UNIVERSITY OF OXFORD

OSCAR

NEWSLETTER 029 DECEMBER 2019

Contact us
Address: Building A, 388 Ruoshui Road, Suzhou Industrial Park, Jiangsu, P.R. China, 215123
Tel：0086-512-62869088
Email：info@oxford-oscar.cn
Website：https://oscar.web.ox.ac.uk/

联系我们
地址：中国江苏省苏州工业园区若水路388号A幢（215123）
电话：0086-512-62869088
电邮：info@oxford-oscar.cn
官网：https://oscar.web.ox.ac.uk/
微信公众号：牛津大学高等研究院（苏州）

WeChat / 微信公众号

CONTENTS

OSCAR at JITRI-UK Science and Technology Innovation Week

An OSCAR delegation, including the Director Zhanfeng Cui, PIs Cathy Ye and Mauro Pasta, Co-PI Jason Raymond, and Senior Research Scientist Hui Wang, attended the JITRI-UK Science and Technology Innovation Week held in Nanjing and Suzhou from 9th to 12th December.

Prof. Zhanfeng Cui gave a keynote talk at the JITRI-UK Cooperation Summit held in Nanjing celebrating the breadth of innovative research at OSCAR as well as the ongoing alliance with JITRI. Prof. Cathy Ye, Prof. Mauro Pasta, Dr. Jason Raymond and Dr. Hui Wang shared their research at the JITRI-UK Showcase in Suzhou, themed 'from needs to solutions', holding discussions with JITRI's Specialized Institutes and JITRI-Enterprises Innovation Centres.

Delegations from Imperial College London, UCL, Brunel and the universities of Leeds, Birmingham, and Huddersfield, along with various research institutions, also attended the event.

Clean energy, artificial intelligence and biomedical engineering were common themes among presenting academics. Basic science and marketable technologies were covered across all topics. JITRI and other research institutions presented their research focus and key projects, as well as potential areas for collaboration and project support. This covered informed design as well as market research, regulatory assistance and provision of facilities for clinical trials and GMP manufacture.

The theme 'from needs to solutions' was at the forefront of discussion, as delegates considered ways to approach research to maximise societal benefit. The importance of the involvement of end users (for example, clinicians and patients in the health sector) from project inception through to delivery was often mentioned.

The conference covered collaboration and funding opportunities between universities, research institutions and industrial partners. Some case studies were presented, including the first JITRI-sponsored postdoctoral researcher at a UK university. As well as showcasing current research, delegates discussed barriers to successful partnerships and commercialisation. The importance of effective planning and a robust project framework was clear in overcoming these issues. Events like this are an important forum for sharing experiences and working towards the common goal of delivering valuable and innovative research.

Besides the full programme of talks, the conference offered networking opportunities with potential collaborators both in China and the UK.

About JITRI

Established by Jiangsu Provincial People's Government in December 2013, Jiangsu Industrial Technology Research Institute (JITRI) aims to promote and support the industrial technology research and commercialization of the advanced technologies that may significantly impact the economic development of Jiangsu Province, China.

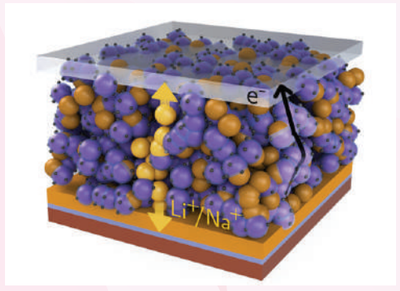
In September 2017, the Mathematical, Physical, and Life Sciences Division (MPLS) of the University of Oxford and JITRI signed a MOU to support joint research projects through a fund dedicated to strengthening technological innovation and industrial R&D in Jiangsu Province, China. OSCAR is the specific executor for the cooperation between the two parties.

PI Activities

OSCAR New PI - Mauro Pasta

Prof. Mauro Pasta is an Associate Professor in the Department of Materials at the University of Oxford. His research focuses on the electrochemistry and materials science of energy storage and conversion devices, with a focus on technologies beyond Li-ion batteries and electrocatalysis.

Currently, Prof. Mauro Pasta is leading the SOLBAT (solid-state metal anode batteries) project within the Faraday Institution, the UK's independent institute for electrochemical energy storage science and technology. He also co-founded two start-up companies, Cuberg, developing batteries for high temperature applications and Natron Energy, developing a high power, long cycle life, low-cost battery technology for industrial applications.



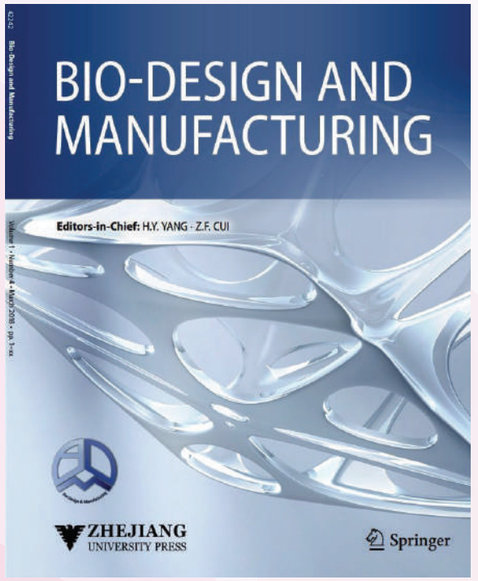
From 10th to 11th December, the newly appointed PI Prof. Mauro Pasta was at OSCAR to meet the administrative team and hold a group meeting to discuss research directions in Energy Storage and Conversion and Electrochemical Catalysis, with a view to setting up the lab.

OSCAR Co-PI in Ultrasounds - Jason Raymond

Dr. Jason Raymond is a Senior Research Associate in Physical Acoustics and a member of the Physical Acoustics Lab in the Department of Engineering Science at the University of Oxford. He is also a member of Acoustics and Optics Group, led by PI Prof. Ronald Roy in OSCAR. His research interests include medical and biological applications of ultrasound and acoustic cavitation.

On 12th December, Dr. Jason Raymond was at OSCAR for research work and potential collaboration discussions. He held a meeting with Prof. Yaoyao Cui of Suzhou Institute of Biomedical Engineering and Technology Chinese Academy of Sciences (SIBET), following Prof. Yaoyao Cui's visit to Oxford in October.

In the middle of December, Bio-Design and Manufacturing (BDM), an academic journal co-edited by Prof. Zhanfeng Cui, was indexed by SCI-E. The journal has been published quarterly since 2018 by Springer and Zhejiang University Press, reporting new research, new technology and new applications in the field of biomanufacturing, especially 3D bioprinting. Representing an interdisciplinary field, BDM topics cover tissue engineering, regenerative medicine, mechanical devices from the perspectives of materials, biology, medicine and mechanical engineering, with a focus on manufacturing science and technology to meet the needs of bio-design.



Meet OSCAR's Researchers

Interview with Dr. Yun Wang

Dr. Yun Wang received her BSc and MSc in Environmental Science and Engineering from Tsinghua University, followed by a PhD in Environmental Microbiology from the University of Sheffield in 2011. After graduation, she joined Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences and then Shanghai Hesen Biotechnology Co., Ltd., engaging in studies on single cell Raman and biosensors. She now works as a Senior Research Scientist in Synthetic Biology and Single Cell Biology at OSCAR.

In 2019, Dr. Wang was awarded the Jiangsu Provincial Double Innovation talent programme and announced as Research Associate (equal to associate professorship) by Jiangsu Provincial Science and Technology Department.

Q: When did you join OSCAR? What prompted you to make the decision to join OSCAR here in Suzhou?

Prof. Wei Huang, one of the first wave of OSCAR PIs, was my PhD supervisor. With his introduction, I knew of OSCAR early on, and intended to join the first overseas research centre established by the University of Oxford, one of the best universities in the world. Moreover, with a pleasant climate and comfortable environment, Suzhou is a liveable city that integrates traditional culture with modernisation. Therefore, I applied for the post of Senior Research Scientist in Synthetic Biology and Single Cell Biology when the opportunity arose. I joined OSCAR in October 2018 and actively participated in the setting up of the laboratories.

Q: What is your research project and how is it progressing? Have you participated in any academic conferences?

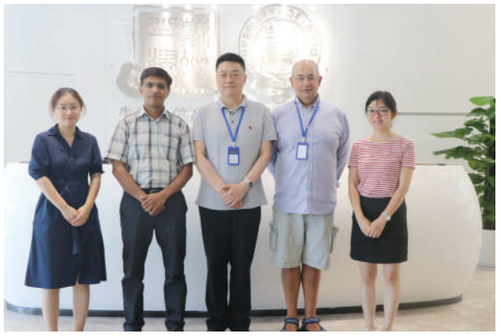
My research activities mainly focus on establishing a single cell Raman platform and applying it to the studies in the field of medicine and environment, such as diagnosis of antimicrobial resistant bacteria and evaluation of the drug effect. I will also work on the construction, test and application of whole-cell biosensors for rapid detection of environmental and food pollutants, such as comprehensive toxicity, antibiotics, heavy metals, pesticide residues, etc. By now, we have signed two research agreements with industries and research institutes and obtained financial support. With the support of OSCAR, I attended several academic conferences, including the 20th Chinese National Conference on Light Scattering, Sembcorp's SWING Technology Review Forum, JITRI-UK Science and Technology Innovation Week, etc.

Q: What is your long-term research plan and aims at OSCAR?

Led by the PI, our research group aims to not only apply single cell Raman biotechnology and whole-cell biosensor technology to resolutions of a series of scientific problems, but, together with our collaborators, generalise them to tackle the real-life problems in the fields of medicine, environmental monitoring and food safety, and further promote commercialisation and marketisation of these technologies.

Q: How is your life at OSCAR and in Suzhou?

OSCAR is a superior platform that combines scientific research with market needs. At OSCAR, we can take advantage of the substantial resources from the University of Oxford, including the opportunities of learning from some of the world's leading scientists as well as communicating and cooperating with teachers and students from the University through academic visits.



In addition, we can utilise the abundant medical and human resources here in China to better integrate technologies and clinical tests, and advance market transformation of technologies.

Personally, living in Suzhou is an enjoyable experience. Suzhou has a rich heritage of traditional culture, such as classical gardens, Suzhou embroidery, etc. It is also a city that shares the spirits of openness and inclusiveness. Suzhou Industrial Park, where OSCAR is located, has a high forestry coverage rate, quality roads and ample educational resources. It is a friendly and convenient area for both domestic and international employees.

OSCAR's New Staff

Catriona Inverarity

Executive Assistant to the Director and Senior Research Manager

Catriona joined OSCAR in December 2019. After receiving her BEng in Biomaterials Science from the University of Sheffield, she went on to work as a research scientist in New Product Development before returning to academia. Alongside her PhD, Catriona also worked at Oxford Mestar, a spin-out of the University of Oxford, as a product engineer. She is now completing her thesis with the Open University in skin tissue engineering, an international collaborative project to develop a bio-intelligent scaffold material for skin regeneration. She has experience with design and development of medical devices from lab to pilot plant, regulatory approval (FDA; CE) and IP protection as well as conventional academic research and presentation.

Email: catriona.inverarity@oxford-oscar.cn

Ongoing Collaborations

A Technology Service Agreement between Prof. Wei Huang's group and the Institute of Soil Science, Chinese Academy of Sciences on Raman spectral analysis of strains isolated from soil cultivated under different conditions was signed by OSCAR Director Prof. Zhanfeng Cui on 10th December.

On 4th December, a delegation of 10 researchers from the Waterloo Institute for Nanotechnology of the University of Waterloo (Canada) visited OSCAR to learn about OSCAR's operation model.

From 16th to 19th December, OSCAR, represented by Dr. Jingsong Huang from Prof. Donal Bradley's group, attended the Imperial College London-South China University of Technology (ICL-SCUT) Workshop on Organic/Perovskite Optoelectronics. The workshop was hosted by the State Key Laboratory of Luminescent Materials and Device (SKLLMD), SCUT in Guangzhou. Dr. Huang, as a Guest Professor of SCUT, introduced and promoted OSCAR and the OSCAR Optoelectronic Technology Laboratory. Dr. Huang also met and discussed the potential collaboration with Prof. Yong Cao, the Academician of Chinese Academy of Sciences, Prof. Yuguang Ma, the Director of SKLLMD, and Prof. Dongge Ma.

On 17th December, Dr. Huidong Jia from Prof. Cathy Ye's group visited Suzhou Institute of Biomedical Engineering and Technology Chinese Academy of Sciences (SIBET) and Institute of Biomaterials and Medical Devices (IBMD) of Southeast University to discuss potential collaborative projects.

On 20th December, several research groups from OSCAR, including Dr. Keval Sonigara & Haiyu Liu from Prof. Donal Bradley's group, Dr. Dandan Wang from Prof. Mark Moloney's group, Enqi Chen from Prof. Mauro Pasta's group, visited JITRI Advanced Materials Innovation Centre in Xiangcheng District, Suzhou. The centre was set up by JITRI, Suzhou Municipal Government and Suzhou Xiangcheng District in 2018 and already has over 30 analysis instruments including FIB, EDS, XRD, SEM and XRM – a 150 million RMB investment in facilities.

The Institute of Biomedical Materials and Devices of Southeast University visited OSCAR on 25th December to discuss potential collaboration. They have developed an Organ-on-chip system which could be used in high throughout drug screening to detect the efficacy and toxicity of new chemical entities synthesised by OSCAR's chemistry group.

Mr. Jiangming Wu (Deputy Director of Pharmacy and Biotech Examination Department, Patent Examination Cooperation Jiangsu Centre of the Patent Office, Chinese National Intellectual Property Administration (CNIPA)) visited OSCAR on 30th December to learn about OSCAR's patent application status.

SIP News for December

Plan for a new Suzhou Free Trade Zone (FTZ) unveiled

The Suzhou Government unveiled the Development Plan of China (Jiangsu) Pilot Free Trade Zone Suzhou Area at a news briefing on 10th December. The FTZ will be a 60.15-square-kilometer free-trade zone in SIP from 1st September 2020.

Suzhou mayor Li Yaping spoke at the event, declaring that the FTZ will be built into a pilot zone for open economy and as a demonstration zone for innovative development of the economy and industrial transformation.

The plan contains 143 institutional measures which are designed to help develop the FTZ into an "opening-up nursery" with unique characteristics and strong international competitiveness.

The plan will make the FTZ more "magnetic" to global business and trade resources. Otsuka Holdings Co., Ltd., a Japanese drug maker, recently launched a project to set up a sales centre in the FTZ that will help introduce new drugs and advanced pharmaceutical technologies from overseas to the area to the benefit of local patients.

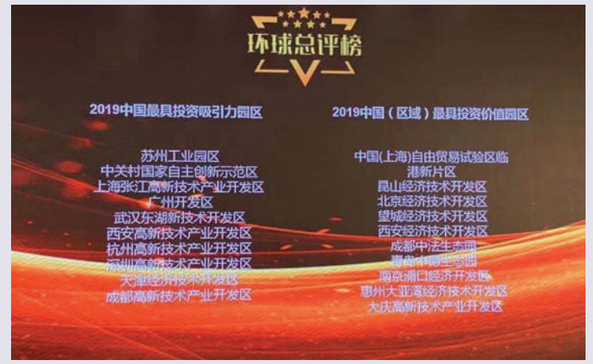
The Opinions of Suzhou Government on Support for High-quality Development of China (Jiangsu) Pilot Free Trade Zone Suzhou Area was released concurrently, with 35 measures to give related businesses a helping hand in seeking efficient administrative services, financing, HR management, land use and other aspects for the purpose of ensuring a high-quality development of the FTZ.

The WeChat account of the FTZ came into service on the same day to offer comprehensive and up-to-date information about the FTZ.

10th December 2019

http://www.sipac.gov.cn/english/news/201912/t20191211_1080273.htm

SIP ranks first among Global Times' "Most Attractive Industrial Parks for Investment"



Global Times, a newspaper under the auspices of People's Daily, the largest newspaper group in the country, unveiled the 2019 list of "Most Attractive Industrial Parks for Investment in China" in Beijing on 28th December. SIP ranks first on the list.

According to Global Times, the evaluation is based on a meticulously designed indicator system and incorporates public opinion surveys, expert review and comprehensive data analysis to look for cities and development zones with creative and innovative practices in driving internationalised development. The evaluation panel believes SIP is the country's forerunner in building industrial facilities, improving business services, attracting investment and innovative opening-up.

29th December 2019

http://www.sipac.gov.cn/english/news/201912/t20191230_1085346.htm

2020
HAPPY
NEW
YEAR