



UNIVERSITY OF
OSCAR OXFORD

NEWSLETTER 021 APRIL 2019

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OSCAR Thinking



Prof. Bart Vanrumste

Invited Talks at OSCAR

On 1 April, Prof. Bart Vanrumste from Ku Leuven held a talk at OSCAR. Prof. Vanrumste was invited by the OSCAR AI for Healthcare group, and focused on fall risk estimation and automatic monitoring of activities of daily living in an indoor setting.

Prof. Bart Vanrumste's current research activities focus, among other things, on multimodal sensor integration for monitoring of older persons and patients with chronic diseases. He is senior member of IEEE Engineering in Medicine and Biology and member of the International Society for bio-electromagnetism.



Prof. Rumi Chunara

On 8 April, Prof. Rumi Chunara from NYU delivered a talk at OSCAR. The OSCAR AI for Healthcare group invited Prof. Chunara to speak about her work of understanding how Internet and mobile-sourced data can provide high-resolution spatial and temporal views into public health phenomena.

Prof. Rumi Chunara researches and develops ways to use unstructured data in real-world applications and understand population health. As a computer engineer and scientist, she has revolutionized how medical and public health researchers collect health information through the Internet and mobile technology.

The OSCAR Optoelectronics group invited Dr. Guohua Xie, of the Chemistry and Molecular Sciences of Wuhan University (China), to deliver a talk at OSCAR entitled "Solution-processable thermally activated delayed fluorescence emitters and their electroluminescence".

Dr. Xie worked simultaneously at the Institute of Applied Photophysics of Technische Universität Dresden and Franuhofer COMEDD (Germany), sponsored by Alexander von Humboldt Foundation. From January 2013 to January 2015, Dr. Xie worked for an interdisciplinary project funded by EPSRC (UK) at the Organic Semiconductor Center of the University of St Andrews.



Dr. Guohua Xie

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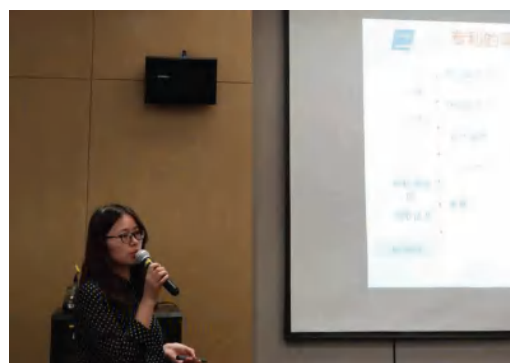
OSCAR Thinking

OSCAR Held Sino-UK IP Workshop

OSCAR held an IP related event on 22 April: the 'Sino-UK IP Workshop'.

The event had five speakers who introduced IP application procedures in China, IP subsidy policies in Jiangsu Province & Suzhou City, Key Points for IP Inspections in China, IP Protection in China for UK institutions and IP operations in China.

The workshop was open to the public and about 40 audience from related governmental departments, research institutions in SEID, law firms, and OSCAR staffs participated in it.



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OSCAR Publications

On 5 April, the paper *Culture surfaces induce hypoxia-regulated genes in human mesenchymal stromal cells* was published on *Biomedical Materials* and OSCAR affiliation is made for Prof. Zhanfeng Cui, Prof. Hua Ye and Dr. Hui Wang.

<https://doi.org/10.1088/1748-605X/ab0e61>

PAPER

Culture surfaces induce hypoxia-regulated genes in human mesenchymal stromal cells

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Published 5 April 2019 • © 2019 IOP Publishing Ltd
Biomedical Materials, Volume 14, Number 3

Article information

Abstract

Culturing human Mesenchymal stromal cells (hMSCs) *in vitro* in hypoxic conditions resulted in reduced senescence, enhanced pluripotency and altered proliferation rate. It has been known that *in vitro* hypoxia affects expression of cell surface proteins. However, the impact of culture surfaces on the hypoxia-regulated genes (HRG) have not yet been reported. This study utilized Next-Generation sequencing to analyse the changes in the gene expression levels of HRG for hMSCs cultured on different culture surfaces. The samples, which were cultured on four different synthesized surfaces (treatments) and tissue culture plate (control), resulted in a difference in growth rate. The sequencing results revealed that the transcription of a number of key genes involved in regulating hypoxic functions were significantly altered, including *HIF2A*, a marker for potency, differentiation, and various cellular functions. Significant alternations in the expression levels of previously reported oxygen-sensitive surface proteins were detected in this study, some of which closely correlate with the expression levels of *HIF2A*. Our analysis of the hMSCs transcriptome and HRG mapped out a list of genes encoding surface proteins which may directly regulate or be regulated by *HIF2A*. The findings from this study showed that culture surfaces have an impact on regulating the expression profile of HRG. Therefore, novel culture surfaces may be designed to selectively activate *HIF2A* and other HRG and pathways under *in vitro* normoxia. The understanding of the crosstalk between the regulating genes of hypoxia and culture surfaces may be utilized to strengthen desired hypoxic



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Outreach Activities

Director Prof. Zhanfeng Cui in Guizhou

In April, Prof. Zhanfeng Cui, OSCAR Director, visited Guizhou Province and joined discussion meeting with presidents of universities in Guizhou to explore potential collaborations. He also visited Guiyang No. 1 School and gave a speech to school pupils to publicise the University of Oxford.



Director Prof. Zhanfeng Cui in Guangzhou

On 25 and 26 April, Prof. Zhanfeng Cui together with Alex Yang visited Guangzhou Economic & Technology Development District (GETDD). They met with Mr. Yawei Zhou (Secretary of the Party Working Committee of GETDD), Mr. Xuwei Sun (Deputy Director of GETDD Administrative Committee), discussed how to execute the MOU signed between University of Oxford and GETDD, explored potential cooperation. They also visited Suikai Science Park, Bio island and Xiangxue Pharmaceuticals.



OSCAR in Jiangsu-UK 20+20 World-Class University Consortium & International University-Industry-Research Cooperation Forum

Alex Yang, OSCAR-JITRI Fellow, attended the launch ceremony of the Jiangsu-UK 20+20 World-Class University Consortium & International University-Industry-Research Cooperation Forum held in Zhenjiang, Jiangsu Province on April 8th to 9th on behalf of OSCAR.

The Rotating Chairs of the Consortium are Jiangsu University for Jiangsu and Liverpool University for the UK, with a tenure of two years.

Alex introduced OSCAR to the International University-Industry-Research Cooperation Forum and discussed cooperation opportunities with several universities.

On 10 April, Wiebe Van Der Hoek, Pro-Vice-Chancellor of Liverpool University and Christine Bateman, Head of International Development visited OSCAR after the launch of Jiangsu-UK 20+20 Consortium. They held a meeting with Prof. Zhanfeng Cui and Leah He to learn about OSCAR's operations and discussed potential research cooperation between Liverpool University and OSCAR.



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Pls Work in OSCAR

On 19 April, Prof. Ian Thompson and Prof. Wei Huang visited the Department of Health and Environmental Sciences and Department of Biological Sciences, Xi'an Jiaotong-Liverpool University (XJTLU). Several researchers (including Dr. Zheng Chen, Prof. Johannes M H Knops, Dr. Yixin Zhang etc.) at XJTLU gave a brief introduction about their research interests after Ian and Wei's introduction of OSCAR. Afterwards, Ian and Wei looked around the labs in both departments and talked about potential collaboration between XJTLU and OSCAR including sharing lab facilities.



PI, Prof. Paul Stavrinou visited OSCAR in April and planned work for recruitment and research.



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Meet OSCAR New Staff



Dr. Keval K. Sonigara

Research Scientist / Prof. Donal Bradley's group

Dr. Keval K. Sonigara joined OSCAR as a Research Scientist in Prof. Donal Bradley's group in April 2019. He received his Bachelor, Master, and Doctoral degree from the Department of Chemistry, Sardar Patel University, INDIA. His research at OSCAR covers solution processible active and charge transport materials for advanced optoelectronic devices, including light emitting diodes and photovoltaics devices.

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Chen Enqi

Research Technician / Prof. Jamie Warner's group

Mr. Chen Enqi joined OSCAR in April 2019. Enqi's research focus is on the large area growth method of monolayer two-dimensional materials by CVD (such as MoS₂, graphene). He received his Bachelor degree from Department of Physics, Soochow University, CHINA and Master degree from Department of Science, National University of Singapore. The current project in OSCAR would be the development of CVD growth method.

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Ji Mengmeng

Research Technician / Prof. Ian Thompson and Wei Huang's group

Ji Mengmeng's research interests are the development of environmental biotechnology, construction and test of biosensors, and improvement and application of single cell genomic analysis. Meanwhile, she is responsible for equipment and consumable purchasing and daily maintenance of the environmental biotechnology and synthetic biology lab at OSCAR.

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EHS Supervisor Training in the University of Oxford

In late April, Mary Ma, EHS Supervisor of OSCAR, spent a week in Oxford for a training about safety and health policies and practices of the Oxford University. OSCAR will learn from University's policies and best practices and make appropriate adjustments according to the laws and regulations of China, which will be applied in the operations in OSCAR.

During this visit, with Prof. Luet Wong's (OSCAR PI) help, meetings were arranged with Principal Investigators, researchers and safety officers across four academic departments of Physics, Chemistry, Materials and Engineering Science. They gave an instruction in detail in safety organizational structure, risk assessment (biological risk, chemical risk, laser risk, electrical risk, etc.), hazardous waste disposal, laboratory local rules, laboratory safety practices. Mary also conveyed to them Chinese regulations on these issues. This visit provided a significant opportunity to learn from Oxford's safety practices and is of great help to OSCAR in establishing safety management system.

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Visitors to OSCAR

On 3 April, Mr. Shui Xi (CEO of VINNO) and Mr. Fanggang Wu (CTO of VINNO) visited OSCAR. Research collaboration and funding applications between OSCAR and VINNO were discussed. Mr. Xi invited Prof. Roy and Jason to visit VINNO in the future.

As a neighbor of OSCAR, VINNO is an ultrasound equipment company, founded in Suzhou Industrial Park in 2010 by a team with extensive ultrasound development experience with more than 500 employees. VINNO is a member of Dushu Lake Union in Suzhou, focusing on the development and manufacture of high-end color Doppler ultrasound diagnostic systems and offers accessible medical solutions.



Mr. Shui Xi (R2) and Mr. Fanggang Wu (L2)

On 3 April, Michael Milne, Director of University of Sydney Centre in China located in SEID, visited OSCAR and met with General Manager and OSCAR researchers.

The Sydney Centre is planning to initiate research activities in Suzhou. So, this visit was to explore collaboration possibilities with OSCAR, including opportunities of research projects collaboration, exchange of personnel, etc.



On 4 April, the Suzhou Municipal People's Congress delegation visited OSCAR to learn about OSCAR's recent progress.



On 9 April, the delegation of Massey University (<http://www.massey.ac.nz/>) visited OSCAR to understand OSCAR's development and operation in SIP.

The delegation was led by Rob Stevens, General Manager Massey University Worldwide and Rebecca Argyle, Business Development and Operations Manager Massey University Worldwide.



On 17 April, a delegation led by Zhang Xiaobing, member of Standing Committee of Taizhou city, visited OSCAR and was accompanied by Suzhou Vice Mayor Lu Chunyun (in charge of technology and innovation). The OSCAR Director and General Manager received them and briefed them about OSCAR's development in research and recruitment.



On 24 April, Dr. Bernard P. Duncker (Associate Vice-President, Interdisciplinary Research, Professor of Biology) and Ling Loerchner (Chief Commercialization Officer, Asia Managing Director) from University of Waterloo, visited OSCAR. General Manager Leah and OSCAR JITRI Fellow received them with discussions about possible collaboration.



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SIP News in April

SIP: A Model for International Cooperation

SIP, a cooperative project between the Chinese and Singaporean governments, now ranks among the world's top high-tech industrial parks in terms of a set of indicators including per capita GDP, energy consumption per unit of GDP and R&D input, according to a report released at China-Singapore Suzhou Industrial Park 25th Anniversary Celebration-Development Report Conference held in Suzhou on April 12.

The report highlighted that, since its inception in 1994, SIP has seen a sharp increase of projects funded by about 5,000 enterprises from over 70 countries and regions, including many Fortune 500 enterprises like Siemens, Philips, Emerson and Samsung. Moreover, it has offered support to 309 Chinese enterprises in their investment in 53 countries and regions, and taken part in the construction of 12 industrial parks home and abroad. The report shows that SIP's foreign investment in actual use has reached more than USD 30 billion so far, while total imports and exports exceeded USD 1 trillion.

On the other hand, with excellent conditions for R&D activities, SIP has attracted Harvard, Oxford, MIT, Cold Spring Harbor Laboratory and other overseas top-class research institutes to set up their projects in the area. These projects are playing an important role in driving a fast development of emerging industries such as biomedicine, nanotech and AI in SIP and its surroundings.

At the same time, SIP has amassed rich experience in urban planning, economic development and public services based on a series of good practices borrowed from Singapore. The report records 110 regulations and policies that SIP has made in accordance with international norms and domestic conditions in moves to propel local economic, social and cultural development, and 172 reform practices including nearly 30 that have been rolled out to other places in the country.

Zhou Naixiang, member of the Standing Committee of CPC Jiangsu Committee and secretary of CPC Suzhou Committee, said, with continuously enhanced cooperation with Singaporean partners in the future, SIP is expected to set a better example for international and regional cooperation.



People's Daily Overseas Edition,
April 13, 2019

http://www.sipac.gov.cn/english/news/201904/t20190416_1016002.htm