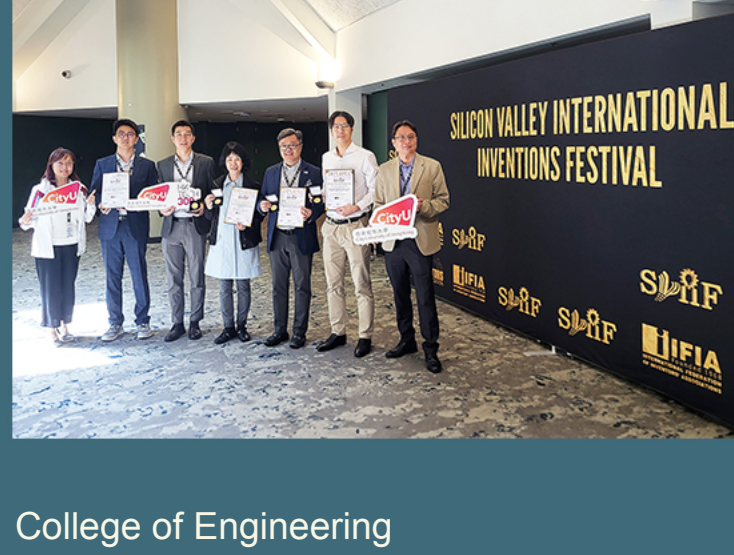




Issue 59 (September 2024)

Faculty Achievement

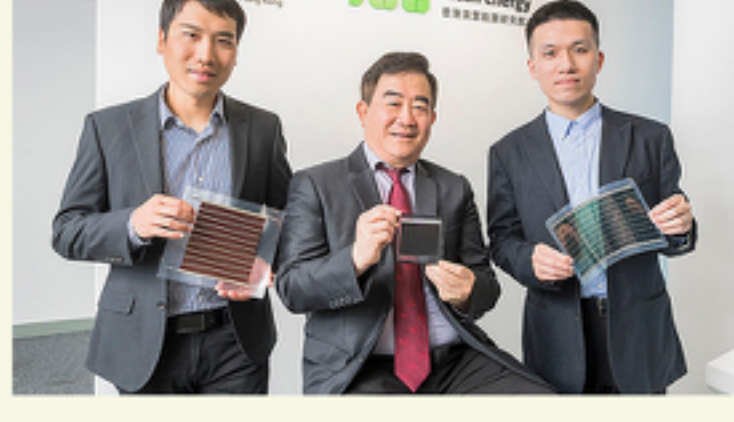


College of Engineering

Congratulations to the following winners of the Silicon Valley International Invention Festival 2024:

Project	Team members
Semi-Grand Prix and Gold Medal	
Solar-Electrocatalytic System for Hydrogen Generation from Seawater	Department of Materials Science and Engineering • Prof Johnny HO • Dr QUAN Quan • Dr CHEN Dong • Miss YIN Di
Gold Medal	
Key Components for EV: Next-generation Highpower Nanocrystalline Smart Wireless EV Charger	Department of Electrical Engineering • Prof Derrick JIANG • Mr Y B WANG • Mr C CHEN • Mr X S WANG • Mr J C XIANG • Dr J Y ZHOU • Prof T LONG
Design and Nanofabrication of Highly Sensitive Plasmonic Sensors for Biomedical Cell and Molecule Detection	Department of Electrical Engineering • Prof Stella PANG • Prof ZHU Shuyan

Faculty Achievement



Department of Materials Science and Engineering

Prof Alex JEN and his team have made continuous breakthroughs in photovoltaic energy, developing highly efficient, printable and stable perovskite solar cells, which can be mass-produced at a speed comparable to newspaper printing, with a daily output of up to 1,000 solar panels. Owing to their flexible, semi-transparent characteristics, they can also be made into light-absorbing glass windows, realising the concept of "urban solar farms" in cities with many high-rise buildings, such as Hong Kong and Shenzhen.

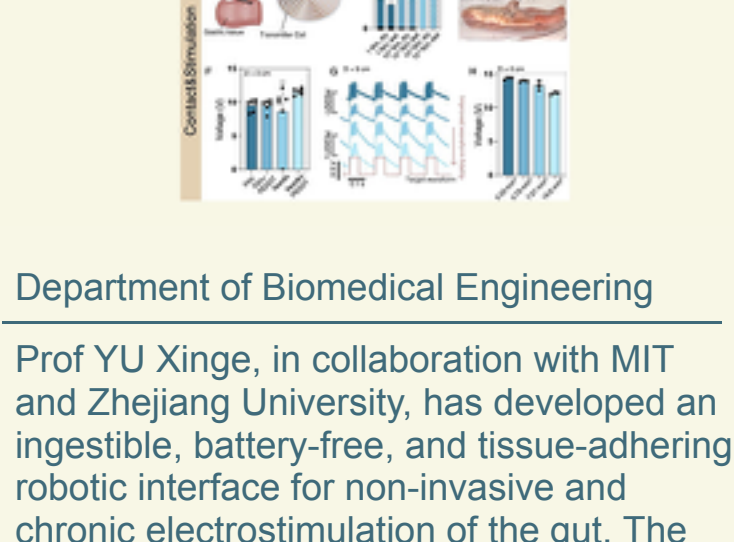
Faculty Achievement



Department of Electrical Engineering

Prof TSAI Din-ping received the 2024 Internations of Science Award from the Frontiers of Science Award for Basic Science, which honours the best papers published within the last 10 years across 42 sub-areas of mathematics, theoretical physics, and theoretical computer and information sciences. Prof Tsai's winning paper, titled A broadband achromatic metalens in the visible, was published in *Nature Nanotechnology* in 2018.

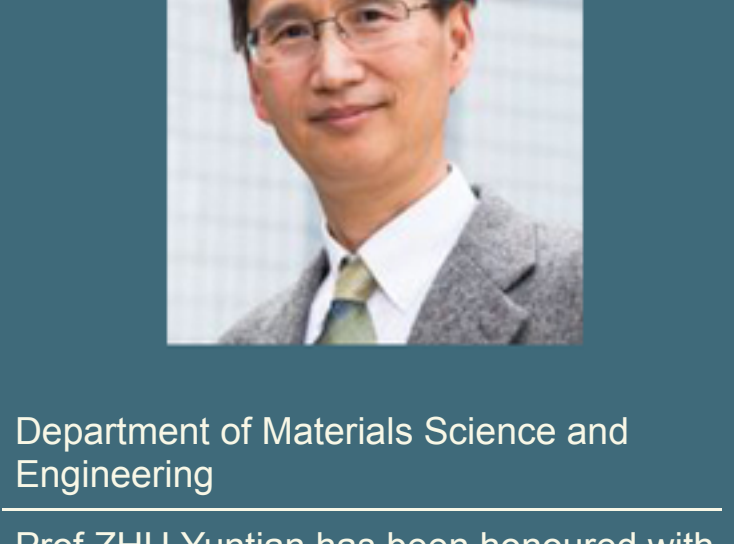
Faculty Achievement



Department of Biomedical Engineering

Prof YU Xinge, in collaboration with MIT and Zhejiang University, has developed an ingestible, battery-free, and tissue-adhering robotic interface for non-invasive and chronic electrostimulation of the gut. The results of this study suggest that concepts inspired by soft and wireless skin-integrating electronic devices could be applied to ingestible electronics with potential clinical applications for evaluating and treating gastrointestinal conditions. The paper was published in *Nature Communications*, titled An ingestible, battery-free, tissue-adhering robotic interface for non-invasive and chronic electrostimulation of the gut.

Faculty Achievement



Department of Materials Science and Engineering

Prof ZHU Yuntian has been honoured with membership in the European Academy of Sciences (EurASc). EurASc stands as a non-profit, independent organisation comprising eminent scholars and engineers engaged in cutting-edge research and the advancement of innovative technologies. These individuals are committed to promoting science and technology and their essential roles in fostering social development.

Student Achievement



Department of Electrical Engineering

A team of PhD students and Postdocs, comprising Mr CHEN Chen, Dr FAN Yuanshuang, Mr MA Tianlu, Dr MO Liping, Mr WANG Xiaosheng, Mr WANG Yibo, and Dr ZHOU Jiayu, has been awarded the 1st Runner Up in the Institution of Engineering and Technology Young Professionals Exhibition & Competition 2024 – Postgraduate Section. Supervised by Prof Derrick JIANG, the winning project was titled Advanced Dynamic Wireless Charging for Automated Guided Vehicles.

Alumni Achievement



Department of Architecture and Civil Engineering

Four students in surveying were awarded the Hong Kong Institute of Surveyors (HKIS) Scholarship. The First Prize recipients are Mr TAM Kwan Wai Leo and Miss YU Tsz Ki, while the Second Prize recipients are Miss WONG Wing Sum and Mr CHOW Hon Chun. Furthermore, six accomplished surveying graduates were honoured with the esteemed HKIS Dissertation Awards. Finalists include Mr Marco KWAN, Mr LEUNG Pak Yin, Mr KONG Ho Wing, and Mr Ben WONG. Merit recipients are Mr YICK Ka Ki, with the top award going to Mr LEUNG Man Ho.

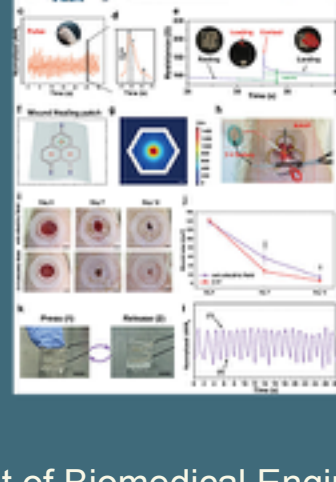
Faculty Achievement



Department of Electrical Engineering

A research team led by Prof C H CHAN and his collaborators at Southeast University proposes a terahertz spoof plasmonic neural network for efficient data processing. This compact system offers efficient solutions for complicated tasks such as handwriting recognition and user differentiation. Its potential spans terahertz integration, smart communication and advanced computing, which are vital for upcoming 6G technologies. Their research findings have recently been published in *Nature Communications* under the title Terahertz spoof plasmonic neural network for diffractive information recognition and processing.

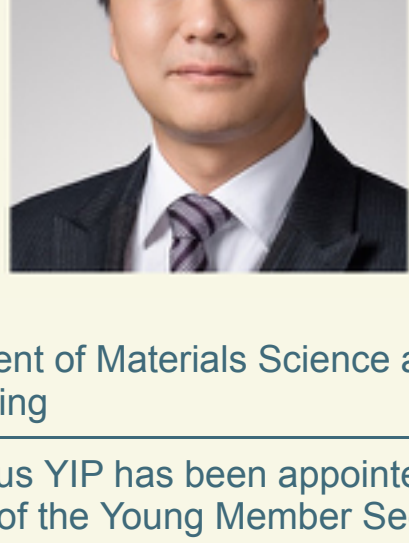
Faculty Achievement



Department of Biomedical Engineering

Prof KHOO Bee Luan and her research team have created microfluidic-assisted hydrogel patches (MAHPs) that possess anti-freeze capabilities, self-adhesive properties, exceptional water retention, and high stretchability. These MAHPs exhibit outstanding conductivity even in extreme temperatures, opening up possibilities for advancing specialised soft electronics. Their findings have been published in *Advanced Functional Materials* under the title Programmable Microfluidic-Assisted Highly Conductive Hydrogel Patches for Customizable Soft Electronics.

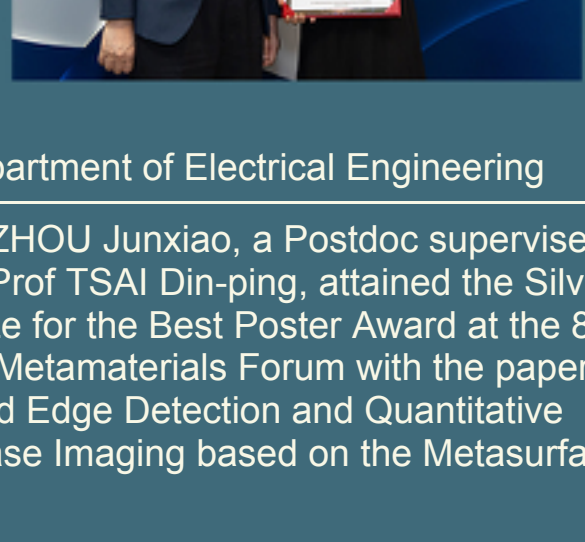
Faculty Achievement



Department of Materials Science and Engineering

Prof ANGUS YIP has been appointed as a member of the Young Member Section (YMS) within the Hong Kong Academy of Engineering Sciences (HKAES) for the year 2024. The YMS, a division of the HKAES, is dedicated to young professionals in the engineering domain. Members are assigned significant responsibilities to advance engineering and scientific progress in Hong Kong.

Faculty Achievement



Department of Electrical Engineering

Dr ZHOU Junxiao, a Postdoc supervised by Prof TSAI Din-ping, attained the Silver Prize for the Best Poster Award at the 8th A3 Metamaterials Forum with the paper titled Edge Detection and Quantitative Phase Imaging based on the Metasurface.

Student Achievement



College of Engineering

Congratulations to the following students for winning the First & Merit Prize in the 10th Hong Kong University Student Innovation & Entrepreneurship Competition:

Project	Students/ Supervisor
Energy, Environmental and Chemical Engineering	
First Prize	
High Efficiency High Power Nanocrystalline Wireless Charging Technology with Intelligent Parameter Identification for Electric Vehicles	Department of Electrical Engineering • Mr WANG Yibo • Mr WANG Xiaosheng • Prof Derrick JIANG (Supervisor)
Merit Prize	
AI Assisted Passive Cooling System	Department of Architecture and Civil Engineering • Mr Jason ALEXANDER • Miss CHU Weiqi Department of Electrical Engineering Mr GUO Aobo Department of Mechanical Engineering • Mr KWEON Sanseong • Mr LO Wai Kin • Prof Steven WANG (Supervisor) School of Data Science Mr QUE Yue
Life Sciences	
Third Prize	
A Flexible and Intelligent Pulse Sensor for Cardiovascular Diseases Monitoring	Department of Biomedical Engineering • Miss HUANG Ke • Prof KHOO Bee Luan (Supervisor)

Alumni Achievement



Department of Biomedical Engineering

Alumna Prof CHEN Cailian, currently a professor at Shanghai Jiao Tong University, has been honoured with the prestigious China Young Women Scientists Award. This award, established in 2004 as an extension of the UNESCO-L'Oréal "For Women in Science" international award, holds great significance in celebrating and recognising the achievements of female scientists while providing them with valuable connections to international platforms. Prof Chen's accomplishment reflects the exceptional calibre of our alumni and their contributions to the scientific community.