

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)



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44 Introduction

The Oxford Suzhou Centre for Advanced Research (OSCAR) is the University of Oxford's first overseas centre for physical sciences and engineering research, primarily expanding on activities from across the University's Mathematical, Physical and Life Sciences Division.

OSCAR was officially launched on 22nd Nov 2018 in Suzhou, China.







22nd November 2019 marked OSCAR's first anniversary. With all the efforts from OSCAR PIs, researchers and administrative teams, and with strong support from colleagues in the Oxford University MPLS Division, remarkable progress has been achieved in completion of the facilities, recruitment of staff, research, collaborations, and operations. Below is a brief summary of highlights from the past year:

Building and Facilities

- ◆The fit out of non-lab areas of the OSCAR building, including the Exhibition Hall and office areas, was completed in December 2018, while the labs on 6F, 8F and 9F were completed in August 2019.
- ◆ Over 20 state-of-the-art laboratories have been established and are in operation, including the Optoelectronic Technologies Laboratory, and the Environmental Biotechnology and Synthetic Biology Laboratory, etc.
- ◆80% of the lab equipment has been purchased and installed.
- ◆The OSCAR Technology Accelerator (startup incubator) on the second floor has launched with two University related companies moved in (OUI-Suzhou and Oxford MEStar Ltd).

OSCAR Team

- ◆ 4 new Principal Investigators from the Mathematical Institute joined OSCAR in October 2019, increasing the number of PIs from 12 to 16.
- ◆ Prof. Mauro Pasta, Associate Professor of Materials at the University of Oxford, joined OSCAR in November 2019.
- 2 external professors have been granted the honorary title of OSCAR Visiting Professor.
- •27 researchers from across the globe have been hired as full-time employees, among which 9 are non-Chinese (6 senior research scientists, 12 research scientists, 9 technicians). 21 of them have been onboard at OSCAR.
- ◆ An 11-member administrative team supports OSCAR's daily operations.
- OSCAR has hosted 2 Oxford students as summer interns via the Careers Service platform.

Research and Collaborations

- ◆OSCAR PIs and researchers have published 6 papers in various international academic journals.
- OSCAR currently has 18 collaborative projects under discussion, including joint grant applications and industry sponsored research contracts.
- OSCAR has to-date signed 5 MOUs, 3 CDAs and 2 Agreements (industrial sponsored research), with 2 further Agreements under negotiation.





Honours

- ◆2 PIs have been awarded a joint grant from the Royal Society (UK) and National Science Foundation of China (NSFC).
- ◆4 PIs have received Jinji Lake Leading Talent awards.
- ◆ 1 senior research scientist has been awarded the Jiangsu Provincial Double Innovation Talent Programme.
- ◆ 1 senior research scientist has been appointed as Guest Professor by China South University of Technology.
- ◆ 8 employees have received district-level salary subsidy.
- ◆ OSCAR was awarded the 2018 Annual Economic Contribution Award by Suzhou Industrial Park.
- ◆ OSCAR was awarded the Outstanding Organisation Award in Safety by Suzhou Dushu Lake Science and Education Innovation District.

Outreach Activities

- ◆ OSCAR PIs and employees have attended over 20 international academic and industry conferences on invitation.
- 6 invited talks ("OSCAR Thinking" series), 3 OSCAR Open Days and workshops have strengthened OSCAR's impact on the local community.
- ◆ The Oxford-Cambridge Alumni group has held 2 events at OSCAR.

Publicity

◆ OSCAR has grown its media exposure through its official website, with regular updates of research teams, a virtual tour of the facilities and an OSCAR introduction video.

- ◆ Regular updates to the OSCAR WeChat account, with 168 articles released to about 3000 followers. The highest page view is 2900.
- ◆ The OSCAR monthly newsletter has published 27 issues in total (August 2017 to October 2019).

Visitors

◆ OSCAR has received around 60 delegations with over 700 visitors from universities, industries, governments and others to explore the potential of collaboration.

Corporate culture and cohesion

- ◆OSCAR has set up the Foreign Staff Club to facilitate non-Chinese staff working and living in Suzhou.
- ◆ A fully equipped gym opened in May 2019 to promote health and work-life balance among all staff. Staff will also enjoy a government-sponsored library furnished with books, journals and magazines.
- Various team building events have been held to enhance the cohesion of the OSCAR team and to create a welcoming environment for non-Chinese staff. Such events include monthly birthday celebrations, cultural immersion events linked with traditional Chinese holidays, and themed trainings.

This past work has laid a solid and strong foundation for the future, and 2020 promises further progress towards OSCAR's mission. Plans are being made for governance improvement, policies, recruitment, research management, more substantial collaborations, and in many other aspects to carve out OSCAR's future path.





OSCAR Research - Research Team

Principal Investigators



Zhanfeng Cui

- Fellow of the Royal Academy of Engineering
- Donald Pollock Professor of Chemical Engineering, University of Oxford
- Director of Strategic Projects China, Mathematical, Physical and Life Sciences Division
- Director of OSCAR



Hua Y

• Associate Professor of Engineering Science, University of Oxford



Ian Thomnson

• Professor of Engineering Science, University of Oxford



Wei Huan

• Associate Professor of Engineering Science, University of Oxford



Ronald Roy

- Head of Department (research) in the Dept. of Engineering Science, University of Oxford
- Vice President of the Acoustical Society of America



David Clifton

 Professor of Clinical Machine Learning, University of Oxford



Jeremy Robertson

• Professor of Organic Chemistry, University of Oxford



Luet Won

Professor of Inorganic Chemistry, University of Oxford



Donal Bradley

- Fellow of the Royal Society
- Visiting Professor of Engineering Science and Physics, University of Oxford
- Vice President for Research, KAUST



Paul Stavrinou

 Associate Professor of Engineering Science, University of Oxford



Terry Lyons

- Fellow of the Royal Society
- Wallis Professor of Mathematics, University of Oxford
- Fellow of the Alan Turing Institute



Rama Con

- Professor of Mathematical Finance, University of Oxford
- Senior Research Fellow, Institute for New Economic Thinking



Mark Moloney

- Professor of Chemistry, University of Oxford
- Deputy Director of OSCAR



Mauro Pasta

Associate Professor of Materials, University of Oxford



Zhongmin Qian

Professor of Mathematics, University of Oxford



Handing Jin

• Associate Professor in Mathematics Institute, University of Oxford





OSCAR Research - Research Team

Researchers

Optoelectronic Technology Group



Jingsong Huang

- Senior Research Scientist
- PhD, Jilin University



Keval Sonigara

- Research Scientist
- PhD, Sardar Patel University



Haiyu Liu

- Research Technician
- MSc, Soochow University

Energy Storage Group



Wenshuo Xu

- Senior Research Scientist
- DPhil, University of Oxford



Enqi Chen

- Research Technician
- MSc, National University of Singapore

Regenerative Medical Engineering Group



Hui Wang

- Senior Research Scientist
- DPhil, University of Oxford



Huidong Jia

- Senior Research Scientist
- PhD, University of Bristol



Weizhi Liu

- Research Scientist
- PhD, Queen Mary University of London



Yida Zeng

- Research Technician
- BSc, Imperial College London



Binbin Li

- Research Technician
- MSc, Huazhong Agricultural University



Jiachen Zhu

- Research Technician
- MSc, Soochow University

Functional Material and Biotechnology Group



Dandan Wang

- Research Scientist
- PhD, National University of Singapore



M. Kamran Khan

- Research Scientist
- PhD, Chinese Academy of Sciences



Yang Cao

- Research Scientist
- DPhil, University of Oxford



Avinash Pandreka

- Research Scientist
- PhD, CSIR-Institute of Genomics and Integrative Biology



Baolong Xia

- Lab Manager (Chemistry and Biotechnology)
- BSE, Jiangsu Ocean University

Environmental and Synthetic Biology Group



Yun Wang

- Senior Research Scientist
- PhD, the University of Sheffield



Muhammad Irfan Arif

- Research Scientist
- PhD, University of Groningen



Mengmeng Ji

- Research Technician
- MSc, Shanghai Jiao Tong University

Al for Healthcare Group



- Senior Research Associate, Department of Engineering Science, University of Oxford
- PhD, Shanghai Jiao Tong University



- Research Scientist
- PhD, Liverpool John Moores University



Gert Mertes

- Research Scientist
- PhD, KU Leuven









OSCAR Research - Research Team

OSCAR Co-Principal Investigator



Dr. Jason Raymond

- OSCAR First Co-Principal Investigator in Ultrasounds
- Departmental Lecturer in Engineering Science, University of Oxford

Visiting Professors



Tiantian Zhang

- Professor of Reproductive Cryobiology, Bournemouth University
- Deputy Dean of Research and Professional Practice, Faculty of Science and Technology, Bournemouth University



Lee Ann Laurent-Applegate

- Professor of Regenerative Therapy, Lausanne University
- Director of Cellular Therapy, Department of Musculoskeletal Medicine, Lausanne University Hospital

Oxford Interns

OSCAR joined the University of Oxford's Internship Office 2019 Summer Internship Programme, exclusive to Oxford students, and hosted two students this summer.



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- Master of Physics, University of Oxford
- OSCAR Intern July-August 2019



Henrique Rui Neves AGUIAR

- MMath Mathematics, University of Oxford
- OSCAR Intern August-September 2019

OSCAR Research - Administrative Team



Leah He

• General Manager



Frank Zhang

Head of Building Services and Facilities



Tracy Chen

• Finance Manager



Steven Chen

Office Manager



Alex Yang

• OSCAR JITRI Fellow



Catriona Inverarity

• Executive Assistant to the Director and Senior Research Manager



Alan Xu

Facility Supervisor



Mary M

• EHS Supervisor



Siyan Jin

• Administrative Assistant to GM



Linling Xia

• Finance Assistant



Vailia Xue

Administrative Coordinator





OSCAR Research - Laboratories

9F

- ◆ Optoelectronic Technologies Lab (OeTL)
- Advanced Materials Lab
- Multifunctional Device Fabrication Lab
- Printed Electronics Lab
- Advanced Photonics Lab
- Optoelectronics Characterization Lab
- ◆ Energy Storage and Conversion Lab
- ◆ Electrochemical Characterization and Analysis Lab

8F

- ◆ Environmental Biotechnology and Synthetic Biology
- ◆Cell Design Lab
- ◆Single Cell Biology Lab
- ◆ Medical Ultrasound Artificial Intelligence Lab
- ◆ Photo-acoustics and Acousto-optics Lab
- ◆Industrial and Biomedical Acoustics Lab
- ◆ Functional Surface Modification and Polymerization Lab
- ◆ Biocatalysis, Enzyme Evolution and Synthetic Biology Lab
- ◆ Analytical Characterization Centre









6F

- ◆Tissue Engineering & Biomaterials Lab
- ◆ Cellular & Advanced Therapy Lab
- ◆ Cancer Screening & Personalized Therapy Lab
- ◆ Bioprocessing & Bioformulation Lab
- ◆ Neural Function & Regeneration Lab
- ◆ Cryogenic Biology Lab

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- ◆ Computational Health Informatics (CHI) Lab
- ◆ CHI Lab focuses on "Al in healthcare", also known as Clinical Al, and exists at the interface between machine learning and health informatics.
- ◆ The lab creates Al-based interventions for healthcare systems and includes work with wearables and hospital data, across scales from the massively multivariate (including anonymised genomics) to the high-rate data acquired from medical devices.















OSCAR Research - OSCAR Publications

OSCAR's first paper *Differential and Interactive Effects of Substrate Topography and Chemistry on Human Mesenchymal Stem Cell Gene Expression* was published on 9th August 2018 in *International Journal of Molecular Sciences* by Prof. Zhanfeng Cui, Dr Hui Wang, and Prof. Hua Ye et al. https://doi.org/10.3390/ijms19082344

In January 2019, the paper *Photo- and Sono-dynamic therapy: A review of mechanisms and considerations for pharmacological agents used in therapy incorporating light and sound was published in Current Pharmaceutical Design*. The OSCAR affiliation comes from Dr. Jason Raymond and Prof. Ronald Roy. https://doi.org/10.2174/1381612825666190123114107

In January 2019, the paper *DeepAMR for predicting co-occurrent resistance of Mycobacterium tuberculosis* was published in *Bioinformatics*, with an OSCAR affiliation for Dr. Yang Yang and Prof. David Clifton. https://doi.org/10.1093/bioinformatics/btz067

On 28th February 2019, in Prof. Cui's group, the paper *Effect of Substrate Topography and Chemistry on Human Mesenchymal Stem Cell Markers: A Transcriptome Study* was accepted with an OSCAR affiliation for Dr. Hui Wang (Senior Research Scientist in Prof Cui's group). https://doi.org/10.15283/ijsc18102

On 5th April 2019, the paper *Culture surfaces induce hypoxia-regulated genes in human mesenchymal stromal cells* was published in *Biomedical Materials* with an OSCAR affiliation for Prof. Zhanfeng Cui, Prof. Hua Ye and Dr. Hui Wang. https://doi.org/10.1088/1748-605X/ab0e61

In May 2019, the paper *Multi-Functional Oxidase Activity of CYP102A1 (P450BM3) in the Oxidation of Quinolines and Tetrahydroquinolines* was published in *Angewandte Chemie* with an OSCAR affiliation for Prof. Luet Wong, https://doi.org/10.1002/anie.201904157

OSCAR Research - Research Collaborations

OSCAR currently has 18 collaborative projects under discussion, including joint grant applications and industry sponsored research contracts.

OSCAR has to-date signed 5 MOUs, 3 CDAs and 2 Agreements (industrial sponsored research), with 2 further Agreements under negotiation.













OSCAR Technology Accelerator

The OSCAR Technology Accelerator, a start-up incubator on the second floor, became operational this year. It currently houses companies associated with the University of Oxford, OUI-Suzhou and Oxford MEStar Ltd.







44 Honours





Foundation of China (NSFC).









Jeremy Robertson

Mark Moloney





OSCAR, was appointed as Guest





Dr. Yun Wang, OSCAR Senior Research Scientist in Prof. Wei Huang's group, was awarded the Jiangsu Provincial Double Innovation talent programme. This is the first time that OSCAR has won such an honour at the Jiangsu provincial level.

OSCAR was awarded the 2018 Annual Economic Contribution Award by Suzhou Industrial Park. OSCAR was awarded the Outstanding Organisation Award in Safety by Suzhou Dushu Lake Science and Education Innovation District.











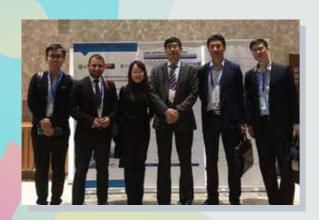


Outreach Activities

OSCAR PIs and employees have attended more than 20 international academic and industry conferences.







6 invited talks ("OSCAR Thinking" series), 3 OSCAR Open Days and workshops have strengthened OSCAR's impact on the local community.



5th September 2019, Prof. Kenneth Timmis FRS (Professor Emeritus, Technical University Braunschweig)



10th July 2019, Prof. Lee Ann Laurent-Applegate (Lausanne University Hospital)



9th May 2019, Prof. Tiantian Zhang (Bournemouth University)

OSCAR has held 3 Open Days with OSCAR research groups giving introductions to their research at OSCAR.







The Oxford-Cambridge Alumni group has held 2 events at OSCAR.











44 Publicity

OSCAR has grown its media exposure mainly through its official website and WeChat account, with regular updates of research teams, a virtual tour of the facilities and an OSCAR introduction video, etc.

OSCAR has released 168 articles in total on WeChat, facing to about 3000 followers. The highest page view is 2900.

OSCAR has published 27 issues of monthly newsletters since August 2017.





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44 Visitors

OSCAR has attracted around 60 delegations with over 700 visitors from various universities, industries, governments and others by giving a brief introduction of OSCAR and having bilateral discussions on the potential of collaboration.















東京 10月22日



Corporate Culture and Cohesion

OSCAR has set up the Foreign Staff Club to facilitate non-Chinese staff working and living in Suzhou.

As an employee-friendly company, OSCAR made efforts to create a supportive environment. Thus, the OSCAR gym was opened in May 2019 for all staff and a library with journals, books and magazines is also in establishment.





Various team building events have been held to enhance the cohesion of the OSCAR team and to create a welcoming environment for non-Chinese staff. Such events include monthly birthday celebrations, cultural immersion events linked with traditional Chinese holidays, and themed trainings.







44 Join Us

Global Recruitment

OSCAR is looking to recruit researchers from across the globe at three levels:

Senior Research Scientist—experienced researchers who can work independently and can help the Oxford-based PIs to supervise the research group in China.

Research Scientist—postdoctoral researchers who have recently completed a PhD in a relevant field.

Research Technician—with Masters-level training or equivalent.

Researchers will be employed by OSCAR in Suzhou, China, but will spend some time at the University of Oxford, UK, to integrate with the research groups of the OSCAR PIs. OSCAR offers internationally competitive salaries, with the positions for three years in the first instance with the possibility of extension.

Detailed job descriptions, application procedures and the deadlines can be found on the OSCAR webpage: https://oscar.web.ox.ac.uk/research-0

For informal enquiries please contact the Recruitment Office at info@oxford-oscar.cn

