

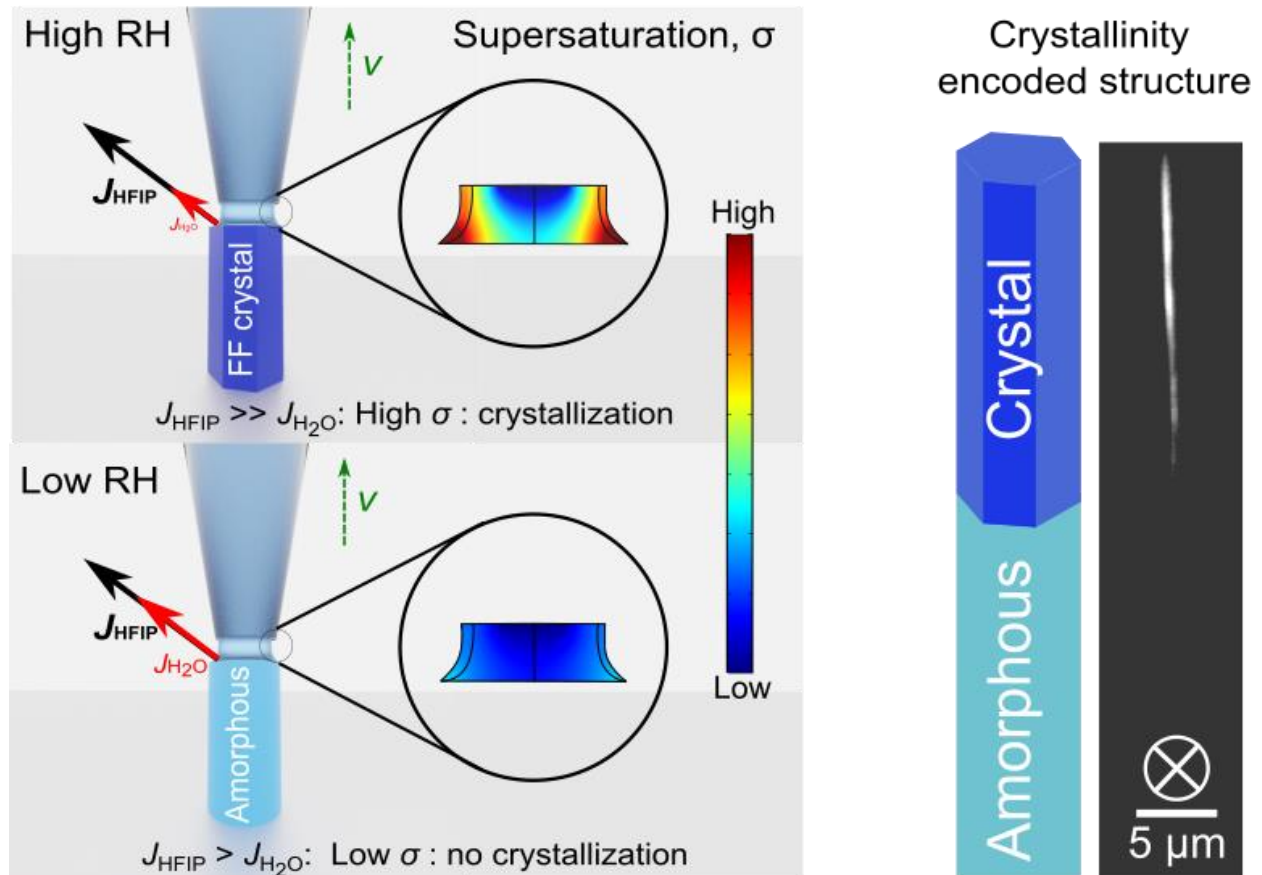


Feb 2023/ No.7

RESEARCH

HKU ME team develops new microscale 3D printer for
multi-level anticounterfeiting labels

in-situ crystallinity control

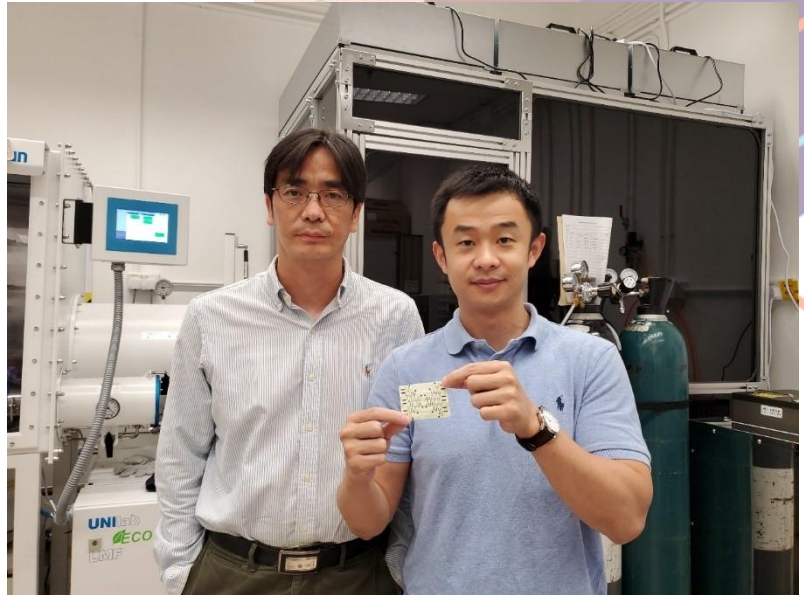


The team led by Dr Ji Tae Kim has developed a high-precision 3D printing method that can produce new polarisation-encoded 3D anticounterfeiting labels. This new 3D label can encrypt more digital information than a traditional 2D label. The work has been published in Nano Letters in an article entitled "Three-Dimensional Printing of Dipeptides with Spatioselective Programming of Crystallinity for Multilevel Anticounterfeiting"...[Read more](#)

ME researchers develop ultra-strong aerogels with materials used in bullet-proof vests

A research team led by Dr Lizhi Xu and Dr Yuan Lin has developed a new type of polymer aerogel materials with vast applicational values for diverse functional devices.

In this study, a new type of aerogels was successfully created using a self-assembled nanofiber network involving aramids, or Kevlar, a polymer material used in bullet-proof vests and helmets...[Read more](#)



Novel robotic system to facilitate microsurgery

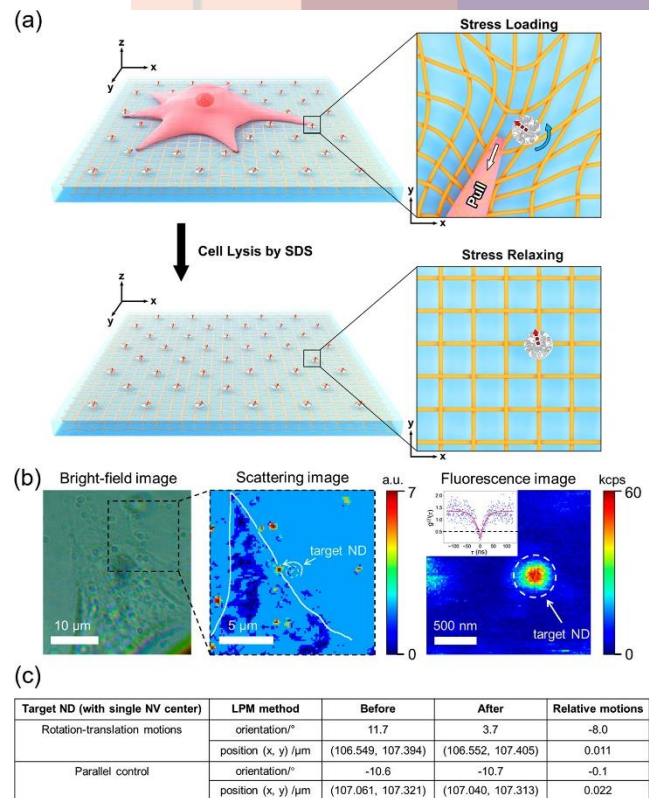


A joint research team involving the Department of Mechanical Engineering, The University of Hong Kong (HKU) has found a way to improve the procedures for treating head and neck cancer patients.

The research outcome - a novel MR-safe system in miniature size, with compliant architecture and five degrees of freedom...[Read more](#)

HKU engineering researchers develop breakthrough technology to measure rotational motion of cells

The interdisciplinary research team led by Dr Yuan Lin of the Department of Mechanical Engineering and Dr Zhiqin Chu of the Department of Electrical and Electronic Engineering proposed a novel technique to measure the cell traction force field and tackle the research gap. They used single nitrogen-vacancy (NV) centres in nanodiamonds (NDs) to propose a linear polarization modulation (LPM)...[Read more](#)



"Future foods: Design, fabrication and production through microfluidics", a paper in ScienceDirect



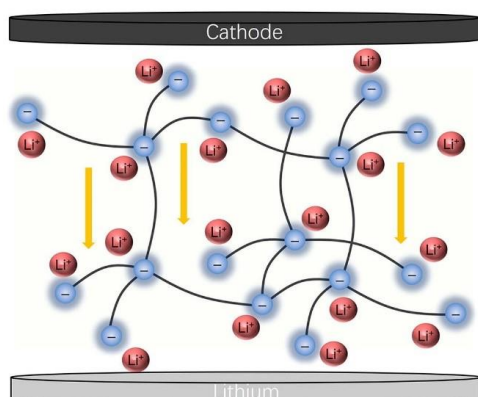
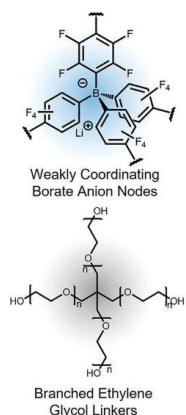
Professor Anderson H.C. Shum and his team had worked on the research for the topic "Future foods: Design, fabrication and production through microfluidics". The research is recently published by ScienceDirect...[Read more](#)

"Aquabots" an ultrasoft liquid robots comprised predominantly of water

A research team led by Professor Anderson H.C. Shum unveiled the invention of an all-water robotic system that resolves these constraints through revolutionary advances. The research paper "Aquabots" is recently published by ACS Nano...[Read more](#)



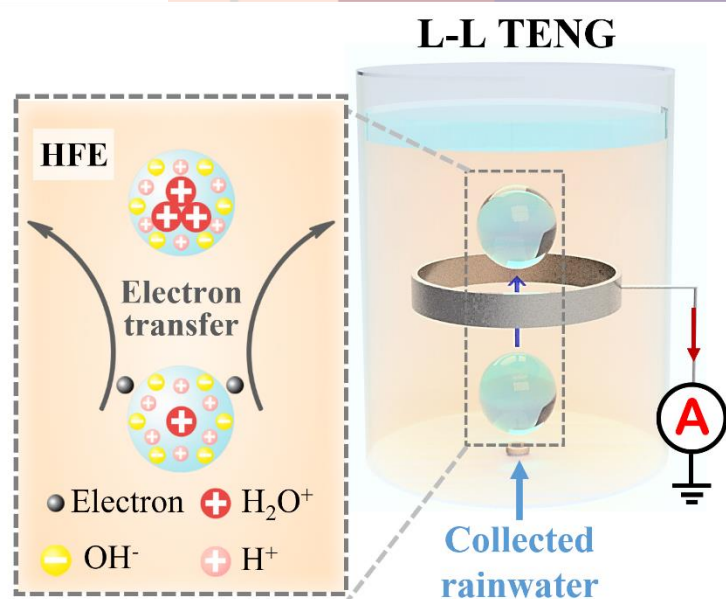
A new series of solvent-free single-ion conducting borate network polymer electrolytes for Li-metal



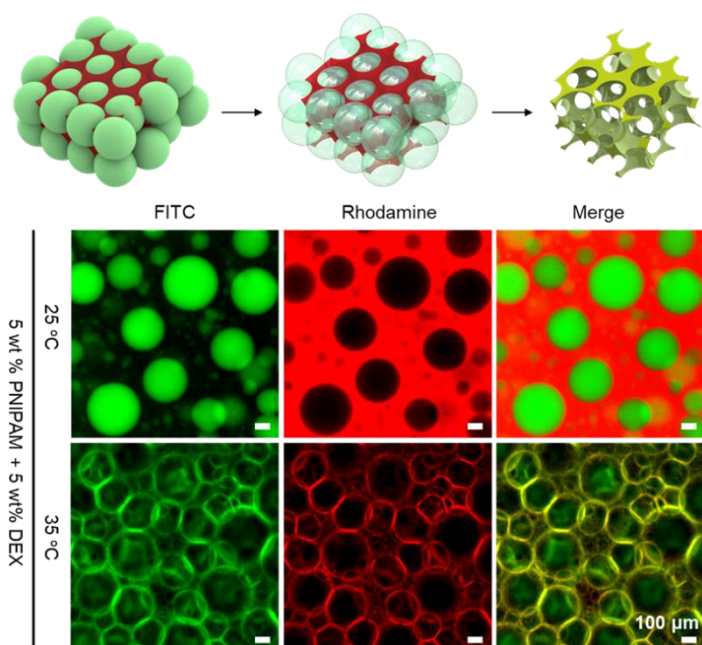
Dr Dong-Myeong Shin and his team work on research for the development of new series of solvent-free single-ion conducting polymer electrolytes by engineering their segmental mobilities. This work entitled "Engineered networking in a family of solvent-free single-ion conducting borate network polymer electrolytes for Li-metal battery applications"...[Read more](#)

Liquid-Liquid Triboelectric Nanogenerator for Harvesting Distributed Energy

Professor Anderson H.C. Shum and his team had worked on the research for the topic "Liquid-Liquid Triboelectric Nanogenerator for Harvesting Distributed Energy". The research is recently published by Advanced Functional Materials...[Read more](#)



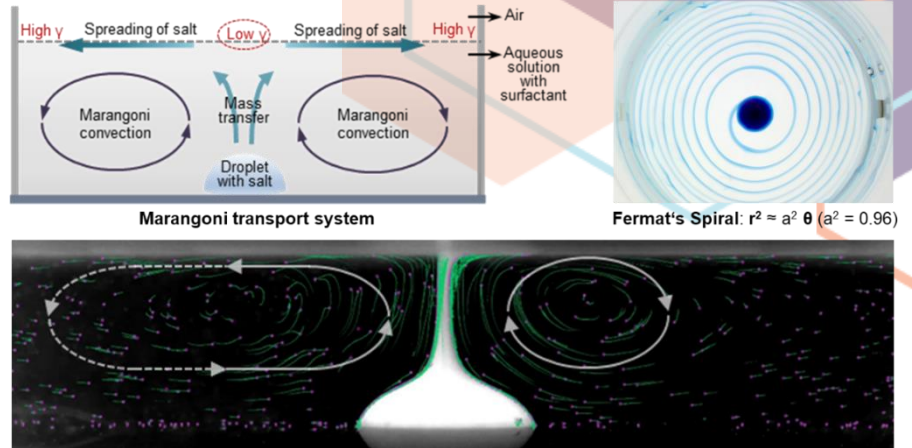
Dynamic Assembly of Viscoelastic Networks by Aqueous Liquid-Liquid and Liquid-Solid Phase Separation



Professor Anderson H.C. Shum and his team worked on the research for the topic "Dynamic Assembly of Viscoelastic Networks by Aqueous Liquid-Liquid Phase Separation and Liquid-Solid Phase Separation (AqLL-LS PS2)". The research is recently published by Advanced Materials...[Read more](#)

Generation of Fermat's spiral patterns by solutal Marangoni-driven coiling

Professor Anderson H.C. Shum and his team worked on the research for the topic "Generation of Fermat's spiral patterns by solutal Marangoni-driven coiling in an aqueous two-phase system". This work is a collaboration with Professor Neil Ribe from University Paris-Saclay. The research is recently published and featured by Nature Communications...[Read more](#)



AWARDS

Professor Xiaobo Yin won Xplorer Prize 2022



Congratulations to Professor Xiaobo Yin for winning Xplorer Prize 2022.

The Xplorer Prize was a non-governmental merit-based award and one of the most generous talent funding programmes for young scientists in China. A total of 50 outstanding scientists had been awarded this year. Professor Yin was among the three awardees in the Hong Kong and Macau area...[Read more](#)

Highly Cited Researchers in 2022

Thirty-eight academics of HKU have been named by Clarivate in its list of "Highly Cited Researchers 2022" as the most influential in the world. Highly Cited Researchers are selected for their exceptional research performance, determined by production of multiple highly cited papers that rank in the top 1% by citations for field and publication year in Web of Science. Among them four are from Mechanical Engineering: Professor Dennis Leung, Professor Lance Li, Professor Yuguo Li and Professor Xiaobo Yin...[Read more](#)



HKU scholars awarded Croucher Senior Research Fellowships



Three distinguished scholars from the University of Hong Kong (HKU) were presented with Croucher Senior Research Fellowships by the Croucher Foundation on December 8. Professor Mingxin Huang awarded Croucher Senior Research Fellowships 2022. Professor Huang's research mainly focuses on the development of high-performance metals...[Read more](#)

HKU Scholars in the Top 1% 2022

This list recognises HKU researchers ranked by Clarivate Analytics in the top 1% worldwide by citations in at least one of the 22 research fields. Data is drawn from Essential Science Indicators (ESI). Among the 150 HKU scholars on the list for the year 2022, 35 (23.3%) are from the Faculty of Engineering and 7 are from Department of Mechanical Engineering...[Read more](#)

HKU Scholars in the Top 1% 2022

NSFC Young Scientists Fund (HK) 2022



Dr Lin Haisong, Research Assistant Professor of Mechanical Engineering was recognised by NSFC Young Scientists Fund 2022 and received funding for supporting his research...[Read more](#)

7th International Invention Innovation Competition in Canada (iCAN 2022)

Professor Dennis Y.C. Leung, Head of Department of Mechanical Engineering, and his team bagged four awards in the 7th International Invention Innovation Competition in Canada (iCAN 2022)...[Read more](#)



Healthy Longevity Catalyst Awards (Hong Kong) 2022



Professor Barbara Chan of Department of Mechanical Engineering and the team members received the Healthy Longevity Catalyst Awards (Hong Kong) 2022 in the Healthy Longevity Global Competition. The competition is founded by the National Academy of Medicine (NAM) of the United States and sponsored by the Research Grants Council...[Read more](#)

HKU DBF Team 2023 won Super Good Job Project Award at the 7th Engineering InnoShow, HKU

The seventh Engineering InnoShow "Let your Dreams Fly" showcased a number of innovative Engineering student projects at Tam Wing Fan Innovation Wing on Nov 30, 2022, where engineering students demonstrate their projects to the judge. A total of 30 innovative student projects from 5 departments and InnoHub members were showcased at the event, five student teams were selected as the winner of the InnoShow Award and one student team was selected as the winner of the Super Good Job Project Award...[Read more](#)



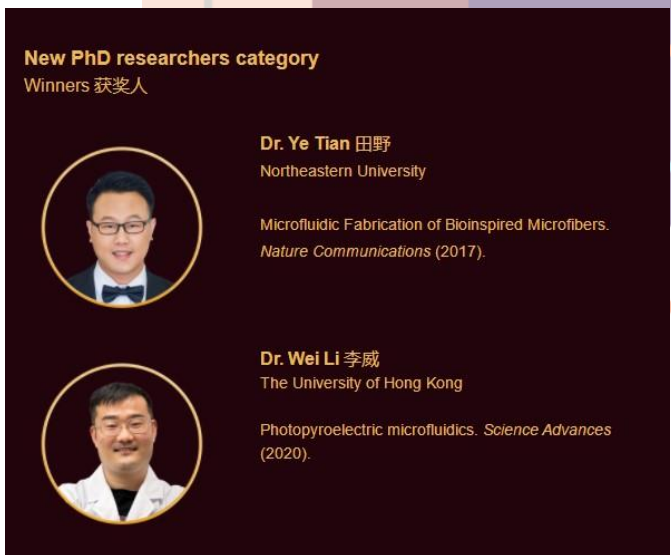
Best Presentation Award for Young Researcher



Miss Shiyun LIU, a PhD student led by Dr C.H. Liu, received the Best Presentation Award for Young Researcher in recognition of quality of content and oral presentation at The 19th International Conference on Flow Dynamics (ICFD2022) on November 11, 2022, Sendai, Japan for the paper "Morphological effect on the wake flows after a single fractal tree using large-eddy simulation"...[Read more](#)

Dr. Wei LI and Dr. Ye TIAN received Microfluidic Award 2022

Dr. Wei LI and Dr. Ye TIAN received the FLUIGENT Microfluidic Award 2022 in the category of New PhD researchers for their outstanding contributions on "Photopyroelectric microfluidics" (published in Science Advances) and "Microfluidic Fabrication of Bioinspired Microfibers" (published in Nature Communications), respectively...[Read more](#)



NEWS

New staff - Professor Yang Lu



Prof. Yang Lu recently joined the University of Hong Kong as a "HKU-100 Scholar" Professor in the Department of Mechanical Engineering. He received his BS degree in Physics from Nanjing University and PhD degree in Mechanical Engineering from Rice University, and did his postdoctoral research in the Nanomechanics Lab at MIT...[Read more](#)

ME Newsletter is published by Department of Mechanical Engineering of The University of Hong Kong

