protection and government affairs, life sciences and agriculture, contracts and regulatory. Dr

Faraldo also has expertise in environmental law, regulatory products for agriculture, genetic resources and biosafety, seeds and genetically modified organism (GMO).

Business Consultant: in the field of intellectual property in patents, technology transfer, technology commercialization and business strategies, regulatory issues, and studies of technologies in the seed market, without harm to the right holder (FTO - freedom to use technologies and cultivars) and market strategies, FERNANDES & FARALDO CONSULTING.

DR. LUCIANO AVALONE BUENO

Dr Bueno has a professional degree in chemistry with MSC and PhD by IQ-UNESP with experience in education, research, development and innovation in products and biotechnological processes and materials, leading teams of employees and managing activities in accordance with the best practices of project management. Experience as a consultant in innovation management; Development of innovative projects and business plans for funding and investors; Technological Prospecting. Dr Bueno is an investigative researcher developing new products with commercial and/or scientific goals in the areas of biotechnology and materials science. Featured in various projects for entrepreneurs and innovators: creation of an incubator of technology companies as the Coordinator of the Division of business incubator and technology park of UFABC; development of a functional food supplement since his research, pilot production and staggering for industrial production (5 tons/month); Research and development of new products in the area of functional foods by the company BioLogicus-IND. e com. de Produtos Naturais S.A. (6 Patents filed and more than 10 products developed); management of a production line of immobilized bioactive in company BioLogicus-IND. e com. de Produtos Naturais S.A., providing increased revenue with the creation of a new product; Structuring the Department of R&D Projects, the company BioLogicus-D&I IND. e com. de Produtos Naturais S.A. participating in the management of 15 internal projects and in collaboration with academia and organs; Establishment of intellectual property office and projects in company BioLogicus-IND. e com. de Produtos Naturais S.A.; development of the company's HR policy BioLogicus-IND. e com. de Produtos Naturais S.A., which led to an increase in commitment and better management; elaboration of documents for product registration with ANVISA and MAPA; fundraising from bodies such as FINEP, CNPq, FACEPE, FAPESP, BNDES/BNB with companies in the biotechnology sector; Member of the Board of the company as a partner and Executive BioLogicus.

DRA VANDERLAN DA SILVA BOLZANI

Vanderlan da Silva Bolzani is full professor at Sao Paulo State University (UNESP). Fellow of the Royal Society of Chemistry (UK), member of the Brazilian Academy of Science (ABC) and São Paulo Academy of Science (ACIESP), is also Science Productivity CNPq Fellow level 1A, and has received several awards; the most recently is Distinguished Woman in Science Chemistry and Chemical Engineering, conceived by ACS & IUPAC and Simão Mathias Medal and Elsevier-Capes in 2013. With Ph.D. in Organic Chemistry, under guidance of Professor Otto Richard Gottlieb, at University of São Paulo, in 1990 she was awarded with a fellowship from DAAD for a short training at University of Hannover. After a post-doctorate at Virginia Polytechnic Institute (VPISU-USA) under guidance of Professor David Kingston, she joined to the São Paulo State University (UNESP), and since 2003, is member of the Biota-FAPESP Program Coordination.

Currently is Director of the UNESP Technology Transfer Office (UNESP-AUIN). Her field of interest is plant science, and has been involved in the isolation, bioactivity and function of secondary metabolites and peptides from plants. Also she has studied biosynthesis of piperidine alkaloids, and recently has been involved on metabolomics of medicinal plants. She has had strong involvement in human resource training, with Over 50 Master and PhD students and several Post-doctoral supervisions. She has been invited to give lectures and seminars Worldwide. Has published more than 203 articles (Index h=26, 2522 citations) 5 book chapters and 7 patents. Also has strong work collaboration with National Pharmaceutical and Cosmetic Industries looking for new drugs from plants species. Dr. Bolzani was President of the Brazilian Chemical Society from 2008-2010, and is currently Counselor. She serves as member of Editorial Boards of several Scientific Journals as Journal Natural Products, Natural Products Reports, Phytochemistry Letters and Journal of Ethnopharmacology. Since 2011 is a visiting professor at the Enzymologie Moléculaire et Fonctionnelle UR4-UPMC, Paris, and in 2012 became member of the L'Oreal Scientific Advisory Board. In October 2013 was elected for the World Academy of Science for the Advancement of Science in Developing Countries, (TWAS). Since 2015 is vice-president of SBPC.

DR NATHAN JACOB BERKOVITS

Nathan Berkovits obtained his Bachelor and Master degrees in Physics at Harvard Univ. in 1983, and his PhD in Physics at the Univ. of California at Berkeley in 1988. He is a professor at the Instituto de Física Teórica of São Paulo State University (UNESP) since 1996 and Director of the ICTP South American Institute for Fundamental Research (ICTP-SAIFR) in São Paulo since 2011. He was awarded the 2009 TWAS Physics prize for his significant contributions to superstring theory and its covariant quantization, and was a Clay Mathematics Prize Fellow from 2000-02. He is a fellow of The World Academy of Sciences (TWAS) and a member of the Brazilian Academy of Sciences and the São Paulo State Academy of Sciences.

DR RODRIGO FERNANDO COSTA MARQUES

Rodrigo Marques has Degree in chemistry from Universidade Estadual Paulista Julio de Mesquita Filho (1995); Master in Physical Chemistry (Institute of Chemistry, UNESP); PhD in Physical Chemistry from the University of York (UK) and the Institute of Chemistry (UNESP); Post-doctorate in Inorganic Chemistry at Centre d'Elaboration de Matériaux et d'Etudes Structurales, CEMES (France); Postdoctoral (FAPESP) in Physical Chemistry in IQ (UNESP). He has experience in the area of Biomedical Engineering, with emphasis on Biomaterials and Biocompatible Materials, mainly in synthesis of magnetic nanoparticles and surface functionalization for modification with drugs and antibodies targeting applications in biomedicine; controlled release of drugs; synthesis of membranes for tissue regeneration. His earlier affiliations were with University Federal of Alfenas (UNIFAL), where he was the Campus Director until 2012, participating as interlocutor in several cooperation agreements between university and companies. In 2010 he organized a workshop named "Entrepreneurial University: strategic partnership for innovation in business". It was held in Palace Cassino Hotel, Poços de Caldas (MG), for more than 200 participants. In 2006 he and colleagues founded the Criteria Biomaterials Company, a spin off from Chemistry Institute PhD students. In 2007 he left Criteria to founded Procell Biologics, which is a leader in Brazilian bone graft biomaterials market. He is currently a professor in the Department of Physical Chemistry of the Institute of Chemistry, UNESP, Araraquara.

DANIEL GURGEL

Daniel is a service designer, innovation facilitator and co-founder of Polifonia. He coordinated the launch of the first Williams F1 Car Care's franchise in the world and participated in a project with the municipality of Amsterdam about the future of sharing economy in the city. Daniel has a bachelor in Communication, and a post-graduate certificate in Creative Leadership by THINK, The Amsterdam School of Creative Leadership.

ESTÁCIO TERUI

Partner of company Tey (www.tey.com.br) which has the main expertise in design and manufacture of small wind turbines according to IEC61400-2, specialized in aerodynamic design, structural design, wind turbine control algorithms, wind turbine certification and manufacturing processes of rotor blades. Past experience in wind energy industry, space industry and defense industry.

ENG. RITA DE CASSIA CORTAZZI COSTOYA

ENG. Costoya has a degree in Chemical Engineering (1996), majoring in Business Administration - USP Foundation Carlos Alberto Vanzolini (2001) and an MBA in Management and Product Development - USP (2004). Worked as Development Coordinator in Davene Company (1996-1999), as a researcher developing products for cosmetic area and is responsible for stability testing, clinical trials and registries in the Ministry of Health and monitoring the process. She has worked as product coordinator at the Brazilian Distribution – Pão de Açúcar Group (2000-2005), managing the development of new private label products in the personal care division, responsible for market research and sensory testing, packaging development, graphic approval and selection of suppliers, coordinated business strategies and planning launches campaigns in the stores. Later served as Development Manager and Process in Natura Company Industry (2005-2011), responsible for manages all innovation projects related to the area of manufacturing and new product development. Working as a leading pillar of Home Control - Continuous Improvement of the TPM tool, managed 13 employees including engineers and project coordinators, responsible for the pilot plant testing new products and raw materials. Served as Technology and Innovation Manager at the company Unilever Brazil (2011-2014) managing innovation projects in the Latin American market and is responsible for the development and process of new products and technology, process monitoring and testing in the industrial area, bringing optimizations and seeking earning opportunities and conducting training budget. Currently works as a Technology Transfer Manager for Agency UNESP Innovation (2014), responsible for managing projects with companies, working in the dissemination and support of models for technological transfer, management of innovation projects with large companies, establishing partnerships with companies, universities, institutions and researchers, the public and private areas in the field of innovation, coordinating the creation of designs for cosmetics, pharmaceuticals and biodiversity and bringing improvement research centers and development (R & D), developing a generation program , evaluation and implementation of innovative ideas and continuous, maintain contacts with companies that have innovation programs underway to information exchanges. Perform benchmarking, looking to bring and adapt best practices, to bond permanently with stakeholders (ICT, suppliers, customers, employees, government, etc.) on

matters related to innovation and representing the Agency together with the government authorities, agencies and entities class where there is involvement of their projects.

MISS LINSEY CLARK

Linsey Clark is currently the international officer at the Institute of Physics (IOP) where she manages the organisations international capacity building projects. These include entrepreneurial workshops such as in Tanzania and the IOP for Africa project which delivers practical physics teacher training in Ethiopia, Tanzania, Ghana and South Africa.

Prior to this Linsey attended university where she gained a BA (Hons) in Sociology and Politics and an MA in Development studies. She has previously worked at the Royal College of Physicians (RCP) where she provided support to their educational programmes in West Africa and administrative support to a wide range of other projects in Africa and Asia.

Entrepreneurship Workshop for Scientists and Engineers

Oct. 17th – 21st 2016

Date: 17th October 2016

Day 1

Session Chairs: Morning: Surya Raghu

Afternoon: Richard Books

Time	Subject	Speaker
8:00 - 9:30	Registration	
9:30 - 10:00	All to be seated Welcome remarks	ICTP - Brazil - Nathan Berkovits Surya Raghu IOP - Linsey Clark AUIN - Vanderlan da Silva Bolzani IQ - Rodrigo Fernando Costa Marques
10:00 - 10:45	Brief introduction of speakers, organisers and participants - self introduction (10 seconds each - 10 minutes) Workshop expectations and introduction to group projects "Speed-Networking" Exercise	Surya Raghu Richard Books/Dawood Parker
10:45 - 11:00	Coffee break	
11:00 - 12:00	Science-based entrepreneurship and research results commercialization in Brazil	Brito Cruz
12:00 - 13:30	Lunch break	
13:30 - 14:30	Identify 10 selected problems related to Brazil needing technical solutions and generate list of skills and resources needed to invent, innovate and implement solutions to the problems	Richard Brooks/Dawood Parker Group Activity
14:30 - 16:00	Tools for opportunity assessment and feasibility analysis	Surya Raghu
16:00 - 16:15	Coffee break	
16:15 - 18:00	Gathering the talent pool in the class for developing solutions to the problems Technical skills Other skills related to business What are you willing to learn to get the job done? Example of a good team to execute a solution to a typical problem	Richard Books/ Surya Raghu - with support from all speakers Participant-intensive session
18:00 - 19:00	Brainstorming for projects and wrap-up	Surya Raghu/ Richard Books

Date: 18th October 2016

Day 2

Session Chairs: Morning: Linsey Clark

Afternoon: Surya Raghu

Time	Subject	Speaker
9:30 - 11:00	Down-selecting high-impact projects and Resource Mapping and teaming the talent pool for working on specific ideas – team formations Group Project Part 1 Identifying markets and customers	Richard Brooks/ Dawood Parker Group Activity
11:00 - 12:00	Coffee break Teaming	
12:00 - 13:00	Competition, entry barrier and market analysis, business model development	Surya Raghu
13:00 - 14:30	Lunch break Group photo	
14:30 - 15:30	Tools for financial estimations Sales price and market demand Costs of sales for products and services Gross margin Examples of costs of sales for product and service, range for different sectors Fixed overheads	Richard Brooks
15:30 - 16:30	Tools for protecting intellectual property, copyrights, trademarks, patents, trade secrets, etc.	Maria Inez Fernandes Faraldo
16:30 - 16:45	Coffee break	
16:45 - 17:45	Brazil patent office information	Maria Inez Fernandes Faraldo
17:45 - 19:00	Group project part 2 Technology road mapping and opportunity assessment Market analysis Preliminary costs and margins IP strategy Wrap-up	All Speakers
19:00 - 19:30	Break before Dinner	
19:30 - 21:30	Workshop Dinner	

Date: 19th October 2016

Day 3

Session Chairs: Morning: Rodrigo Fernando Costa Marques

Afternoon: Surya Raghu

Time	Subject	Speaker
9:30 - 10:15	Legal contracts and agreements in start-ups	Dawood Parker
10:15 - 11:00	Creative protagonism: navigating future challenges	Daniel Gurgel
11:00 - 11:15	Coffee break	
11:15 - 12:15	Taking the inventions to market: Evaluating the Technology Readiness Level (TRL) of an invention for commercialization, processes involved and estimates of time required to develop a product from an invention.	Surya Raghu
12:15 -13:15	Pitching for cash: equity issues, share dilution Valuation at various stages of development. Funding needs at different stages	Richard Books
13:15 - 14:45	Lunch break	
14:45 - 15:45	The bases of IP and innovation in Brazil scenario.	Maria Valnice Boldrin Zanoni
15:45 - 17:15	Classroom exercise on taking an idea to market	Dawood Parker / Surya Raghu
17:15 - 17:30	Coffee break	
17:30 - 18:30	Group project part 3 Forecasting costs and cash requirement Stage of your product/service and time to market Valuations and Return on Investment Collaborations/ partnerships/ Strategic Relationships Competition Analysis Barriers to Entry	All speakers and participants
18:30 - 19:00	Wrap-up for the day 3	Surya Raghu

Date: 20th October 2016

Day 4

Session Chairs: Morning: Dawood Parker

Afternoon: Richard Brooks

Time	Subject	Speaker
9:30 - 10:15	Communication and presentation skills	Richard Brooks
10:15 - 10:45	Start, stumble and succeed	Surya Raghu
10:45 - 11:00	Coffee break	
11:00 - 11:45	Outlook and experiences of being an inventor/ entrepreneur in Brazil	Fernando Galambeck
11:45 - 13:15	Local entrepreneurs/ innovators Presentation and panel discussion Fifteen minutes for individual talks before a round table	Panel Chair: Fernando Galambeck: <ul style="list-style-type: none"> • Julio Cesar: <i>BrPhotonics - Technological Entrepreneurship</i> • Luciano Avalone: <i>Telos Consulting - Technological Prospecting</i> • Rodrigo Marques: <i>Procell Biologics</i> • Rafael: Kanaí: <i>First Sugar-Cane juice in bottle</i> • Estácio Terui: <i>TEY Eolic generator</i>
13:15 - 14:45	Lunch break	
14:45 - 16:45	Project trouble shooting Q&A for speakers Group Project Part 4 - complete the 10-minute pitch and practice for the presentation using guidelines provided.	All speakers
16:45 - 17:00	Coffee break	
17:00 - 19:00	Group project (continued) and business pitch preparation and a practice presentation	Surya Raghu

Date: 21st October 2016**Day 5****Time keeping official: Surya Raghu**

Time	Subject	Speaker
09:30 - 10:00	Upload business-pitch presentations	Panel: All Speakers, (TBD)
	Determine order of presentations	Richard Brooks
	Introduction to rules of presentations	Surya Raghu
	Introduction to the panel of judges	
10:00 - 11.20	Session 1, groups 1, 2, 3, 4	Timekeeping official
11.20 -11:35	Coffee break	
11:35 -12:55	Session 2, groups 5, 6,7,8	Timekeeping official
12:55 - 14:25	Lunch break	
14:25 -15:25	Feedback to the participants on their presentations	All panellists: Moderator: Richard Brooks
	Feedback from participants to the organisers (written and informal)	All participants Moderator: Surya Raghu
15:25 - 15:45	Follow-up Support from IOP	Linsey Clark
15:45	Concluding Remarks	Nathan Berkovits Rodrigo Fernando Costa Marques
	Distribution of certificates	Surya Raghu