



UNIVERSITY OF  
**OSCAR OXFORD**

NEWSLETTER 065 JANUARY 2023

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Message from  
**PROFESSOR  
ZHANFENG CUI**

**OSCAR'S Recent  
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## Message from Professor Zhanfeng Cui, Director of OSCAR



Happy New Year for 2023, and a Happy Chinese Rabbit Year! I wish the Lucky Rabbit brings to you good health and prosperity!

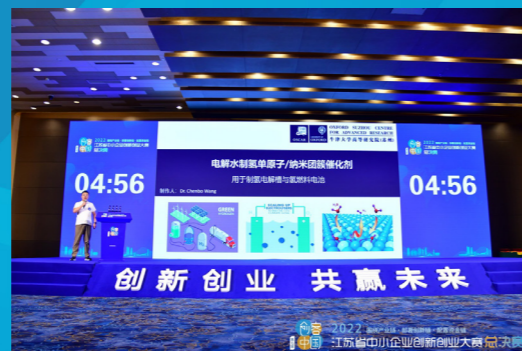
I spent 6 weeks in OSCAR last November and December to celebrate the 4<sup>th</sup> Birthday of OSCAR with our OSCAR staff, guests from industry and sponsors in Suzhou. I attended the Annual Research Symposium and listened to the presentations from all our research teams. I was impressed; the quality of our researchers and the quality of our research work are high. I was also impressed by the efficiency and dedication of OSCAR's support staff. Overall, OSCAR has created an efficient, productive, supporting, and friendly environment to conduct research that creates impact. OSCAR's award 'Greater Suzhou Best Employer' is well deserved.

OSCAR has made significant impacts, despite the influence of Covid-19. In fundamental **research**, our Chemistry Group made a breakthrough in new enzymatic catalysation to synthesise active pharmaceutical ingredients that potentially revolutionise organic synthesis in the pharmaceutical industry. Their work was published in *Nature Synthesis* and as its cover page story. In **innovation**, our Materials Group invented a single atomic catalyst for hydrogen production and green energy, that could bring a step change in improving process efficiency and economic viability of green hydrogen. This innovation was ranked Number 1 and awarded the First Prize in the Jiangsu Province Innovation and Entrepreneurship Contest. In **Generating Impact**, our teams in Environment Biotechnology and Regenerative Medical Engineering joined together to develop a rapid test for Covid-19. They completed R&D, scale-up, regulatory approval, and commercialisation within a short period of time, and the product (known commercially as 'Oxsed RaViD Direct') was widely used in the UK and Hong Kong, making important contributions to resuming international travel. In collaborating with industry, two Innovation Technology Centres (ITC) were established with significant industrial funding.





OSCAR and Oxford University's collaborative work featured on the cover of *Nature Synthesis* December issue 2022



OSCAR's innovative research wins First Prize in contest



Oxsed RaViD Direct



OSCAR-Hongda ITC for Perovskite Thin-Film Technology launched in November 2022



OSCAR-Prenetics ITC for Advanced Molecular Diagnostics opened in June 2021

Unfortunate effects of the pandemic were that Oxford Professors have not been able to spend time at OSCAR and that international recruitments were suspended over the last three years. Remote supervision has worked to an extent, but it cannot replace face-to-face interactions and 'brainstorming' in an informal setting. With China now fully open and international travel gradually returning to the pre-pandemic norm, we can return to our 'Strategic Plan' for the next phase of OSCAR development to the benefit of Oxford University and to Suzhou Industrial Park.

With OSCAR growing out of its infancy stage, it is time to consider realising the 'OSCAR Dividends' and delivering the defined objectives. In the next phase of our development, we will focus on '3i', i.e., *innovation*, *incubation* and *impacts*. OSCAR is an R&D centre and has to deliver leading sciences and cutting-edge technologies. Innovation is the foundation to deliver our vision. *Innovation* cannot stop at our laboratory doorsteps and must expand to '*incubation*' of our research outputs and increase technology readiness. This is particularly important in China. Spinouts would be an important vehicle to commercialise OSCAR technologies. *Impacts* are not just limited to technological and financial, but also include educational, social, cultural, and environmental influences. The latter can be achieved through outreach activities such as OSCAR Open Days, symposia and workshops, training camps, exchange programmes etc.

There is no need to pretend this will be an easy path; on the contrary, it will be challenging. OSCAR is unique and there is no precedent we can follow. We have been experimenting with the most suitable models to operate our centre. Of course, the current international political landscape does not help at all. In spite of these challenges, we believe OSCAR and what we do in OSCAR are important and beneficial to the University and to Suzhou Industrial Park, to the Science Community, to both the UK and China, and to human society. We are committed to the project and to delivering the objectives in full. We have world-class and dedicated academics to devote themselves wholeheartedly to the project and an effective and efficient administration team to support our activities. A successful OSCAR will be an important landmark in the years to come.

Z F Cui





# OSCAR's Recent Recognition

**OSCAR receives Organizational Excellence Award for 3<sup>rd</sup> consecutive year**



For the third consecutive year, OSCAR was named one of the recipients of SEID's (Science, Education and Innovation District, Suzhou) yearly award for Organizational Excellence.

The award recognises OSCAR's contribution to conducting world-leading research, accelerating the commercial adoption of new technologies and nurturing next-generation researchers.

## OSCAR wins awards under Push Lab to Unique Safety project



OSCAR's entries were awarded a Third Prize and two Best Design Prizes under the Push Lab to Unique Safety (PLUS) project, organised by the Administrative Committee of the Science, Education and Innovation District in Suzhou.



*This graphic design is OSCAR's third prize winning entry, depicting that staff must meet safety access conditions before entering a lab and have a sense of responsibility for their own safety while working in the lab.*

The PLUS project was launched in October 2022 with the aim of promoting good practices in laboratory safety management. The project calls for works in the form of writing, video and graphic design that showcase actions and norms implemented to ensure safety in the lab.

OSCAR's entries include two short films and a graphic design which focused on the safe maintenance of lab equipment and standardized operation of high-risk equipment.

OSCAR's Senior EHS Supervisor Mary Ma says: 'Chemical, electrical and other kinds of risks are prominent in the laboratory, and it is extremely important to evaluate and strengthen risk control. Knowledge dissemination and training of laboratory staff in the form of safety videos and posters can not only improve efficiency but also play a very positive role in enhancing safety awareness.'





# Meet OSCAR's New Researcher



## Dr. Petr Jurcicek

Senior Research Scientist in Prof. Zhanfeng Cui and Prof. Cathy Ye's group

Dr. Petr Jurcicek earned his PhD in October 2014 at the Dalian University of Technology, School of Mechanical Engineering (MEMS). During his research, he focused on computational fluid dynamics modelling of nano-electrospray ion transfer in alternating current electric fields from the atmospheric pressure region to the high vacuum region of a mass spectrometer and developed and tested a miniaturised device to maximise the ion transfer efficiency.

After finishing his PhD studies in China, Petr continued to pursue his career path in the United Kingdom where he joined Oxford MEStar Ltd., an Oxford University spin-out company founded by Prof. Zhangfeng Cui. There, he was mainly involved in the mechanical, hardware and software research and development, design and implementation of the *measure*™ IVD home testing kit for early bowel cancer detection and the Cell Expansion System, a versatile cell incubator for automated hands-off production of suspended and adherent cells for personalized autologous therapy and other purposes.

Later, Petr joined Sky Ltd. as a Mechanical R&D Engineer where he gained significant industry experience in consumer products design and mass production. Initially, during the onset of the COVID-19 pandemic in early 2020, he joined the "Protect the NHS" internal Sky action team where he used quick-turnaround prototyping and plastic injection moulding to produce several thousand face shields used internally by the business as well as donated to

several NHS hospitals. His most significant contribution, however, was the research and development work on the audio system of the Sky Glass TV, the first and largely successful Sky TV product, launched in the UK market in October 2021, for which he earned significant recognition within the business community. During his almost three years at Sky, Petr also conducted reviews of competitors' products and actively searched for new manufacturing technologies and other business opportunities in the industry worldwide.

At OSCAR, Petr will use his industry experience and deep knowledge of all stages of consumer product development from early concepts to mass production for the design and development of biomedical products.







# SIP News in January

Suzhou signed a string of key foreign investment projects at the beginning of 2023.

## 01



German automotive supplier Bosch has invested another \$1 billion in R&D and manufacturing of core components of new energy vehicles and automated driving in Suzhou Industrial Park (SIP). Bosch Suzhou was established in SIP in 1999 and has grown into the group's biggest R&D centre in China.

## 02



Swire Coca-Cola's 2-billion-RMB investment in Kunshan city has become its largest single investment in China. The new project strives to build an R&D base and a marketing and distribution centre in East China, which will produce a maximum of 1.6 million tons of beverages annually.

## 03



Corning Incorporated has set up an artificial intelligence-assisted drug synthesis project in Suzhou Wuzhong Biomedicine Industrial Park. The first phase will cover an area of around 3,000 square meters.

## 04



Mitsui & Co will invest \$450 million to build an intelligent manufacturing base in SND. When completed, Mitsui & Co, along with other Japanese enterprises, will set up offices in the base, revolving around the manufacturing and sales of high-end equipment, vehicle components, and large consumer goods.

## 05



In addition, another 16 foreign-invested projects have been introduced to Suzhou's Wujiang District, accounting for over \$900 million in total investment.







# Did you know this about SIP

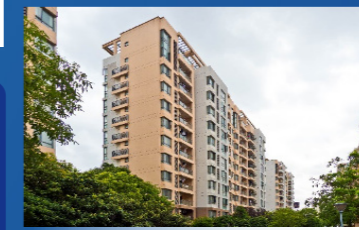
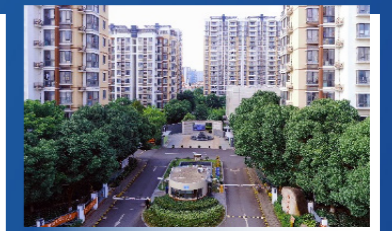
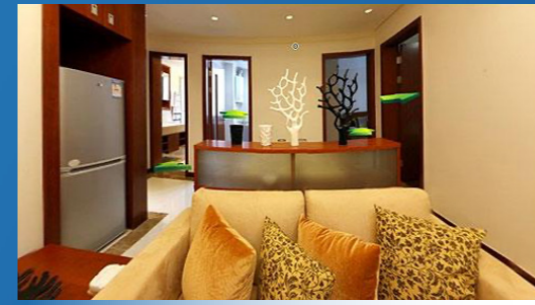
## Supporting Facilities in SIP

### - A Wonderful City for Working and Living

- Ranked **No.1** among China's National Development Zones in terms of talent for years in a row
- Accounts for **7%** of the country's number of high level entrepreneurial talent accounts
- **No.1** in the Chinese mainland in the Economist's Global Urban livability report for many years
- **10,000+** resident foreign population in SIP



## - Accommodation



SIP government provides furnished rental apartments with preferential prices. Currently there are more than 6000 apartments available, covering a construction area of 500,000 square meters.

- ✓ Furnished
- ✓ More than 6,000 apartments.
- ✓ RMB 600-1,600/person (30% lower than market price)
- ✓ Payment method: Provident fund



## - Excellent Education

- More than **120** kindergartens and schools
- Half of Top 10** schools of Suzhou are located in SIP
- 2** international schools (3000+ students)
- Overseas Chinese Academy School (Suzhou newly established)
- More than **4 billion** RMB in investment to education annually



**SSIS**  
SUZHOU'S INTERNATIONAL SCHOOL

 **DULWICH COLLEGE**  
FOUNDED 1619

 **CAS** 苏州工业园区海归人才子女学校  
OVERSEAS CHINESE ACADEMY SUZHOU

## - Medical Resources

There are three grade A hospitals in SIP, including Children's Hospital, Kowloon Hospital and Dushu Lake Hospital.

Dushu Lake hospital is the result of the collaboration between SIP and Soochow University. It aims to build a comprehensive hospital that integrates high-level clinical diagnosis and treatment, high-quality medical training and high-level medical research. SIP's comprehensive medical treatment system is also supported by four grade B hospitals, community health stations, foreign-funded clinics, dentals.

Suzhou Children's Hospital (SIP HQ)



Kowloon Hospital



Dushu Lake Hospital

