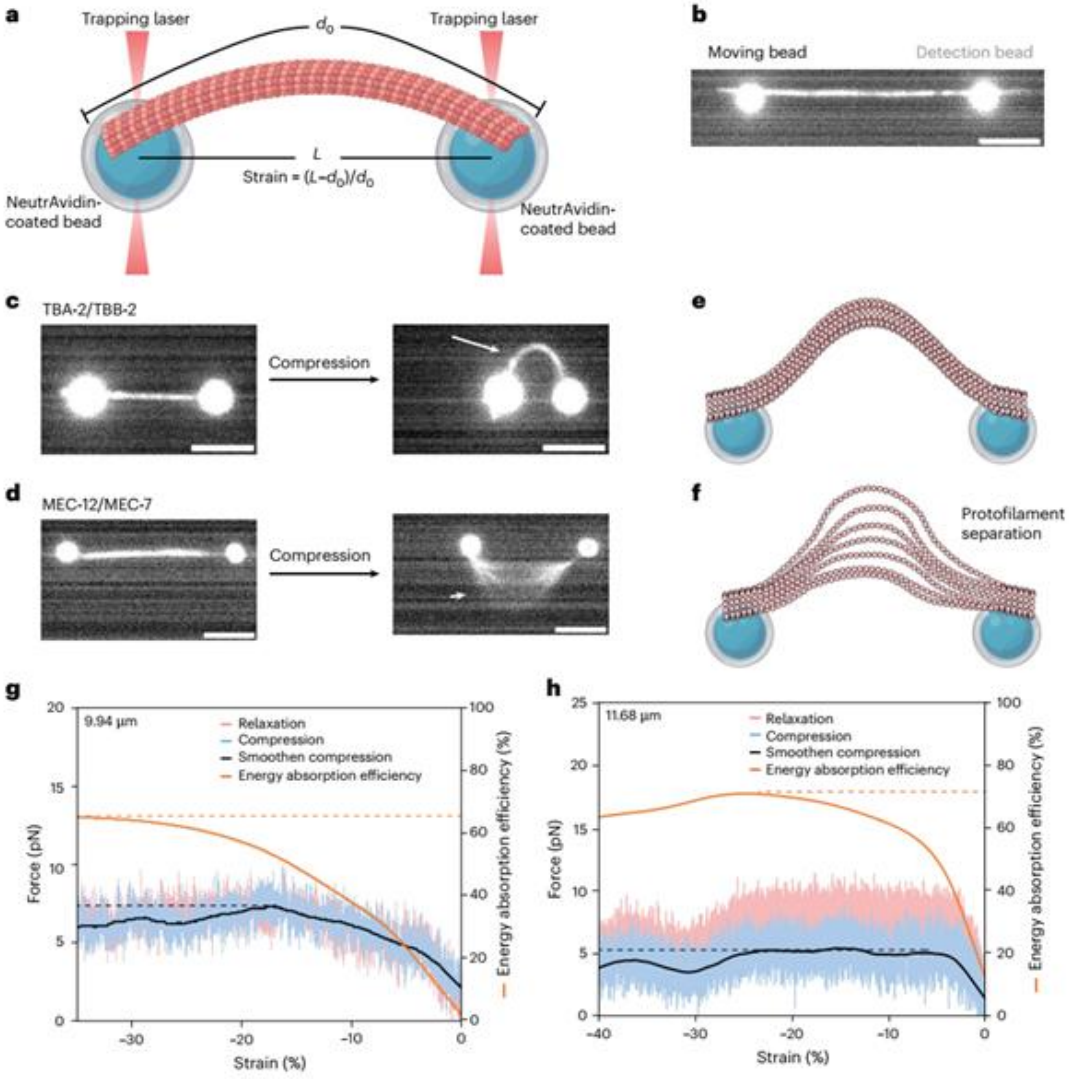
Department of
MECHANICAL ENGINEERING
The University of Hong Kong

Oct 2025/ No.14

RESEARCH

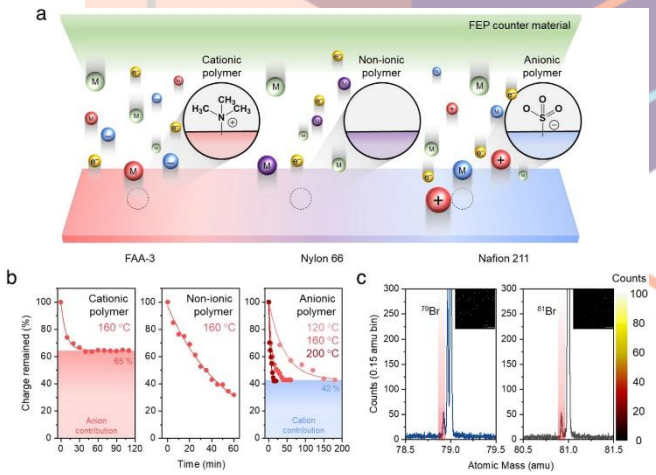
A breakthrough in revealing the mechanosensitive mechanism of microtubules



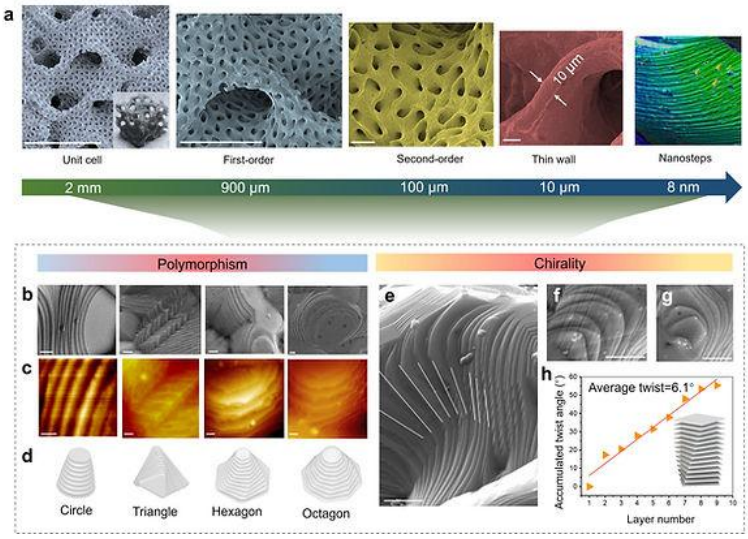
A research team led by Professor Yuan Lin and Professor Jeff Ti, from the Department of Mechanical Engineering and School of Biomedical Sciences respectively, at the University of Hong Kong has made major breakthrough in elucidating the mechanosensitive mechanism of microtubule in cells, a fundamental question not well understood by scientists before. The findings have been published in the prestigious international academic journal Nature Physics…Read more

"Quantifying Electron and Ion Transfers in Contact Electrification with Ionomers", a paper in Advanced Functional Materials

Professor Dong-Myeong Shin from the Department of Mechanical Engineering and his team, worked on the research for the topic "Quantifying Electron and Ion Transfers in Contact Electrification with Ionomers". The research findings were published by Advanced Functional Materials on August 4, 2025…Read more



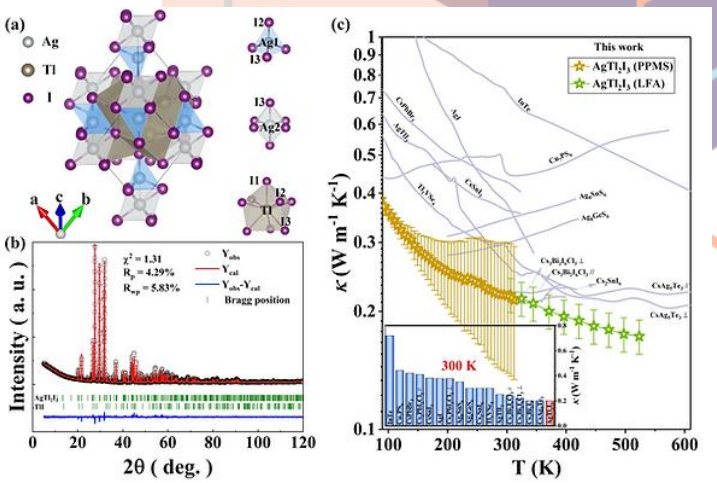
Harnessing screw dislocations in shell-lattice metamaterials for efficient, stable electrocatalysts



Professor Yang Lu and his collaborators developed a dislocation-mediated 3D printing strategy to simultaneously synthesize macroscale architectures with nanoscale chiral surface structures, eliminating weak heterointerfaces that plague conventional catalysts. The research findings were published by Nature Communications on 7 Aug, 2025... Read more

"Strong crystalline thermal insulation induced by extended antibonding states", a paper in Nature Communications

Professor Yue Chen and his collaborators worked on the research for the topic "Strong crystalline thermal insulation induced by extended antibonding states". The research findings were published in Nature Communications on August 26, 2025…Read more

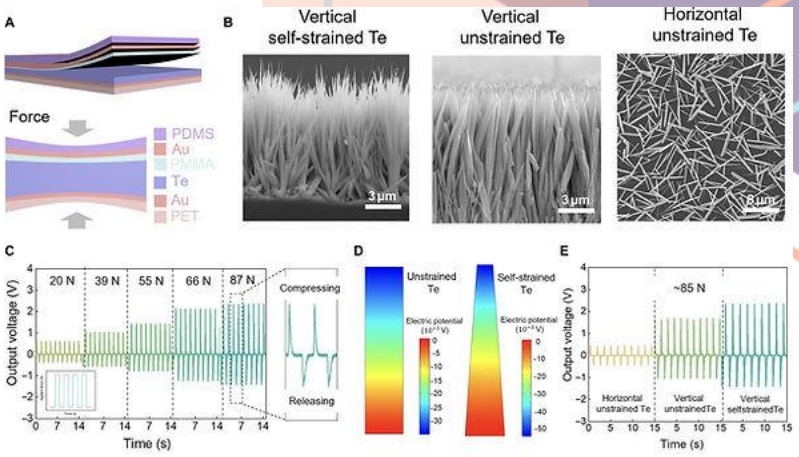


Quadrupedal robots on challenging terrains

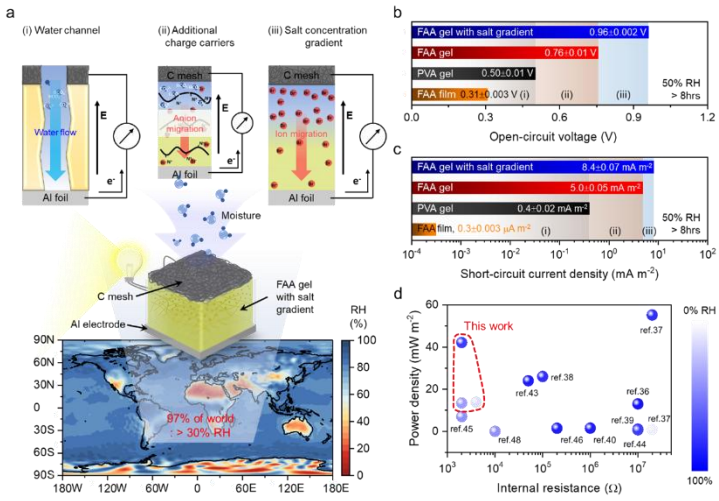
Professor Peng Lu and his team from the Adaptive Robotic Controls Lab (ArcLab) have developed a physical intelligence controller for quadrupedal robots: TumblerNet. The learning-based controller can enable quadrupedal robots to perform stable bipedal locomotion on various challenging terrains, even including a sandy beach. The research was published by Nature Portfolio Journal Robotics (npj Robotics)…Read more

Flexoelectric manipulation of ferroelectric polarization in self-strained tellurium

Professor Yang Lu's group and collaborators published an article in Science Advances, demonstrating a novel flexoelectric strategy to enhance ferroelectric and piezoelectric properties in self-strained tellurium (Te) nanowires. By leveraging ultrafast vapor growth, the team achieved a remarkable flexoelectric field of 9.55 microcoulombs per square centimeter…Read more



Long-lasting moisture energy scavenging in dry ambient air empowered by a salt concentration-gradient cationic hydrogel

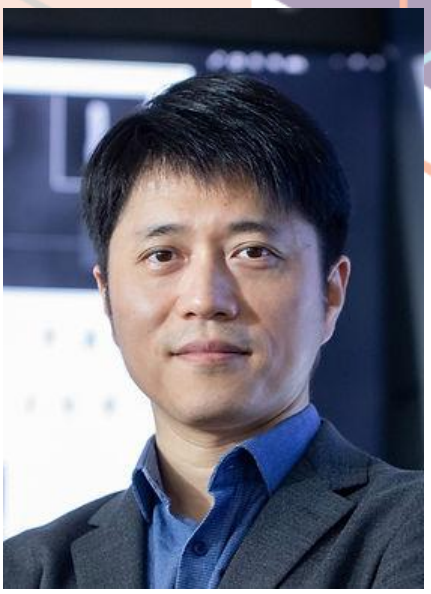


Professor Dong-Myeong Shin along with his dedicated team of researchers, has made significant strides in the field of sustainable energy harvesting. Their groundbreaking study, titled "Long-lasting moisture energy scavenging in dry ambient air empowered by a salt concentration-gradient cationic hydrogel," offers valuable insights into harnessing atmospheric moisture for continuous and eco-friendly power generation…Read more

AWARDS

Innovation and Technology Fund

Professor Yang Lu had received the Innovation and Technology Fund for the project "Laser fabrication of large scale high-performance carbon-based transistors".... Read more



Professor Yang Lu has been conferred Kingboard Professorship in Materials Engineering

Professor Yang Lu has been selected by the University for the conferment of the Kingboard Professorship in Materials Engineering. The Kingboard Professorship in Materials Engineering embodies the donors' commitment to fostering innovation in materials science and engineering...Read more

2023-24 HKU Excellence Awards

Professor Lizhi Xu have been honoured with Outstanding Young Researcher Award (OYRA) 2023-24 by HKU. The Outstanding Young Researcher Award is specifically designed to recognise young researchers who have exhibited exceptional quality in their research endeavours and to encourage quality research…Read more

Highly Cited Researchers 2024

Among the fifty-three academics of the University of Hong Kong being named "Highly Cited Researchers of 2024" by Clarivate Analytics, two were from the Department of Mechanical Engineering: Professor Lance Li and Professor Yuguo Li…Read more

50th International Exhibition of Inventions of Geneva

HKU Engineering shines bright at the 50th International Exhibition of Inventions of Geneva, winning a total of 10 awards, including two Golds, four Silvers and four Bronze medals. Among the 10 awards, our department had bagged a Gold medal…Read more

HKU Team Secures the Third class honour in RAICOM National Final's "Treasure Hunter - Semi-Autonomous Mission"

A team from the University of Hong Kong (HKU) has distinguished itself by winning in the "Treasure Hunter - Semi-Autonomous Mission" at the RAICOM (Robotics and Artificial Intelligence Competition) National Final, which took place this August in Hangzhou…Read more

Two ME teams won Awards at the 10th Engineering InnoShow, HKU

A total of 24 innovative student projects from 5 departments and InnoHub members were showcased in the event. Two of the teams from the Department of Mechanical Engineering were awarded the winner of InnoShow Award for the projects "Matchbox: DIY STEM Game Controller Kits from Upcycled Keyboards" and "Home Use Storage Carousel"…Read more

Mr. Eunjong Kim received the second prize in the Poster Presentation category

Mr. Eunjong Kim, a third-year PhD candidate in the Department of Mechanical Engineering, recently received an award at the 2025 Symposium for the Promotion of Applied Research Collaboration in Asia (SPARCA 2025). Under the guidance of Professor Dong-Myeong Shin,…Read more

Department of Mechanical Engineering Graduation Party 2025

On July 25, 2025, the Department hosted its' Graduation Party at the Hong Kong Ocean Park Marriott Hotel, recognizing the outstanding achievements of its graduating students in a welcoming and memorable setting. The Graduation Party celebrates the academic achievements of graduates while encouraging friendship and creating lasting memories. The event serves as a gathering for students, Professors, Faculty, and alummes to strengthen relationships before entering professional life,...Read more

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