UNIVERSITY OF
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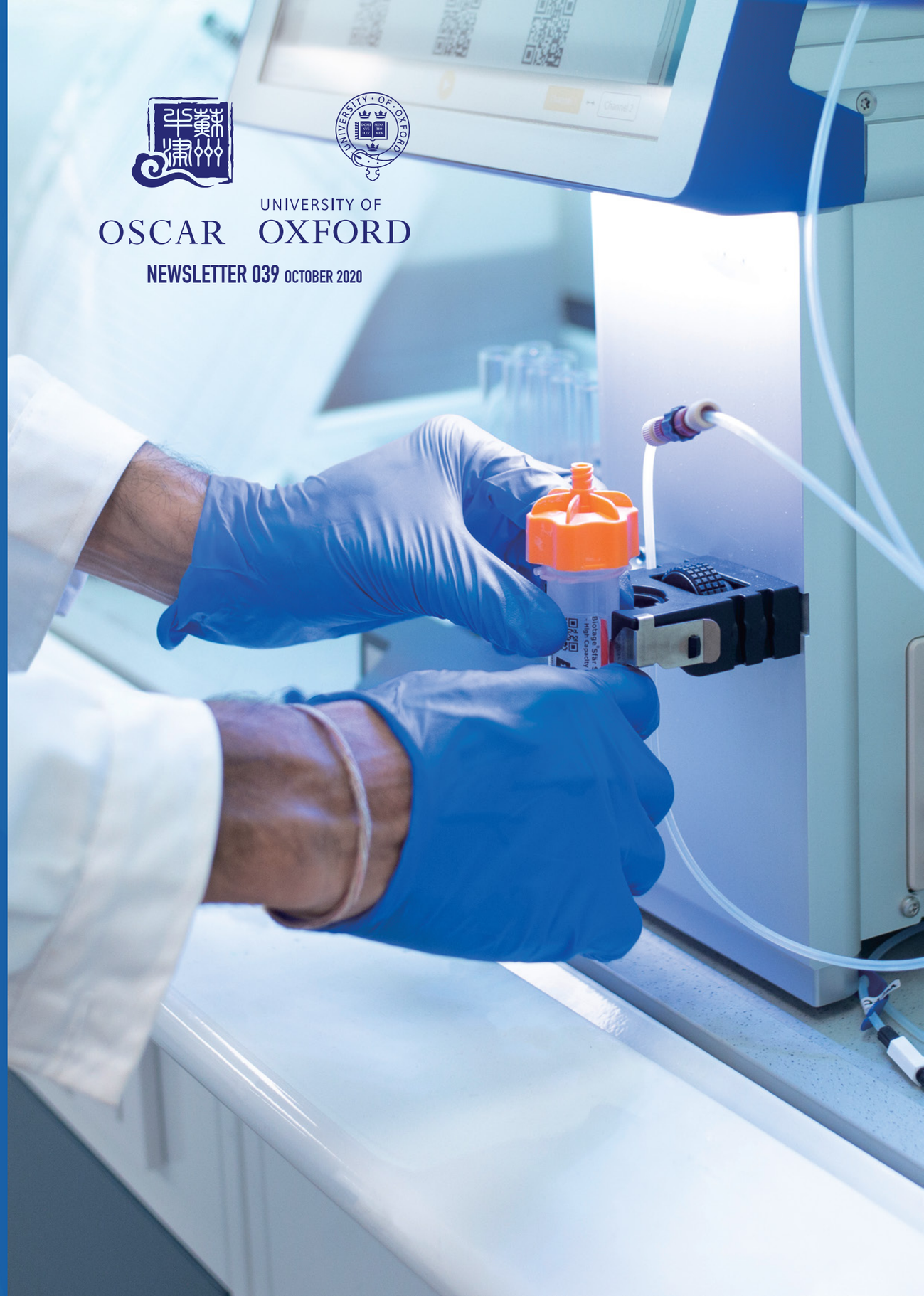

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Oxsed RaViD Direct now in use at Heathrow and trials at Hong Kong International Airport

Oxsed, OSCAR's first spinout company, was launched this summer to commercialise the rapid RT-LAMP test for COVID-19 developed by Profs. Cui and Huang and their teams at OSCAR and the University of Oxford. The CE-marked test, known as RaViD Direct, has demonstrated 92-100% sensitivity in clinical trials. It detects RNA fragments of SARS-CoV-2 from nose or throat swabs, or mouthwash or saliva samples. Results are produced in around 30 minutes after sampling, making the test ideal for use in high volume, fast turnaround situations such as passenger screening.

Starting in October, RaViD Direct is available to passengers departing for Heathrow airport for Hong Kong and Italy to fulfill those countries' pre-departure testing requirements at the airport. The rapid test is ideal for settings like airports as it can provide results within 30 minutes and could also be adapted for use in community care, hospitals, schools and large-scale events. UK travellers can pre-book an online appointment to take the test in purpose-built facilities located in Terminals 2 and 5 at Heathrow, during which a nasal swab is taken for testing. This is an important milestone for OSCAR and an opportunity to take manufacture and distribution to full commercial scale.

A semi-automated lab was also established at Hong Kong International Airport to test arriving passengers, with a view to generating a safe "travel bubble" between Hong Kong and Singapore. Heathrow and Hong Kong International Airport were the 7th and 13th busiest by passenger traffic in 2019[1] so the tests have the potential to reach large numbers of people as international travel resumes.

Oxsed was initially established as a social enterprise. The rapid, accurate and affordable point of care test deployed globally could herald a significant development in reducing the spread of the virus between countries. Deployment at scale will also help accelerate rapid COVID-19 testing across the globe, particularly in developing countries with limited healthcare laboratory capability.

PI and co-founder Professor Huang said: "Our inspiration to develop this rapid test was conceived at Heathrow Airport when our team returned from OSCAR at the start of the pandemic in January of this year. We felt that rapid testing should be a must for airport screening and our entire team has been working day and night to make this development happen. I am now very pleased to see our tests are actually used at Heathrow and making an impact on safe travel."

Prof. Cui (right) and members of the Oxford team at the test facility, Heathrow Terminal 5.

[1] *Airports Council International – Worldwide Airport Traffic Report – Calendar Year 2019*
Find out more at: www.ox.ac.uk/news/2020-11-04-rapid-covid-19-test-oxsed-ravid-direct-now-use-heathrow-and-trials-hong-kong

Technology Transfer high on OSCAR's second phase development agenda

Since its launch in 2018, OSCAR has established an initial strong foundation of talented research teams, infrastructure and equipment, and worked to initiate new lines of research. After successful establishment of our research labs, OSCAR is now looking to the future and considering effective ways to maximise research impact and ensure the best ideas and innovations are developed and supported through to the market.

As part of the second phase of development, OSCAR plans to launch six technology transfer groups, dubbed 'Innovation and Technology Centres' (ITCs). These centres will each focus on a strategic emerging area and capitalise on the research strength of OSCAR's principal investigators from the Mathematical, Physical and Life Sciences (MPLS) Division at the University of Oxford. They will accelerate technology transfer and commercialisation by increasing technology readiness level of OSCAR's core research.

Our ITCs champion and thrive on collaboration. Each will be led by OSCAR Principal Investigators and may involve Visiting Academicians or other industrial, clinical or academic partners from leading institutions across the world. As well as strengthening the ITCs' research impact and capability, these partnerships will serve to consolidate OSCAR's reputation and foster collaborative networks in the region.

Each of OSCAR's new ITCs will be supported by a team of dedicated researchers, with an additional experienced team of technicians collectively serving all the centres. They will drive technology transfer in:

1. Molecular diagnostics
2. (Bio)manufacturing, bioprocessing and bioformulation
3. Medical Biomaterials
4. Personalised health
5. Financial, investment and economic innovation
6. Energy materials

Each of these Centres develop exciting de novo research initiated by OSCAR's established research groups. Potentially impactful and marketable research will be refined and developed, increasing technology readiness level and adapting for specific market niches. The Centres are each planned to run for an initial 3-year term, after which they will be reviewed.Furthering OSCAR's ability to bring its research to fruition, the second phase of development also includes the establishment of an innovation hub that enables technology demonstration, prototype construction and pilot manufacturing. OSCAR's 7th floor will be refurbished to provide clean manufacture facilities for advanced therapeutics (cells, vaccines, proteins, nanobodies etc), bioproducts (e.g. enzymes, microbials), medical devices (e.g. diagnostic biosensors), etc.

Vice-Chancellor (Research) of University of Oxford Prof. Patrick Grant said "Our vision for OSCAR is that it is a home for 'Oxford in China' and allows our researchers to collaborate more effectively with our Chinese counterparts, and to undertake research that is better and more impactful in that it has closer ties to local industries, health services and because it addresses particular local challenges more effectively ."

OSCAR marks a new milestone with launch of first Innovation and Technology Centre

On the threshold of its second phase of development, OSCAR marked a new milestone on 22nd October by launching its first Innovation and Technology Center (ITC) dedicated to development of commercialisable technologies and products related to Molecular Diagnostics.

High-profile guests were invited to OSCAR premises in Suzhou to celebrate this remarkable moment, including Chris Wood, British Consul-General in Shanghai, Steven Brennan, Science & Technology Consul, Waikit Ho, Outreach-Bilateral Consul, British Consulate-General Shanghai, Gill Caldicott, Area Director, East China and Consul (Culture and Education) and Mr. Yan Shen, Vice-Chair of the Administrative Committee of SEID.

OSCAR Director Prof. Zhanfeng Cui was unable to travel to the event due to Covid-19 travel restrictions, but hosted the launch ceremony from Oxford via virtual link. He was also joined, remotely, by Prof. Mark Moloney, OSCAR Deputy Director; Prof. Patrick Grant, Vice-Chancellor (Research) of University of Oxford; Prof. Sam Howison, Head of MPLS Division, University of Oxford; OSCAR PI Prof. Wei Huang and Visiting Academician Prof. Jonathan Cooper, Co-heads of the new ITC; and Dr. Monique Andersson, Director of the Medical Microbiology Laboratory at Oxford University Hospitals NHS Foundation Trust.

British Consul General in Shanghai helps unvail the plaque for ITC

Mr. Wood, who toured OSCAR and its research laboratories prior to the ITC launch, described his visit to OSCAR as “mind blowing”. He reaffirmed the strong support of the British Consulate-General in Shanghai to “British and Chinese academics and businesses working closely in important high technology areas such as those that the ITC will pursue”.

Senior Research Scientist Dr. Yun Wang of OSCAR’s synthetic biology group gave British Consul General in Shanghai and his colleagues a demo of the rapid diagnostic kit for SARS-CoV-2

The ITC for Molecular Diagnostics builds on the success earlier this year of OSCAR’s Principal Investigators Professor Zhanfeng Cui and Professor Wei Huang. Their joint efforts in developing and bringing to market a new, rapid test to detect SARS-CoV-2 RNA and diagnose people infected with COVID-19 resulted in OSCAR’s first commercialised product, spinout and company acquisition in only 6 months. Their extraordinary work received special mention in this year’s Vice-Chancellor Oration as Professor Louise Richardson highlighted Oxford’s research and impact across the world.

The Molecular Diagnostics ITC will bring together these two investigators, leading researchers in biosensing, biotechnology, microbiology and diagnostics, with international visiting experts. These are molecular diagnostics expert Prof. Jon Cooper (Wolfson Chair of Bioengineering at the University of Glasgow) and Dr. Monique Andersson (Oxford University NHS Foundation Trust), a clinician specialising in medical microbiology. These collaborators bring fresh perspective and industrial and clinical experience to the Centre and will enrich technology development for end users in the clinic and the marketplace.

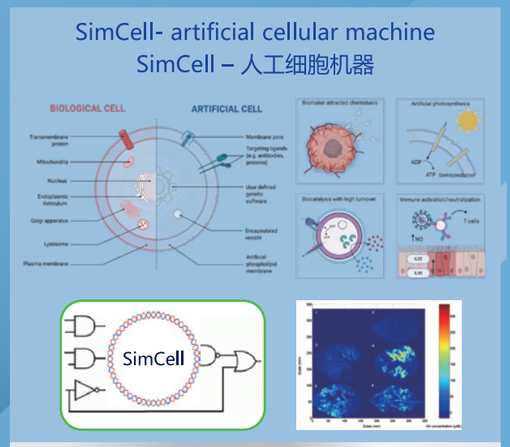
Prof. Cooper was appointed as one of OSCAR’s first Visiting Academicians in May 2020, while Dr. Andersson joins as a Visiting Fellow.

The ITC will develop technologies in:

- Nucleic acid-based detection (e.g. detection of SARS-Cov2-19)
- Biosensor-based detection including SimCells (simple cells) (e.g. detection of antibiotics)
- Protein-based detection (e.g. detection of antibodies)

These technologies will have myriad applications, including:

- Medical (e.g. diagnosis of respiratory disease, cancer, diabetes, malaria)
- Food safety (e.g. antibiotics, heavy metal, additive)
- Environmental (toxicity, antibiotics, etc.)



Simple Cell (SimCell) - a genetically reprogrammable "artificial cellular machine”

As demonstrated by their swift response in developing the rapid COVID-19 test, the Centre’s team will benefit society with topical technologies by utilising its collective knowledge and capability to react to global threats.

Meet OSCAR’s Visiting Academicans

Visiting Academicians are leading experts in their fields, and have been invited to work alongside OSCAR’s PIs and research groups to both broaden and strengthen knowledge and expertise. Visiting Academicians may also support, refine and accelerate existing work to increase the technology readiness level and subsequent impact of our research. Each Academician will work alongside our core teams at the new Innovation and Technology Centres (ITCs) for a three-year term.

Prof. Jonathan Cooper, FREng, FRSE

Prof. Cooper is the Visiting Academician at OSCAR’s first Innovation Training Centre in Molecular Diagnostics, hosted by Profs. Cui & Huang.

Professional highlights:

- Wolfson Chair of Bioengineering and Emeritus Vice Principal, University of Glasgow
- Academic Founder of 3 spin-out companies
- Fellow of the Royal Society of Edinburgh (2001)
- Fellow of the Royal Academy of Engineering (2004)

Professor Jon Cooper is an internationally regarded professor in ‘lab-on-a-chip’ technologies. He holds the Wolfson Chair in Biomedical Engineering at the University of Glasgow, where he also leads the Knowledge Exchange strategy for key partners and has responsibility for enterprise activities. As the former International Dean for East Asia, Prof. Cooper has a strong record of international collaboration and cooperation. He has over 240 publications in internationally regarded publications, and an ISI h-index of 40.

Besides his many years of research excellence, Prof. Cooper has extensive experience leading Knowledge Exchange strategy to bring research closer to realization in the clinic or commercially. He is the academic founder of three spin-out companies (Modedx, SAWdx and Clyde Biosciences). Since 2008, these companies have developed a range of products and services for the diagnostic screening of chronic diseases, for the detection of acute infections and for improving the drug discovery process. The three companies have secured a total of £2.3M in venture funding and secured key strategic collaborations with stakeholders including industry partners and the NHS. Diagnostic sensor technology developed in his research laboratory is now commercially available through major British retailers.

Prof. Cooper’sresearch spans medical diagnostics, drug delivery and new medicines discovery, and major interests include ultrasonics, microfluidics and medical diagnostics. This complements our OSCAR ITC leads’ experience in biosensing and biomedical engineering. Prof. Cooper brings to OSCAR an entrepreneurial spirit, keen commercial acumen and a reputation for impactful research. At OSCAR’s new ITC for Medical Diagnostics, together with Prof. Cui and Prof. Huang, he will utilise the exciting pipeline of innovative research generated by OSCAR’s existing research labs to seek real-world applications and develop impactful and transferable products and technology platforms.

Prof. Kenneth Timmis, FRS, AAM, EAM, EMBO

Prof. Timmis joins OSCAR as a Visiting Academician, hosted by Prof. Cui and Prof. Huang.

Professional highlights:

• Professor Emeritus at TU Braunschweig

• Headed research groups at the Max Planck Institute for Molecular Genetics, the University of Geneva Medical Centre and the German National Research Centre for Biotechnology

• Winner of the Erwin Schrodinger Prize (2001)

Prof. Timmis has devoted his career to analysing and rebuilding the genetic machinery of bacteria, pioneering many essential tools of biotechnology. His early studies of microbial molecular genetics clarified how bacteria reproduce their genetic material in the form of plasmids. He has gone on to design and engineer bacterial strategies to remove environmental pollutants from contaminated soil and water. His research is well aligned with several OSCAR research groups, spanning environmental microbiology, microbial pathogenesis, vaccine development, and microbial biotechnology.

Prof. Timmis studied microbiology at Bristol University, undertook postdoctoral research training at the Ruhr University, Yale and Stanford, and headed research groups at the Max Planck Institute for Molecular Genetics, the University of Geneva Medical Centre, the German National Research Centre for Biotechnology and the Technische Universität Braunschweig.

Prof. Timmis's research focus has been environmental microbiology, microbial pathogenesis and vaccine development, and microbial biotechnology, mostly involving genetic approaches. His group developed one of the first "biosafety" strains of bacteria, Pseudomonas putida strain KT2440, for genetic engineering, and a large range of genetic tools for this metabolically versatile bacterium, which has become a major workhorse for biotechnological applications, and the P4SP chassis. He has published almost 500 research papers and has an H-factor of 95. His work has more than 30,000 citations. Besides, he is an active collaborator with many commercial and academic partners.

Prof. Timmis has long been a strong advocate of leading education in microbiology and improving scientific literacy at all levels. With like-minded colleagues, Kenneth Timmis proposed an initiative to create young scientist driven, innovation-led chemical industries in Southern Europe, to harness the talent and enthusiasm of young researchers to expand knowledge-based enterprises.

His commitment to fostering excellence in young researchers makes him an excellent addition to OSCAR's leadership. His experience will drive and support development of novel technologies, while supporting development of our talented young research team. The breadth of his expertise and position at the forefront of the microbiology field will make Prof. Timmis an excellent collaborator to enhance existing work and drive innovative new projects at OSCAR.

OXFORD SUZHOU CENTRE FOR ADVANCED RESEARCH

Research Spotlight – Acoustics and Optics

OSCAR PIs Prof. Ron Roy and Dr. Jason Raymond, who lead the Physical, Biomedical, and Industrial Acoustics research group, recently published a joint paper with collaborators in the Key Laboratory of Modern Acoustics (MOE) at the Collaborative Innovation Centre of Advanced Microstructure, Nanjing University.

The paper, titled "The influence of droplet concentration on phase change and inertial cavitation thresholds associated with acoustical droplet vaporization" was published in The Journal of the Acoustical Society of America last month.

Background

Prof. Roy and Dr. Raymond are interested in the physics of sound generation, detection and propagation and the interaction of sound and light. A particular focus is acoustic cavitation, which has strong application in biomedical acoustics and medical ultrasound. Theragnostics (a portmanteau of therapeutic diagnostics) is a treatment strategy that uses complementary physical effects of vapourised nanodroplets in this case, such as noise generation (for diagnostics) and bioeffects such as enhanced heat deposition (for therapeutic purposes). This paper describes the influence of concentration on acoustic threshold measurements of acoustic droplet vaporisation (ADV) which is important for theragnostic application of ultrasound -activated droplets .

Research

ADV is a process in which liquid undergoes phase transition to gas after exposure to pressure amplitude over a threshold value. The resultant microbubbles act as ultrasonic contrast agents. Their oscillation produces a scattered acoustic pressure field which can then be detected by an external transducer (like an ultrasound wand). Microbubble oscillations are linear at low pressure but become non-linear as pressure amplitude increases. At high pressures, the bubbles oscillate violently and may burst. This may generate bioeffects which can be beneficial – or potentially dangerous if uncontrolled It is important to control stability depending on the application – encouraging rupture to enhance delivery of therapeutic agents, or promoting stability during the imaging timeframe and preventing rupture which may damage vulnerable tissue or structures.

This paper describes the threshold acoustic pressure measurements for droplet vaporization and inertial cavitation (IC) of the resulting bubbles. These two phenomena are associated with the acoustically induced vaporization of non-superheated lipid-coated nanodroplets over a wide range of concentrations. Their results show that very high or very low concentrations may alter the phase change and IC threshold value. They also showed that although ADV phase change occurred at lower excitation pressure amplitude than IC at any concentration, the difference was reduced at high concentrations. The authors noted that this carried important safety implications, as it may be difficult to induce ADV at higher concentrations (for example, to enhance diagnostic ultrasound) without also inducing IC. In vitro characterisation of droplets is usually performed with intermediate concentrations, but in vivo applications often utilise higher concentrations, so the deleterious effects associated with inducing IC may not be detected in modelling. These research findings may therefore be useful in guiding or revising selection of concentration and excitation pressure amplitude for certain applications.

The work was supported by the National Key Research and Development Program of China, the National Natural Science Foundation of China and the UK-China Joint Research and Innovation Partnership Fund (Newton Fund) Ph.D. Placement Program.

The full paper is available in print and online:

Yang, Y., Yang, D., Zhang, Q., Guo, X., **Raymond, J.L., Roy, R.A.**, Zhang, D. and Tu, J. (2020). The influence of droplet concentration on phase change and intertial cativation thresholds associated with acoustic droplet vaporization. The Journal of the Acoustical Society of America **148 (4):** EL375-EL381.

Prof. Ronald Roy is the lead PI of OSCAR's Physical, Biomedical, and Industrial Acoustics research group and Professor of Mechanical Engineering. He is also an Honorary Professor at the Hong Kong Polytechnic University, Adjunct Professor of Acoustics at Nanjing University and a Fellow of the Acoustical Society of America.

Prof. Roy is currently Head of the Department of Engineering Science at the University of Oxford and served on the advisory board for a nuclear fusion energy tech company.

Dr. Jason Raymond jointly leads Physical, Biomedical, and Industrial Acoustics research group. He is the Head of the Industrial and Biomedical Acoustics laboratory at OSCAR and a Senior Researcher at the University of Oxford.

Dr. Raymond currently serves on the Technical Committee for Physical Acoustics and the Technical Committee for Biomedical Acoustics with the Acoustical Society of America. He is a member of the Institute of Physics.

Yanye Yang was a visiting doctoral student at the University of Oxford and OSCAR from 2019-2020. Building on a collaboration established through research activities at OSCAR, she won funding from the Newton Fund (known as UK-China Joint Research and Innovation Partnership Fund in China) to study at Oxford University for one academic year. Yanye visited OSCAR in Summer 2020 and is currently completing her doctoral studies under the direction of Prof. Juan Tu and Prof. Dong Zhang at Nanjing University School of Physics.

OSCAR Academic Seminar Series

OSCAR's fourth academic seminar took place via web conference on October 23rd. This seminar saw invited talks given by Professor Ye Hua, PI of the Regenerative Medicine Engineering group, and Dr. Jinsong Huang, Senior Research Scientist of the Optoelectronic Technology research group (OeTL). Deputy Director Professor Mark Moloney chaired the seminar.

Prof. Hua (Cathy) Ye is an Associate Professor of Engineering Science, Fellow of Linacre College and former Enterprise Fellow at the University of Oxford.

Professor Ye's expertise is in stem cell technology, tissue engineering and its enabling technologies, such as biomaterials and culturing techniques. Specific areas of interest include the development of bioreactor technology for culturing bone marrow, cartilage, tendon and skin growth; research on low-temperature storage and vitrification technology to preserve living cells and engineered tissues.

During her talk, Prof. Ye presented highlights from her research at Oxford and described the scope of work in Suzhou. The objective of her group's research at OSCAR is to develop understanding of how cells interact with their environment, and apply this knowledge to design of biomaterials and bioreactors to achieve desired quantity and quality of cultured cells and tissues. Work like this is essential to bring novel cellular and tissue engineered therapies to the clinic.

Prof. Cathy Ye and co-PI Prof. Zhanfeng Cui with their research group at OSCAR

Prof. Ye described the affect that material characteristics, such as surface topography, and culture conditions have on gene expression in mesenchymal stem cells, and how this can influence differentiation. She gave a detailed example of a series of experiments to improve neurite formation and axonal connections in human neurons derived from iPSCs (induced pluripotent stem cells). Culture in laminin-treated granular hydrogels, fractured to increase internal surface area, demonstrated capability to produce complex neuronal networks with highly interconnected neurons as well as supporting astrocytes. This has application in repairing damage to the central nervous system. Gels are highly customisable and versatile, and the ability to produce complex 3-dimensional engineered neuronal tissues could be used to treat traumatic injury or degenerative disease in the long term.

Dr. Jingsong Huang is Senior Research Scientist and Head of the Optoelectronic Technology Laboratory (OeTL) at OSCAR. He is also a Visiting Professor at South China University of Technology (SCUT).

PDr. Huang is the Senior Research Scientist in Prof. Bradley and Prof. Stavrinou's OeTL group. He has 20 years of research experiences in top universities and industry. His research interests lie in the application research of plastic semiconducting materials and devices, especially photovoltaic and light emitting diodes (LEDs).

Together with colleague Dr. Keval Sonigara, Dr. Huang presented the OeTL group's latest research results in the development of "efficient interfacial materials for blue perovskite LEDs". Metal halide perovskite blue LEDs ("Pe-LEDs") have huge potential for optoelectronic applications, but their device efficiency and performance is limited. One of the reasons is poor interface of the perovskite emitter. Dr. Huang and his colleagues have developed a small organic molecule, BPS2, as an interfacial material to ameliorate this problem and improve device efficiency. They have demonstrated that a thin layer of BPS2 introduced between PEDOT:PSS and perovskite emitter improves the device external quantum efficiency by 50% and enhances the luminescence by 20%.

BPS2 is based on phenothiazine-benzimidazole with Lewis base atoms sites. It has a preferable energy level matching that of wide-bandgap blue perovskite emitters, which helps to reduce hole injection barrier and to block the transport of electrons. Moreover, BPS2 can be solution-processed with green (chlorine-free) solvents and provide improved hydrophilicity compared to conventional polymer-based hole transport materials. These improvements, together with the increased efficiency and luminescence, help address the high cost and solubility problems that currently limits the use of Pe-LEDs. OSCAR's OeTL group is the first to demonstrate the use of a small organic molecule hole-transport materials in perovskite blue light devices. It creates a new platform for development of novel interface materials in diverse optoelectronic applications.

Dr. Huang was the first of OSCAR's researchers to present at the academic seminar series. This opportunity will be extended to all researchers in the coming months.

Senior Research Scientist Dr. Jingsong Huang and his research group at OSCAR

Outreach and Collaboration

Suzhou Institute of Systems Medicine explores collaboration opportunities with OSCAR

Ms. Yuting Ma, Associate Director of Suzhou Institute of Systems Medicine (ISM) at the Chinese Academy of Medical Sciences and Peking Union Medical College visited OSCAR on 16th October with a group of colleagues.

OSCAR's General Manager Leah He, Industry Collaboration Manager Alex Yang and six researchers from OSCAR's health and medical research groups received the visitors. After a tour of OSCAR's exhibition hall and labs, the visitors sat down with OSCAR researchers in a meeting where each side talked about their research areas and ongoing projects. OSCAR and ISM demsontrate closely aligned research interests and expertise, offering potential to partner in future. After a successful visit, both parties agreed to hold follow-up meetings to identify specific areas for collaboration.

Suzhou Institute of Systems Medicine was co-founded by the Chinese Academy of Medical Sciences and Peking Union Medical College, and Suzhou Industrial Park. ISM is committed to promoting interdisciplinary synergy and innovation among systems biology and basic medicine, clinical medicine and preventive medicine, enabling the rapid transfer of research results from laboratory to clinical applications and the development of pharmaceutical industry. ISM aspires to become an internationally-influential translational medicine research institute and a base for innovation in biomedicine.

Updated Incentive Policies released at SIP University Development Alliance Conference

On 29th October, General Manager Leah He attended the SIP University Development Alliance Conference. Thirty universities and research institutes based-in SIP's Science, Education and Innovation Destrict (SEID) formed the Alliance in April 2015 with the aim of nurturing a collaborative ecology where information, resources and opportunities are identified and shared to create greater value for each memeber.

During the conference, SIP released a new package of support and grant funding available to universities and research institutes located in SIP. Specific measures designed to facilitate and incentivize high-caliber talent introduction, research platform establishment, innovation enhancement and technology commercialisation are expected to be released soon.

Boasting the highest density of quality higher education assets, SEID is now home to 31 well-known universities, 6 vocational colleges and universities, and 14 national research institutes. The district's vibrant academic vibe in tandem with the exciting drive for innovation and entrepreneurship constitute a fertile soil for OSCAR to thrive, and to bring technologies to market more efficeintly. Uniquely positioned to bridge academia and industry, OSCAR is off to a strong start in its second phase of development. The new funding opportunities announced by SIP during the conference will benefit OSCAR's planned research expansion and recruitment during this new phase of development.

Avient approaches OSCAR for tech commercialisation

Dr. Kamran Khan from OSCAR's surface chemistry group

Senior executives of Avient™ visited OSCAR in October. Avient is an international company specialising in appliances, consumer goods, electronics, health care, packaging, textiles, wires, and transportation.

During his visit, Avient's Marketing Manager Mr. Jeko met with Dr Kamran Khan from OSCAR's surface chemistry group. Mr. Jeko showed interest in OSCOAT™, a novel surface science antimicrobial technology developed by Dr. Khan, a Research Scientist in Prof. Mark Moloney's research team. OSCAR will seek to commercialise this novel technology with Avient by application in electronics products including computers, mobile phones, tablets, and other touch screen devices.

Research Scientist from AI for Healthcare group visited Inspur

Dr. Jessie Liu from Prof. David Clifton's AI for Healthcare research group visited Inspur in Ji'nan, capital city of Shandong province in east China, on the 7th of October. Inspur vice-president Mr. Chuangui Gao hosted Dr. Liu and introduced to her the company's Intelligent Health Big Data Platform.

The Inspur group is China's leading cloud computing, big data service provider with four listed companies: Inspur Information, Inspur Software, Inspur International and Inspur Huaguang. Together, they cover four large industry groups of cloud data centre, cloud services & big data, smart cities, and smart enterprises. As the third largest server provider in the world and the biggest in China, Inspur's access to market offers fantastic collaboration opportunities for Prof. David Clifton's AI for Healthcare research group at OSCAR.

Dr. Jingsong Huang spoke at 2nd Global Perovskite & Tandem Cell Industrialization Forum

The 2nd Global Perovskite & Tandem Cell Industrialization Forum was held from October 27th to 29th by the Shanghai Solar Energy Society in Jiaxing, Zhejiang Province. The event attracted attendees from over 100 companies and research institutes. Numerous internationally famous companies were represented at the conference, such as GCL, CATL, JinKo Solar, Jolywood, LONGi, Trina Solar, Canadian Solar Inc, and SMIT. World-renowned universities and organizations were also on the high-profile attendance list, including Arizona University, EPFL, Netherlands TNO, Peking University, Nanjing University, CHN Energy, and Solliance.

Dr. Jingsong Huang of OSCAR's Optoelectronic Technology Laboratory (OeTL) was invited to the Summit as a special panel speaker discussing the topic "Innovation for 30% Power Generation Technology".

SIP News for October

SIP hosts forum on smart traffic and ICV

Sponsored by SIP Administrative Committee, the 2020 Yangtze River Delta Forum on Smart Traffic and ICV Innovation and Development took place in SIP on 17th October. The Forum, which discussed topics including future traffic, traffic organization and signal control, intelligent connected vehicles (ICV) and cooperative vehicle infrastructure systems, attracted hundreds of experts in smart traffic and ICV technologies from across China and internationally.

At the event, SIP Administrative Committee deputy director Lu Yuan gave the attendees a detailed introduction to SIP's efforts and outcomes achieved in developing its smart traffic and ICV industry over the past few years. SIP authorities announced plans to commence construction of an application scenario library in support of Suzhou's recent deployment of an Internet of Vehicles road system.

The SIP Three-Year (2021-2023) Action Plan for Smart Traffic has been released to the public. Under the plan, SIP is expected to achieve 100% coverage of its smart traffic system by 2023, and set up a nationwide leading ICV technology innovation base with a complete upgrade of related platforms and systems.

http://www.sipac.gov.cn/szgyyqenglish/News/202010/cc4224754829471b9f289e1038161fb0.shtml

More than 1,600 enterprises bring stunning products to CHInano 2020

The 11th CHInano Conference & Expo, the premier nanotech business event in China, opened in SIP on 28th October.

CHInano, an annual event first held by the Chinese Society of Micro-Nano Technology and China Association for International Science and Technology Cooperation in 2010, is a global event for nanotech enterprises and research institutes to showcase their work and seek collaboration opportunities.

This year's event consisted of a nanotech exhibition at an 18,000-square-meter pavilion and a series of talks by hundreds of global leading nanotech experts and professionals who shared their expertise in the filed.

Invited speakers Hiroshi Amano, Japanese physicist and the 2014 Nobel Prize laureate in Physics, and Zhenan Bao, a member of the National Academy of Engineering of the United States, gave keynotes via video link.

At the opening ceremony, the Nanotech Healthcare Research Institute and National Nanotech Healthcare Innovation Alliance were inaugurated.

As a principal event in nanotech business calendar, CHInano brings a great number of nanotech players under the same roof, providing good exposure for business and product launch. More than 1,600 exhibitors showcased their latest products and technologies in the nanotech sector. Some particular highlights are shown below.

CLEANSTAR, a company incubated by SIP-based Suzhou Institute of Nano-tech and Nano-bionics of the Chinese Academy of Sciences, demonstrated its novel pressure sensors. Their light weight, thinness and flexibility make them useful in such fields as Internet of Things, smart wearable devices, medical and healthcare services and consumer electronics.

A nanomaterial-based touchscreen TV, intended as an educational tool, was a big draw at the Expo. The material encourages interactive learning, allowing children to write and draw onto the screen.

Also among the showcased products were self-sterilizing masks and portable air sterilization cards for epidemic-control, as well as glasses cloth that can prevent eyeglasses steaming up for 12 hours with a single wipe.

Learn more about the Expo here:
http://www.sipac.gov.cn/szgyyqenglish/News/202010/df7a33ffa24c4a01a73b1954396dc7dd.shtml
http://www.sipac.gov.cn/szgyyqenglish/News/202010/f5c7b730e3d544c089abe39fc5749a27.shtml

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