

# DIGITAL AND ENTREPRENEURSHIP ACADEMY PROGRAM CALENDAR FOR 2024

## Program Registration:

To register for these programs, please contact the designated GISU member representative for your university who will provide the necessary ZOOM meeting ID and password required for participation.

The number of registrants might be limited for some programs and the Secretariat Office of the Alliance reserves the right to make changes as needed for the programs offered through the Digital and Entrepreneurship Academy. Views expressed in these Academy programs are those of the presenters and they do not purport to reflect the opinions or views of the Alliance or its members.



## The Alliance of Guangzhou International Sister-City Universities

The Alliance of Guangzhou International Sister-City Universities (GISU) is pleased to offer a record number of nineteen two-hour online non-credit professional development programs in 2024 through its Digital and Entrepreneurship Academy. These Academy programs are offered free of charge for the students and faculty of Alliance members and affiliate members, industry representatives, area officials and alumni each member invites.

These Digital and Entrepreneurship Academy program offerings complement other Alliance initiatives which include Urban Innovation and Entrepreneurship Competitions, Joint Research and Publication projects, Certificate and Micro-Credential programs, International Symposiums, Member City Spotlight programs, "Five-Year Projects", International Language and "Multicultural Hub" and Sustainability projects.

Supported by the Guangzhou Municipality, the mission of the Alliance of Guangzhou International Sister-City Universities is to attract and leverage the academic resources of its members in close collaboration for the sustainable development of our cities. GISU's current 22 members and affiliate members represent 5 continents, 17 countries, 20 sister and friendly cities with a combined approximate population of almost 40 million, enrollment of 550,000 students and 51,000 faculty and staff.



# Academy Program Calendar for 2024

## March

- **Digital Globalization of Gaming and Extended Reality Industries**  
March 12, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Institutional Transformations of Regional Systems in the Conditions of the Formation of a Circular Economy for the Purpose of Post-War Recovery**  
March 19, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Recent Developments in the Mathematical Sciences and Sustainable Development Goals: Selected Case Studies**  
March 20, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

## April

- **Energy Innovations for Sustainable Development of the Economy**  
April 9, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Binaural Bone-Conduction Sound Reproduction and Space Perception**  
April 16, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Sustainable Development Goals (SDGs) and Sustainability Education: Think, Care, Do**  
April 24, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

## May

- **Turning Ideas into Business**  
May 7, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Sustainable Development Goals (SDGs) Impact: A Masterclass on THE Impact Rankings with Western Sydney University**  
May 8, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Humans in the Future Internet**  
May 15, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Training for Volunteer Mental Health Promotion Agents at Work**  
May 22, 2024 from 2:00 pm to 4:00 pm (Beijing Time)

## September

- **Towards the Development of IoT Management in Human-in-the-Loop and Artificial Intelligence Systems**  
September 11, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Traditional Chinese Art in Spain: Collecting, Dissemination and Influence**  
September 18, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Synergetic Collaboration on Identifying the Stability Bottlenecks of Organic Solar Cells as an Alternative Energy Source**  
September 24, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Study on the Impact of Molecular Weight of Polymer Acceptor on All Polymer Solar Cells with Transient Absorption (TA) Spectroscopy**  
September 26, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

## October

- **Nutrition and Stability Enhancement of Yoghurt Fortified with Encapsulated Algae Oil through Vortex Fluidic Device**  
October 8, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Smart Cities: Past, Present, Future**  
October 15, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Enterprise Sustainability: An Important Priority for Modern Supply Chains**  
October 22, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **Towards the Development of IoT Management in Intelligent Industry**  
October 23, 2024 from 3:00 pm to 5:00 pm (Beijing Time)
- **National Prerequisites for the Implementation of Eco-Industrial Parks Policy**  
October 24, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

# PROGRAM DESCRIPTIONS

March 12

## Digital Globalization of Gaming and Extended Reality Industries

March 12, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Associate Professor Elif Surer from Middle East Technical University (METU)

This program will cover the definitions and forms of extended reality applications and serious games which can provide rehabilitation, education and training rather than only entertainment, followed by a complete assessment of their impact on digital globalization using examples from creative industries, game companies, and case studies. Extended reality, which encompasses augmented, virtual, and mixed reality, and serious games are widely used in a range of industries, and provide several opportunities and advancements. Opportunities, limitations, and future directions for exploiting extended reality applications will be examined, as well as proposed solutions to the highlighted limitations.

***Elif Surer** earned B.Sc. and M.Sc. degrees in computer engineering from Boğaziçi University in Turkey in 2005 and 2007, respectively, and a Ph.D. in bioengineering from the University of Bologna in 2011. She is currently an Associate Professor at the Graduate School of Informatics, Department of Modeling and Simulation, Middle East Technical University (METU) in Ankara, Turkey. Her research interests include serious gaming, virtual and augmented reality, human and canine movement analysis, machine learning, and computer vision.*



Associate Professor  
Elif Surer

March 19

## Institutional Transformations of Regional Systems in the Conditions of the Formation of a Circular Economy for the Purpose of Post-War Recovery

March 19, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Anna Pohrebniak, Program Leader, Professor Bogdan Dergaliuk, Professor Svitlana Tulchynska, Professor Maryna Shasyha, Professor Marta Derhaliuk and Professor Iryna Makaliuk from the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

This program will present a research of regional systems potential, from the position of implementation measures aimed at greening the business, effective waste management, and other important topics. Measures for effective inspiration in the minds of the formation of a circular economy establishment will be proposed.

***Anna Pohrebniak**, Associate Professor, PhD of Economics, Department of Economics and Entrepreneurship at the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". Title of dissertation: The Mechanism of Anti-crisis Management at Engineering Enterprises. Scholarship of the Cabinet of Ministers of Ukraine for young scientists 2022, "Young teacher-researcher" of 2022, Awarding institution: Igor Sikorsky Kyiv Polytechnic Institute, subjects within the teaching career: Commercialization of scientific developments, Development of start-up projects, Microeconomics, Project analysis; Main research area and subareas: Crisis management, enterprise potential, circular economy, economic security of the enterprise, startup projects.*



Professor  
Anna Pohrebniak



Professor  
Bogdan Dergaliuk



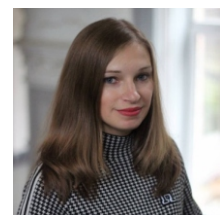
Professor  
Svitlana Tulchynska



Professor  
Marta Derhaliuk



Professor  
Maryna Shasyha



Professor  
Iryna Makaliuk

# PROGRAM DESCRIPTIONS

March 20

## Recent Developments in the Mathematical Sciences and Sustainable Development Goals: Selected Case Studies

March 20, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Sibusiso Moyo, Program Leader, and Professor Karin-Therese Howell from Stellenbosch University



Professor  
Sibusiso Moyo

This program will explore recent developments in the Mathematical Sciences and provide a comprehensive bibliometric analysis as well as the impact on the Sustainable Development Goals. A careful selection of indicators that can be used to measure impact, especially as applied to Science, Technology, Engineering and Mathematics (STEM) areas will be considered. This is the first part of the study which forms part of a bigger project by the Project Team Members from the Stellenbosch University Department of Mathematical Sciences and AIMS, South Africa. The presentation will include discussion and suggestions.



Professor  
Karin-Therese Howell

*Professor Sibusiso Moyo holds a PhD in Mathematics from the University of Natal, Durban and a Masters (with distinction) in Tertiary Education Management from the LH Martin Institute, University of Melbourne Australia. As a scholar, she has published widely in the Mathematical Sciences with a focus on differential equations and optimization problems in international peer reviewed journals. Her current interests also include Tertiary Education Management, Entrepreneurship and Innovation policies and strategies. Her current position is Deputy Vice-Chancellor Research, Innovation and Postgraduate Studies at Stellenbosch University.*

April 9

## Energy Innovations for Sustainable Development of the Economy

April 9, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Kateryna Kopishynska, Program Leader, Professor Maryna Kravchenko, Professor Kateryna Boiarynova, Professor Olena Trofymenko and Professor Ivan Pyshnograiev from the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

This program is designed to present the main results of a study on the following key issues: essence and content of energy innovations; dynamics of energy innovations and trends in the development of economic policies of energy innovations; structure of energy innovations in the development of countries; impact of energy innovations on the sustainable development of countries; relationship between the implementation of energy innovations and an improvement in the country's sustainable development; innovative mechanisms of the economy for ensuring energy innovations; ways of accelerating the decarbonization of the economy based on the transformation of the energy sector; and the development of energy innovations.

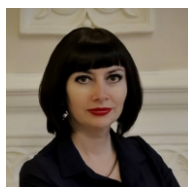
*Kateryna Kopishynska, PhD in Economics, Associate Professor, Department of Management of Enterprises, Deputy Dean for International Affairs of the Faculty of Management and Marketing, the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". The topic of her thesis is "Management of innovation systems of mechanical engineering enterprises". Research interests include: Innovative Development, Management of Startups, Sustainable Development, Digital Transformation. Courses: Management of Startup Projects, Development of Startup Projects, Risk Management, Business Management and Administration, Circular Economy.*



Professor  
Kateryna Kopishynska



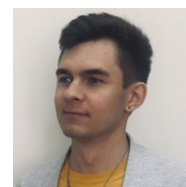
Professor  
Maryna Kravchenko



Professor  
Kateryna Boiarynova



Professor  
Olena Trofymenko



Professor  
Ivan Pyshnograiev

# PROGRAM DESCRIPTIONS

April 16

## Binaural Bone-Conduction Sound Reproduction and Space Perception

April 16, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Stefan Stenfelt from Linköping University

This program explores auditory perception in which natural hearing primarily involves the reception of airborne sound through the ear canal with subsequent transmission to the inner ear facilitated by the middle ear ossicles. However, an alternate pathway for auditory sound involves transmission through the skull bone, where vibrations are directly conveyed to the bone encapsulating the inner ear. This process transforms these vibrations into sound pressure within the cochlear fluids, giving rise to a perceptual experience of hearing. Termed bone conduction, this mode of auditory perception is inherent and notably contributes to our ability to hear our own voices.

In audiological contexts, bone conduction assumes significance, particularly in the administration of hearing tests employing bone conduction stimulation. Furthermore, for individuals unable to use conventional hearing aids yet requiring amplification, bone conduction hearing aids have emerged as vital alternatives. Recently, bone conduction headsets for communication or listening have gained popularity, owing in part to their design that leaves the ear canals unobstructed, allowing users to maintain awareness of environmental sounds during prolonged use. In addressing the challenge, an adaptive algorithm tailored to estimate sound transmission from one side to the opposite side will also be presented.

**Professor Stefan Stenfelt** is a Professor of Technical Audiology in the Department of Biomedical and Clinical Sciences at Linköping University. He has previously served as Head of Sensory Organs and Communications at Linköping University and Assistant Professor, Department of Signals and Systems, Chalmers, Sweden. He was a Postdoctoral Fellow at Stanford University Medical Center. Professor Stenfelt's diplomas include 2.1 Examinations 1992: Master of engineering, Chalmers University of Technology, Göteborg, Sweden 1996: Licentiate of engineering, Chalmers University of Technology, Göteborg, Sweden 1999: Doctor of technology (PhD), Chalmers University of Technology, Göteborg, Sweden 2.2 Doctoral Degree 1999: Biomedical Engineering, Chalmers University of Technology, Sweden 2.3 Qualification as Associate Professor (Docent) 2003: Biomedical Engineering, Chalmers University of Technology, Sweden 2.4 Professional educations 2003: Diploma of higher education (equivalent of ten credit points) 2003-2004: Ledarutvecklingsprogram för yngre forskare (Chalmers) 2021-2022: LiU:s Chefsprogram (Linköpings Universitet).



Professor  
Stefan Stenfelt

April 24

## Sustainable Development Goals (SDGs) and Sustainability Education: Think, Care, Do

April 24, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Dr. Brittany Vermeulen, Program Leader, and Dr. Jen Dollin from Western Sydney University

At Western Sydney University, a critical aspect of our commitment to sustainability is to develop and deliver sustainability literate graduates. Our CORE framework (Curriculum, Operations, Research and Engagement) is incomplete if we do not continuously work on embedding the UN Sustainable Development Goals (SDGs) into our curriculum and programs. Our students learn about sustainability applied to different disciplines and in this way, they are better prepared and equipped for the complexities they will encounter when they enter the world of work in any industry. Some of this is embedded in existing curriculum, and in other instances, we develop programs and learning activities that contribute to the SDGs or a single SDG.

This workshop will explore the key concepts of Sustainability Education as a pedagogical approach resulting in all graduates developing capabilities to make change within their professions and society. The program will draw on the experience of curriculum transformation and renewal projects at Western Sydney University to develop resilient and sustainability literate graduates across different disciplines and programs.



Brittany Vermeulen,  
PhD Candidate

# PROGRAM DESCRIPTIONS



Dr. Jen Dollin

**Brittany Vermeulen**, PhD candidate, is a full-time staff member at Western Sydney University working in the field of sustainability for the past ten years. Her work includes designing and delivering curriculum transformation around Education for Sustainability and student experiences for Western students, as well as external community-based programs and previously leading a global youth program addressing the SDGs across 12 countries. She has been acknowledged for her leadership in this area with a Vice-Chancellors Excellence Award in 2021 and a Teaching Excellence Award (Partnerships) in 2022. She is also a PhD candidate at Western with a research interest in the intersection of science education, sustainability and student learning.

May 7

## Turning Ideas into Business

May 7, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Jorge Figueira from the University of Coimbra

This program aims to provide participants with a basic knowledge on how to align ideas with market or societal challenges to increase the probability of a greater impact in society. Program participants will receive training throughout the session on technology push and market pull approaches and presenting Needs Led innovation methodology and how to use that information to fine tune an idea into a business opportunity. At the end of the session, an online program will be presented as an example on how to foster an entrepreneurial mind set among the student community.



Professor  
Jorge Figueira

**Professor Jorge Figueira** graduated in 1997 in Chemical Engineering at the University of Coimbra, post-graduation in Business Sciences at University of Coimbra. He served as the University of Coimbra Tech Transfer Office Coordinator from 2003 to 2019 as executive coordinator of the regional Innovation Ecosystem, with responsibilities for pipeline management; catalyse and monitor the ecosystem; interface for innovation and knowledge transfer issues; R&D results commercial development; IP portfolio managing and licensing. He has been involved in several EITHealth and Innostars activities and roles since 2016, namely EITHealth Supervisory Board Member and Innostars Chairman. Since 2019 he is coordinating the University of Coimbra R&D International Networks and the pedagogical innovation unit.

May 8

## SDG Impact: A Masterclass on THE Impact Rankings with Western Sydney University

May 8, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Dr. Jen Dollin, Program Leader, and Professor Kevin Dunn from Western Sydney University



Dr. Jen Dollin

This masterclass program shares insights and offers tools for Alliance members to navigate the Times Higher Education (THE) Impact Rankings. These rankings are the only global performance tables that assess universities against the United Nations' Sustainable Development Goals (SDGs) across four broad areas: research, stewardship, outreach and teaching. The 2023 Impact Rankings is the fifth edition, and the overall ranking includes 1,705 universities from 115 countries and regions. Currently over 40% (9) of the 22 Alliance members participate in the THE Impact Rankings. Western Sydney University has consistently ranked in the top 20 of these rankings since their inception 5 years ago and is currently ranked #1 for the second year in a row. This program offers members insight for leaders on how to navigate this complex ranking, encouragement to enter the ranking and tips to improve rankings: Methodology and assessment; Structure of Western's application; Underlying institutional strengths: education and partnerships; Reflection on the process: KD: and member discussion: facilitated JD. Program participants will have a takeaway home checklist to support further application planning and implementation in their home institution.



Professor  
Kevin Dunn

**Dr. Jen Dollin** is the Director of Sustainability Education and Partnerships in the Office of the Pro-Vice Chancellor Education Quality and Partnerships. Dr. Dollin provides leadership and oversight of Western's institutional sustainability and resilience decadal strategy and

# PROGRAM DESCRIPTIONS

*educational offerings including alignment with the United Nations Sustainable Development Goal 2030 agenda. She has over 20 years' experience of working with grassroots community groups and developing participatory, innovative approaches to collaborating with diverse human and more-than-human communities. Her research interests include multispecies ethnography, transdisciplinary learning, ecofeminism and empowering students and communities to make positive change. She lives and works on Dharug Country in Western Sydney and spends much of her time in and along the Dyarubbin – Hawkesbury River.*

May 15

## Humans in the Future Internet

May 15, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Jorge Sá Silva from the University of Coimbra

We are experiencing unprecedented technological advancements allowing us to extend our tools and appliances with intelligence, sensing and communication capabilities. This idea began with the "Internet of Things" vision. However, the continued advances in the miniaturization of computational facilitates enabled us to go beyond simple tagging and identification towards integrating computational resources directly into these objects which make our tools effectively "intelligent". Yet, there is scarce scientific work that considers humans as an integral part of these IoT-powered cyber-physical systems. This program intends to discuss how we can take advantage of intelligent systems and computational platforms such as smartphones and IoT devices, intensively used by people throughout their daily activity, to build not only an IoT, but rather an "Internet of All" - a socio-technological Internet that considers human parameters like actions, behaviors, skills, satisfaction, emotions, and drives of the ordinary user, the Human, as part of larger scale systems.

*Professor Jorge Sá Silva received his PhD in Informatics Engineering in 2001 from the University of Coimbra. He is Associate Professor with Habilitation at the Department of Electrical and Computer Engineering (DEEC) of the Faculty of Sciences and Technology of the University of Coimbra and a Researcher of Institute for Systems Engineering and Computers at Coimbra (INESC Coimbra). He has been invited professor at several international universities and his main research interests are Internet of Things, Network Protocols, Human-in-the-Loop, and Wireless Sensor Networks. He was the supervisor of 12 PhD students (concluded), two of them in foreign universities and has been serving as a reviewer with publications in top conferences and journals in his expertise areas. His publications include two books, five book chapters and over 170 papers in refereed national and international conferences and magazines. He has participated in European initiatives and projects with some as leader. He actively participated in the organization of several international conferences and workshops, (e.g. he was the Workshop Chair of IFIP Networking 2006, General Co-Chair of EWSN 2010, General Co-Chair of Mobiquitous 2015, General Vice-Chair of WoWMoM 2016, General Chair of ACM Senys 2021) and was also involved in program committees of national and international conferences. He is a senior member of IEEE and is a licensed Professional Engineer.*



Professor  
Jorge Sá Silva

May 22

## Training for Volunteer Mental Health Promotion Agents at Work

May 22, 2024 from 2:00 pm to 4:00 pm (Beijing Time)

Dr. Santiago Gascón, Program Leader, Dr. Guillermo Palacios, Dr. Anabel Marqués, Dr. Adrián Alacreu, Yago Pérez-Montesinos and Natalia Gascón from the University of Zaragoza

Governments and institutions are promoting research on suicide prevention. In order to achieve this goal, our team considers it essential to promote mental health in all areas (work, school, associations, media, etc.). The workplace, in which we invest much of our time and energy, is an ideal place to train volunteers to take action and recognize signs of mental health problems, as well as to provide support and refer employees to health services.

# PROGRAM DESCRIPTIONS

This program includes the following topics: Health, mental health and health at work; Facts about the problem of suicide, background and recognizable signs; Responsibility of each person to be aware of mental health first aid; Training for Health at Work volunteers; and How to measure effectiveness and replicate the experience in other settings.

The PROSAM (Promotion of Mental Health) research team is made up of researchers in psychopathology, medicine, education, information and communication technologies (ICTs) applied to health.



Dr. Santiago Gascón

**Dr. Santiago Gascón** holds a degree in Psychology and a PhD in Legal and Forensic Medicine from the University of Zaragoza. He is a Professor in the Department of Psychology and Sociology at the University of Zaragoza and teaches the subjects Psychopathology (Degree in Psychology), Deontology (Master in General Health Psychology) and Communication and Improvement Techniques (Master in Occupational Risk Prevention). He is principal investigator of the PROSAM Project (Promotion of Mental Health, funded by the Government of Aragon) and has won the National Research Award of the "Lafourcade-Ponce Foundation" for his work on the detection of aggressive attitudes precursors of school bullying. He is the author of numerous publications: books, articles, papers and communications to international congresses on violence in the work and educational environments, burnout process in employees, as well as adaptation by means of a paediatric exoskeleton in children with cerebral palsy. He has supervised nine doctoral theses and is the director of another three theses in progress on these fields of study. He has carried out research stays at Harvard University (US), University of Lisbon (Portugal), University of Milan (Italy), and University of Guadalajara-Health Sciences (Mexico) and has conducted seminars and scientific conferences on psychosocial factors in the work and educational environment. He is a member of the Spanish Psychology Council, the Brazilian National Research Council, and the Governing Board of the American Research Network on Psychosocial Factors.



Dr. Guillermo Palacios



Dr. Anabel Marqués



Dr. Adrián Alacreu



Yago Pérez-Montesinos



Natalia Gascón

September 11

## Towards the Development of IoT Management in Human-in-the-Loop and Artificial Intelligence Systems

September 11, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Jorge Sá Silva from the University of Coimbra

This program presents and analyzes an innovative system to management Internet of Things (IoT) and Artificial Intelligence (AI) platforms based on Human-in-the-Loop paradigms. Our solution was implemented and validated in a testbed that was also built to the monitorization of the surroundings of students in favor of improving their academic performances by using a Human-in-the-Loop AI systems. Therefore, the system is composed by a lot of different sensors that are incorporated in different physical devices. With this in mind, this program will also explore the concept of management of an IoT network of these heterogeneous devices and evaluate the path to follow, considering the components that already existed in the system.

**Professor Jorge Sá Silva** received his PhD in Informatics Engineering in 2001 from the University of Coimbra. He is Associate Professor with Habilitation at the Department of Electrical and Computer Engineering (DEEC) of the Faculty of Sciences and Technology of the University of Coimbra and a Researcher of Institute for Systems Engineering and Computers at Coimbra (INESC Coimbra). He has been invited professor at several international universities and his



Professor  
Jorge Sá Silva



## PROGRAM DESCRIPTIONS

*main research interests are Internet of Things, Network Protocols, Human-in-the-Loop, and Wireless Sensor Networks. He was the supervisor of 12 PhD students (concluded), two of them in foreign universities and has been serving as a reviewer with publications in top conferences and journals in his expertise areas. His publications include two books, five book chapters and over 170 papers in refereed national and international conferences and magazines. He has participated in European initiatives and projects with some as leader. He actively participated in the organization of several international conferences and workshops, (e.g. he was the Workshop Chair of IFIP Networking 2006, General Co-Chair of EWSN 2010, General Co-Chair of Mobiquitous 2015, General Vice-Chair of WoWMoM 2016, General Chair of ACM Senys 2021) and was also involved in program committees of national and international conferences. He is a senior member of IEEE and is a licensed Professional Engineer.*

September 18

### **Traditional Chinese Art in Spain: Collecting, Dissemination and Influence**

September 18, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Elena Barles Baguena, Program Leader, from the University of Zaragoza

This program is the result of a collaborative research project between Guangzhou University and the University of Zaragoza through the Alliance of Guangzhou International Sister-City Universities Alliance. Professors and researchers from the School of Humanities of Guangzhou University, the Faculty of Philosophy and Letters of the University of Zaragoza and the Museum of Zaragoza participated in this project

The main objective of this program is to provide an overview of the development of traditional Chinese art collecting in Spain from the 16th century to the first decades of the 20th century (specifically until the Spanish Civil War, 1936-1939) providing a global vision of the main artistic manifestations of traditional Chinese art (ceramics and porcelain, lacquered pieces, bronzes, ivory pieces, paintings, papers, textiles including clothing and accessories, fans and other objects) currently held in museums and public and private institutions in Spain. This program will also show how Chinese culture and art became known in Spain over time (exhibitions, books, magazines, etc.) and what its impact or influence was on Spanish artistic and cultural manifestations especially in the 17th, 18th and 19th centuries.



Professor  
Elena Barlés Bágüena

**Professor Elena Barlés Bágüena** holds a BA and PhD in Art History from the University of Zaragoza (Extraordinary BA and PhD awards). She is an Incumbent Professor in the Department of Art History at the University of Zaragoza and teaches the subjects Art of East Asia (Degree in Art History), as well as various subjects on East Asian Art and its presence and influence in the West (Art and interculturality. Europe, America and East Asia: reception, relations and exchanges, Master's Degree in Advanced Studies in Art History). She was Director of the Department of History of Art, coordinator of the Degree in History of Art, coordinator of the Doctorate Programme in History of Art and is currently Dean of the Faculty of Philosophy and Arts at the University of Zaragoza. She is the author of numerous publications: books, articles, papers and presentations at national and international conferences on the presence and influence of Japanese and Chinese art in Spain. She has directed and supervised several doctoral theses on these fields of study. Together with Dr. Almazán, she has curated several exhibitions. She has had several research stays in Japan and the United Kingdom and has led numerous scientific and informative seminars and conferences on the art and culture of East Asian art. She is a corresponding academician of the Royal Academy of Fine Arts of Santa Isabel of Hungary (Seville) and of the Royal Academy of Fine Arts of San Luis (Zaragoza). Her publications include a variety of topics related to the field.

September 24

### **Synergetic Collaboration on Identifying the Stability Bottlenecks of Organic Solar Cells as an Alternative Energy Source**

September 24, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Fengling Zhang, Program Leader, from Linköping University

# PROGRAM DESCRIPTIONS

Organic solar cells, converting the sunlight into electricity directly, are attractive candidates to be commercialized for broad applications for their unique merits of solution processing flexible, lightweight, semi-transparent, environmentally friendly solar panels. So far, they are still in research stage due to modest stability and power conversation efficiency for large-scaled production. This projects aims to identify the stability bottlenecks in high efficiency organic solar cells.

**Professor Fengling Zhang** at Division of Electronic and Photonic Materials (EFM), Department of Physics, Chemistry and Biology, Linköping University, and Professor Wei Zhang at Guangzhou University. The division of EFM has been a well-known pioneer group in organic solar cells. Professor Fengling Zhang's group at Linköping University is mainly working on device physics, focusing on energy loss and nano-scaled morphological structures in organic solar cells. Professor Wei Zhang's group at Guangzhou University has expertise in ultra-fast time-resolved spectroscopy technique, a key method for studying the stability in organic solar cells.

The synergetic collaboration between Linköping University and Guangzhou University with complementary expertise significantly strengthen their research capability and lead to new discoveries in device physics and accelerating commercializing stable organic solar panels to serve the societies as an alternating energy source.

## Study on the Impact of Molecular Weight of Polymer Acceptor on All Polymer Solar Cells with Transient Absorption (TA) Spectroscopy

September 26, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Fengling Zhang, Program Leader, from Linköping University

Organic solar cells with functional layers, for absorbing and converting photons of sunlight to free charges, sandwiched between two asymmetry electrodes possess many unique advantages. Solution processing make them possible for upscale production with low cost. The functional layers in Organic solar cells, composed generally of two or three different organic materials formed bulk heterojunctions (BHJs). The morphology of BHJs plays a key role for photovoltaic (PV) performance of Organic solar cells.

There are many factors governing the morphology of bulk heterojunctions (BHJs), such as solvents, solubility and miscibility of organic materials as well as processing parameters etc. In addition, the molecular weight (MW) of polymers also plays key roles governing the formation of BHJ from solutions, and it modulates the performance of polymer solar cells. With this project, we will investigate the connection between device performance and MW of polymers using Transient absorption (TA) spectroscopy.

**Professor Fengling Zhang** at Division of Electronic and Photonic Materials (EFM), Department of Physics, Chemistry and Biology, Linköping University, and Professor Wei Zhang at Guangzhou University. The division of EFM has been a well-known pioneer group in organic solar cells. Professor Fengling Zhang's group at Linköping University is mainly working on device physics, focusing on energy loss and nano-scaled morphological structures in organic solar cells. Professor Wei Zhang's group at Guangzhou University has expertise in ultra-fast time-resolved spectroscopy technique, a key method for studying the stability in organic solar cells.

The synergetic collaboration between Linköping University and Guangzhou University with complementary expertise significantly strengthen their research capability and lead to new discoveries in device physics and accelerating commercializing stable organic solar panels to serve the societies as an alternating energy source.



Professor  
Fengling Zhang

September 26



Professor  
Fengling Zhang

# PROGRAM DESCRIPTIONS

October 8

## Nutrition and Stability Enhancement of Yoghurt Fortified with Encapsulated Algae Oil through Vortex Fluidic Device

October 8, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Dr. Shan He

The main challenges to maximising the health benefits of algae oil are improving bioavailability and minimising oxidation while raising consumer acceptance. Processing with a continuous flow thin film vortex fluidic device (VFD) significantly improves Tween 20 encapsulation by comparison with conventional homogenisation processing. Observed through emulsion stability, scanning electron microscope, epi-fluorescence microscopy, dynamic light scattering, peroxide value, confocal microscopy and scanning electron microscopy, algae oil particles were remarkably smaller,  $\sim 250$  nm versus  $\sim 2.3$   $\mu\text{m}$ , and improved emulsion stability from  $10.4 \pm 1.3\%$  to  $55.4 \pm 3.2\%$ . Shown by significantly reduced peroxide value from  $\sim 7$  meq O<sub>2</sub>/Kg to less than 1 meq O<sub>2</sub>/Kg, oxidation of algae oil was drastically reduced by VFD encapsulation. The different microstructures of original yoghurt, yoghurt with raw algae oil and VFD-encapsulated algae oil were comprehensively studied by confocal microscope and scanning electron microscope. The VFD mediated encapsulated algae oil enriched yoghurt stability with more incorporated microstructure among different components. Sensory properties with higher overall acceptance in categories of taste ( $7.2 \pm 0.32$  versus  $5.8 \pm 0.23$ ) and texture ( $7.1 \pm 0.22$  versus  $5.3 \pm 0.30$ ) is reflected in sensory scores, with a smoother micro-structure of the freeze-dried yoghurt resulting in a more pleasant mouth feel, faster flavor exposure, and a creamier texture.

*Dr. Shan is a Bio-Engineer, a leader with research and teaching expertise in industry and university. He completed his PhD from Flinders University, Australia. After that, he has worked in 4 countries (Australia, New Zealand, Italy and China) with outstanding achievement. Dr. Shan He has achieved 72 peer-reviewed journal publications, with 52 as the first or corresponding authors; 1 peer-reviewed book publications; and 15 patents application with 5 granted. Dr. Shan is also serving as editors in 2 journals: Frontier in Marine Science (IF=5.247) and Frontier in Bioengineering and Biotechnology (IF=5.89).*



Dr. Shan He

October 15

## Smart Cities: Past, Present, Future

October 15, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Serhii V. Voitko, Program Leader, Professor Yaroslava Hlushchenko, Professor Natalya Skorobogatova and Professor Natalya Chernenko from the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

The creation and development of smart cities is a trend of modern development based on innovative technologies. Optimizing various spheres of life, such as transport, energy, infrastructure, and others, requires significant amounts of investment. Investment support must take into account the socio-economic, ecological, and technological challenges of the human habitat. Therefore, smart cities should improve the quality of life and reduce resource consumption. This is the function of local authorities which can implement economic, environmental, energy, financial, and socio-cultural initiatives based on ISO 37123:2019. Riskology for smart cities becomes a basic aspect in the process of predicting possible difficulties and determining ways to solve them. This is facilitated by using the toolkit of the index method and the evaluation criteria system. A comprehensive risk analysis highlights the key challenges that may arise during the implementation of smart city projects. Attention is paid to the role of modern technologies, economic aspects, and socio-cultural challenges. Identification of these challenges makes it possible to develop effective strategies and recommendations for managing the territory and reducing risks in the development of smart cities. Technical and technological support through sensors of the interaction of Man and elements of the habitat is relevant. Civilization is developing in the context of Next Normality and Smart City is part of the transition from Industry 4.0 to Society 5.0.

# PROGRAM DESCRIPTIONS



Professor  
Serhii V. Voitko

**Serhii V. Voitko**, Professor, Doctor of Economics. Chief of International Economics Department of National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". Main research area and subareas: Sustainable Development, International Economics, Electronics, R&D, Industry 4.0 Manufacturing Management. Scientific Director of the Educational and Scientific Laboratory of World Economy, Regional Studies and Microeconomics at the World Data Center for Geoinformatics and Sustainable Development; Chairman of the Commission on Commercialization of Intellectual Property Rights of Igor Sikorsky Kyiv Polytechnic Institute; member of the Academic Council of the Faculty of Management and Marketing and the Academic Council of Igor Sikorsky Kyiv Polytechnic Institute. Head of the research group of young scientists "Economics of high-tech enterprises".



Professor  
Yaroslava Hlushchenko



Professor  
Natalya Skorobogatova



Professor  
Natalya Chernenko

October 22

## Enterprise Sustainability: An Important Priority for Modern Supply Chains

October 22, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Maryna Pichugina from the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

This program will delve into the crucial importance of enterprise resilience in today's complex and interconnected supply chains. Participants through this interactive lecture will gain insights into the key drivers of disruptions, the essential pillars of resilient supply chains, understand the evolving landscape of supply chains and the growing need for resilience, identify and assess the critical risks and vulnerabilities in supply chains. The program outline includes: The Imperative of Enterprise Resilience; Building the Pillars of a Resilient Supply Chain; Implementing Enterprise Resilience Strategies; Case Studies and Best Practices; and the Future of Resilient Supply Chains



Professor  
Maryna Pichugina

**Maryna Pichugina**, PhD in Economics, Associate Professor, Department of Management of Enterprises. Subjects within teaching career: Basics of Foreign Trade Activities, HR Management, Strategic Management, Innovation Management, International Management, Cross-culture Management, Fundamentals of Modern Organizations, Management, Organizational Behavior, Bachelor and Master degree thesis supervisor, assistance in organizing and holding the scientific and practical conference "Modern approaches to enterprise management", responsible for foreign students and International Relations of the Department.

October 23

## Towards the Development of IoT Management in Intelligent Industry

October 23, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Jorge Sa Silva from the University of Coimbra

In the ever-evolving construction industry, the incorporation of the Industrial Internet of Things (IIoT) through Low-power Wireless Area Networks (LPWAN), such as LoRaWAN, has emerged as a practical solution for addressing the challenges posed by the limited 5G cellular coverage found in solutions like NB-IoT and LTE-M, especially when deployed in remote locations. Open-source LPWAN platforms like The Things Network (TTN) and ChirpStack have played a pivotal role in fostering the adoption of LoRa technology by providing a mature and cost-effective ecosystem that facilitates efficient device resource management. Within this context, this program aims to introduce a structured approach for extracting data from TTN to create a comprehensive gateway monitoring system. The methodology encompasses various aspects, including ensuring seamless server connectivity, specifically focusing on efficient information management and integration of real-world construction data.

## PROGRAM DESCRIPTIONS



Professor  
Jorge Sá Silva

**Professor Jorge Sá Silva** received his PhD in Informatics Engineering in 2001 from the University of Coimbra. He is Associate Professor with Habilitation at the Department of Electrical and Computer Engineering (DEEC) of the Faculty of Sciences and Technology of the University of Coimbra and a Researcher of Institute for Systems Engineering and Computers at Coimbra (INESC Coimbra). He has been invited professor at several international universities and his main research interests are Internet of Things, Network Protocols, Human-in-the-Loop, and Wireless Sensor Networks. He was the supervisor of 12 PhD students (concluded), two of them in foreign universities and has been serving as a reviewer with publications in top conferences and journals in his expertise areas. His publications include two books, five book chapters and over 170 papers in refereed national and international conferences and magazines. He has participated in European initiatives and projects with some as leader. He actively participated in the organization of several international conferences and workshops, (e.g. he was the Workshop Chair of IFIP Networking 2006, General Co-Chair of EWSN 2010, General Co-Chair of Mobiquitous 2015, General Vice-Chair of WoWMoM 2016, General Chair of ACM Senys 2021) and was also involved in program committees of national and international conferences. He is a senior member of IEEE and is a licensed Professional Engineer.

October 24

### National Prerequisites for the Implementation of Eco-Industrial Parks Policy October 24, 2024 from 3:00 pm to 5:00 pm (Beijing Time)

Professor Nataliia Shevchuk, Program Leader, and Professor Alla Grechko from the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"



Professor  
Nataliia Shevchuk

This program is about the development of industrial parks in Ukraine and the transformation of industrial parks into eco-industrial. Successful international examples of the transformation of industrial parks into Eco-industrial Parks, as well as the development of industrial symbioses, are considered with proposed methods of successful development Eco-industrial Parks in Ukraine.

**Nataliia Shevchuk**, Associate Professor, PhD of Technical science, Docent of Department of economics and entrepreneurship of National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". Main research area and subareas: Sustainable Development, Circular Economics, Eco-Industrial Parks; subjects within the teaching career: Economics and organisation of production, Management of start-up projects, Development of start-up projects, Enterprise resource management.



Professor  
Alla Grechko

### Program Registration:

To register for these programs, please contact the designated GISU member representative for your university who will provide the necessary ZOOM meeting ID and password required for participation.



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