



澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU



應用物理及材料工程研究院
INSTITUTO DE FÍSICA APLICADA E ENGENHARIA DE MATERIAIS
INSTITUTE OF APPLIED PHYSICS AND MATERIALS ENGINEERING

IAPME Newsletter

<https://iapme.um.edu.mo/>



ISSUE 20

5 February 2025

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❖ UM and IAPME held Open Day to showcase its features and achievements

The University of Macau (UM) and IAPME held an Open Day on January 12, 2025, to allow the public to learn about their latest developments and experience the vibrant campus culture.

Throughout the UM Open Day, IAPME hosted various activities, including academic and science talks, laboratory activities, interactive booth games, and exhibitions. These activities integrated fun science knowledge and cultural experiences, allowing the public to participate in booth games and exhibitions.

Furthermore, Prof. Kar Wei Ng, associate professor at IAPME, gave a presentation titled 'The Affair between Light and Electricity'.



(From left)

Dr. Ringo Pang (彭漢鋒), Dr. Fiona Choi (蔡菲), Dr. Jun Wu (吳君), Dr. Mike Chio (趙志康),
Mr. Chris Fong (馮崢), Mr. Jincheng Xu (徐錦城), Dr. Terran Tang (湯軼蕊),
Dr. Monica Yang (楊曄), Ms. Lifen Long (龍立芬), Mr. Zhiyuan Zhang (張致遠),
Mr. Zhenjian Li (黎鎮堅), Dr. Dickson Lao (劉思進), Mr. Alvin Su (蘇勁華)



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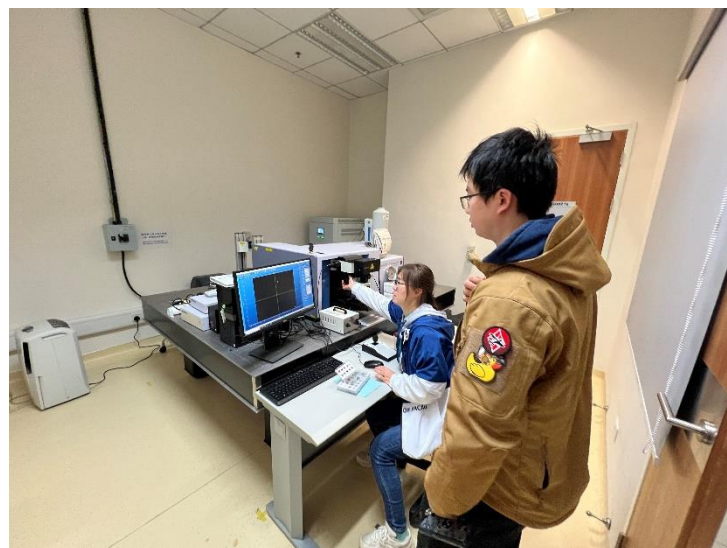


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❖ Seminars

Prof. Yansheng Yin (尹衍升), Director of the Key Laboratory of Guangdong Provincial Universities of Guangzhou Maritime University, visited IAPME on January 14, 2025. During the visit, he delivered a speech entitled "Research and application of key mineralization technologies of special flora based on microbial resources in the South China Sea". The seminar was hosted by Prof. Guoxing Sun, Prof. Binneng Chen also extended an invitation to the guest.

Prof. Yin is a highly respected expert in the field of Marine Engineering and Transportation Engineering, and a special Professor of Yangtze River Scholars of the Ministry of Education. He holds a doctorate degree in materials science from Southeast University. His main research direction is the research on the mechanism and process of microbial mineralization in the South China Sea. In 2023, he was listed as the world's top 2% lifetime influential scientists, and has presided over more than 30 major and important projects such as national 973 and 863.



In his speech, Prof. Yin proposed the use of marine microbial resources to implement the "sea to sea" anti-pollution and anticorrosion strategy, that is, to mineralize marine microorganisms to solve the problem of their corrosion of ocean-related equipment, and transformed this concept into an implementable mineralization process through a series of studies.

The seminar provided participants with the latest progress of microbial mineralization technology in the current marine field, and explored the application potential of microbial mineralization technology in civil engineering. In particular, the feasibility of applying microbial mineralized liquid in new foamed concrete materials to improve pore structure and form a mineralized pore wall to enhance the mechanical properties, durability and water absorption of foamed concrete materials is discussed. Prof. Yin's innovative ideas of using microbial resources in the South China Sea to implement the "sea to sea" has been successfully applied in a number of domestic projects.





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❖ Visits

Recently, Prof. Lixian Sun (孫立賢) and his team members from Guilin University of Electronic Technology, Prof. Yueping Xiong (熊岳平) and his team members from Harbin Institute of Technology visited IAPME.

Prof. Lixian Sun is a professor at Guilin University of Electronic Technology. He is Foreign Member of Russian Academy of Natural Sciences (RAEN), Foreign Member of European Academy of Sciences (EurASc), Fellow of Royal Society of Chemistry (FRSC), Alexander von Humboldt Fellowship, Germany NEDO, AIST & ITIT fellowship, Japan, 100 Talent Program of the Chinese Academy of Sciences, Guangxi Bagui Scholar, China, Guilin Lijiang Scholar, China.



Prof. Yueping Xiong is professor and doctoral supervisor of Harbin Institute of Technology. He is a world leader in the research field of electronic conduction properties of solid oxide electrolytes, and has provided theoretical basis for the development of solid oxide electrolyte materials for applications in solid oxide fuel cells and sensors. He has undertaken a total of six important scientific research projects in Japan, the National Natural Science Foundation of China, the 973 Programme and other projects, and has published more than a hundred academic papers. He has been honoured as an advanced individual in teacher ethics in Heilongjiang Province universities, and as an expert in the evaluation of national key research projects and so on.

A fruitful discussion between the visitors and IAPME members was conducted, especially on the topic of new and renewable energies, such as hydrogen production and storage and fuel cell. The invited professors also shared their research experiences and insights and gave very valuable advice to the PhD students.



Prof. Lixian Sun (孫立賢)



Prof. Yueping Xiong (熊岳平)



❖ Visits

Prof. Qinghua Han (韓慶華) led a delegation from Tianjin University, visited IAPME on January 13, 2025. Prof. Hui Pan, Prof. Guoxing Sun, Prof. Binneng Chen, Prof. Haomin Song and Prof. Qing Li attended the reception of the visitors.

During the visit, Prof. Pan firstly gave an introduction of IAPME, including the history, development of teaching and research in IAPME. Regarding research achievement in IAPME, Prof. Pan mentioned several outstanding works at IAPME, especially Prof. Guoxing Sun's research on the foam concrete and Prof. Pan's research work on the hydrogen fabrication. After that, Prof. Pan and Prof. Sun showed some products derived from the research to the visitors, and they were all impressed and interested in IAPME's research outcomes. Lastly, Prof. Han invited IAPME members to visit their university to have more discussions and collaborative points.





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Prof. Qinghua Han is the winner of the National Science Fund for Distinguished Young Scholars of China, national "Thousand Talents Program" scientific and technological innovation leading talent, the State Council special allowance expert. He has been engaged in the research field of steel structure, long-span space structure, seismic engineering, vibration basic theory and engineering application for long time. He has been responsible for more than 20 national and provincial vertical projects, published more than 150 high-level journal papers. Meanwhile, his 12 invention patents were authorized, and he was awarded national and provincial science and technology awards, in which his research outcomes have been applied in more than 60 major national projects such as Laoshan Cycling Hall for 2008 Beijing Olympic Games, 2017 National Games venues, and national large-scale earthquake engineering simulated research facilities.



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