



JoinTECH - Collaborative Seminar with Ca' Foscari University of Venice and Kyoto Institute of Technology

DATE/TIME

March 12, 2025

9:00-11:00 am CET / 5:00-7:00 pm JST

ZOOM LINK

<https://unive.zoom.us/j/87667451735>

Meeting ID: 876 6745 1735

Passcode: qdx3TX

PLACE

Conference Room Orio Zanetto

Scientific Campus, via Torino 155, Mestre (VE)



SPEAKER 1

Dr. SOTOMA Shingo
Kyoto Institute of Technology

THEME

**Carbon nanoparticles
for quantum biosensing
application**

Shingo Sotoma obtained a Ph.D. in Engineering from the Graduate School of Engineering, Kyoto University, in 2015. Following this, he started working as a Postdoctoral Researcher at the same institution. In 2016, he joined the Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan, as a Postdoctoral Researcher. Subsequently, in 2018, he became a JSPS Special Research Fellow (SPD) at the Institute for Protein Research, Osaka University. In 2020, he was appointed as an Assistant Professor at the same Institute. Since 2023, he has been serving as an Assistant Professor (Tenure-Track) in the Department of Molecular Chemistry, Kyoto Institute of Technology. He currently researches biosensing applications using carbon nanoparticles.

SPEAKER 2

Dr. MATSUO Kazuya
Kyoto Institute of Technology

THEME

**Photocontrol of mitotic
cell division using chemical
tools**

Kazuya Matsuo is a tenure-track assistant professor in the Faculty of Molecular Chemistry and Engineering at Kyoto Institute of Technology (KIT). His research focuses on the development of novel photoswitchable chemical tools for the precise control of mitotic cell division. He received his Ph.D. degree from Kyoto University in 2014 under the supervision of Prof. Itaru Hamachi. From 2014 to 2015, he was a postdoctoral researcher with an Overseas Research Fellowship from JSPS (Japan Society for the Promotion of Science) in the laboratory of the late Prof. Carlos F. Barbas III and Prof. Philip E. Dawson at The Scripps Research Institute (CA, USA). From 2015 to 2021, he was an assistant professor at Research Institute of Electronic Science in Hokkaido University. From 2021 to present, he is a tenure-track assistant professor at KIT with Leading Initiative for Excellent Young Researchers (LEADER) for Ministry of Education, Culture, Sports, Science and Technology (MEXT).



SPEAKER 3

Prof. Gabriele D'Avino
Ca' Foscari University of Venice

THEME

Multiscale modelling of organic functional materials

Short bio: Prof. Gabriele D'Avino obtained his PhD in Materials Science in 2010 and had a postdoctoral path characterized by two Marie Curie fellowships. In 2017 he joined CNRS as a researcher at the Institut Néel (Grenoble, France). Since 2024 he is Associate Professor of Physical Chemistry at Ca' Foscari University of Venice (Italy). His research focuses on the theoretical modeling of organic functional materials for electronics and energy applications.

Keywords: multiscale modelling, QM/MM methods, electronic excitations, organic semiconductors, organic photovoltaics.

SPEAKER 4

Prof. Tofik A. Shifa
Ca' Foscari University of Venice

THEME

Materials for green energy and environment

Short bio: Prof. Tofik A. Shifa received his PhD degree in Physical Chemistry from the University of Chinese Academy of Sciences at the National Center for Nanoscience and Technology (China) in 2018. From 2019 to 2021, he was a postdoctoral researcher at the Luleå University of Technology (Sweden). From 2021 to 2024 he was a tenure-track assistant professor and a Marie Curie Fellow at Ca' Foscari University of Venice (Italy). In 2025 he was promoted to associate professor. His research is primarily focused on development new material for green energy and environment.

Keywords: nano materials, 2D layered materials, water splitting, green energy.

SPEAKER 5

Prof. Robert Pullar
Ca' Foscari University of Venice

THEME

Sustainable and 3D printed ceramics, biomaterials and nanomaterials

Short bio: Prof. Robert Pullar obtained his PhD in Materials Engineering at Warwick University (UK) in 2000. He then worked at London South Bank University and Imperial College London as a Research Fellow until 2008. This was followed by a Marie Curie Fellowship at IESL-FORTH, Crete, Greece, and then 11 years as an Investigador at the University of Aveiro, Portugal. He has been an Associate Professor in Chemistry Ca' Foscari University of Venice since 2020. His research is focused on ceramics and inorganic nanomaterials and biomaterials, including 3D printing, and sustainable Materials Science.

Keywords: ceramics, biomaterials, magnetic materials, 3D printing / robocasting, sustainable materials science.

SPEAKER 6

Prof. Alessandro Silvestri
Ca' Foscari University of Venice

THEME

Electrochemical sensors based on carbon and low-dimensional materials

Short bio: Prof. Alessandro Silvestri received his Ph.D. in Chemistry at the University of Milan (Italy) in 2017. He was a postdoctoral researcher at the Max-Planck Institute of Colloids and Interfaces (Germany) and CIC biomaGUNE (Spain). Since June 2023 he has been an assistant professor in chemistry at Ca' Foscari University of Venice. His research interests comprise the synthesis and chemical functionalization of nanomaterials and their application in electrochemical biosensors.

Keywords: biosensors, nanomaterials, 2D materials, electrochemistry, health.

SPEAKER 7

Prof. Andrea Droghetti
Ca' Foscari University of Venice

THEME

Computational modelling of materials and nano-devices

Short bio: Prof. A. Droghetti earned a PhD in Physics from Trinity College Dublin (Ireland) in 2012. From 2014 to 2016, he served as a principal investigator in a European consortium. In 2016, he was awarded a Marie Curie Individual Fellowship to work at University of the Basque Country (Spain). In 2019, he returned to Trinity College Dublin with a Royal Society Fellowship. Since 2024 he is a tenure-track assistant professor in condensed matter theory at Ca' Foscari University of Venice (Italy). His research primarily focuses on developing and applying computational methods to describe the quantum properties of materials, with applications in spintronics and nano-electronics.

Keywords: electronic structure theory, quantum transport, spintronics, correlated electronic systems, computational methods.

SPEAKER 8

Prof. Giulia Fiorani
Ca' Foscari University of Venice

THEME

Chemical Valorization of Biomass: a Sustainable and Holistic Approach

Short bio: Prof. G. Fiorani received her PhD degree in Chemistry from the University of Rome "Tor Vergata" (Italy) in 2010. From 2010 to 2017, she held postdoctoral positions at several institutions, including ICIQ as a Marie Curie Fellow (2014-2016). In 2017 she moved to Ca' Foscari University of Venice as Assistant Professor. Since 2020, she has been an Associate Professor at Ca' Foscari University of Venice, focusing on sustainable synthetic methodologies and catalytic processes for renewable-based functional molecules and materials.

Keywords: biomass valorization, sustainable chemistry, catalysis, non-reductive CO₂ valorization, neoteric solvents.

SPEAKER 9

Prof. Giovanni Salvatore
Prof. Domenico De Fazio
Ca' Foscari University of Venice

THEME

Thin film (opto)electronic biodevices

Short bio: Prof. G. Salvaotre obtained his PhD (2011) in Electrical Engineering at EPFL (Switzerland). In 2021, he joined Ca' Foscari University of Venice as an Assistant Professor and became an Associate Professor in 2024. Prof. D. De Fazio obtained his PhD (2018) in Electrical Engineering from the University of Cambridge (UK). In 2022, he joined Ca' Foscari University of Venice as an Assistant Professor, becoming an Associate Professor in 2025. The ultimate goal of their research is to investigate and engineer electrical and optical properties of these materials to build sustainable biodevices for the Internet of Things, wearables and biomedical applications.

Keywords: 2D materials, amorphous oxides, bioelectronics, sensors, thin film, photodetectors, microfabrication.

SPEAKER 10

Prof. Federica Menegazzo
Ca' Foscari University of Venice

THEME

CATalysis & MATerials

Short bio: Prof. Federica Menegazzo obtained a PhD in Chemical Sciences. She is currently an Associate Professor of Industrial Chemistry at Ca' Foscari University of Venice. Her principal scientific interests are in the field of heterogeneous catalysis with a focus on the development of nanostructured catalysts and their use in processes for energetic and environmental applications. She is also involved in the formulation of new materials for cosmetic applications and for the protection of Cultural Heritage.

Keywords: heterogeneous catalysts, synthesis of materials, coatings, biomass valorization, materials for cultural heritage.