澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU

科技學院
Faculdade de Ciências e Tecnologia
Faculty of Science and Technology

何鴻燊博士醫療拓展基金會
Dr. Stanley Ho Medical Development Foundation

澳門大學—何鴻燊博士醫療拓展基金會

揚帆追夢・創啟未來

資助計劃 2025傑出學者論壇

University of Macau — Dr. Stanley Ho Medical Development Foundation
"Set Sail for New Horizons, Create the Future" Grant
(Distinguished Scholars Forum 2025)

論壇場刊
Programme Booklet

2025 年11月27日
27 November 2025

Introduction of Dr. Stanley Ho Medical Development Foundation

何鴻燊博士醫療拓展基金會簡介

BACKGROUND

Dr. Stanley Ho Medical Development Foundation, founded in January 2005, is a non-profit juridical person which has been declared of public administrative utility, registered with n.o 2537 at the Identification Department of the Government of the Macau Special Administrative Region. Donations to the Foundation are deductable from the donor's income up to 2% of the gross revenue generated by sales/services.

MISSION

The aim of the Foundation is to promote, develop and finance socially beneficial, educational, academic, economical, charitable, cultural, recreational, athletic, scientific and technological research activities, whereby the knowledge level and quality of the above activities may be enhanced – especially those activities relating to improving the quality of medical service in Macau and other regions in China and financing the training of medical practitioners and workers in the techniques and technologies in their areas of expertise.

In pursuit of its objective, the Foundation may enter into partnership with any organization that is relevant to its activities, and the Foundation may also organize academic exchanges, research, as well as grant sponsorship, scholarships or awards to any one.

背景

根據八月十二日第11/96/M號法律之規定，何鴻燊博士醫療拓展基金會是行政公益法人，且非以營利為目的，並已於澳門特別行政區政府身份證明局進行登記，其編號為2537。對基金會的捐款可從捐贈者的收入扣除高達銷售/服務所得的總收入之百分之二。

使命

基金會之宗旨為促進、發展及資助社會公益、教育、學術、經濟、慈善、文化、康樂、體育、科學及技術研究方面的活動，從而提昇上述領域的學問及活動的質素，尤其在提昇澳門或中國其他地區的醫療服務質素方面，資助醫療工作人員及其專業領域內的技術、科技及人員培訓的活動。

在實現本身宗旨時，基金會可與任何與基金會活動有關的機構結成合作伙伴關係及舉辦學術交流及研究，以及給予資助、獎學金或獎金。

Introduction of Dr. Stanley Ho Medical Development Foundation "Set Sail for New Horizons, Create the Future" Grant

何鴻燊博士醫療拓展基金會"揚帆追夢、創啟未來"資助計劃簡介

To celebrate the 40th anniversary of the University of Macau (UM), the Foundation established a designated fund titled "Set Sail for New Horizons, Create the Future" Grant which was first opened for applications in 2021, granting MOP1 million per year for 10 years. The allocated funding is to support the nurturing of talents in the areas of health sciences and big data healthcare applications, and to support young scholars to venture into innovation and breakthroughs in their research areas.

Since 2022, UM and the Foundation have jointly held the Distinguished Scholars Forum for the awardees to share their research achievements under the grant programme. In addition, experts and scholars from China and abroad have been invited to deliver talks on their latest research results. These academic exchange activities provide a platform for experts and scholars to showcase the latest research progress and applications, as well as an opportunity for researchers and students to interact and explore collaboration with scholars from home and abroad.

為慶祝澳門大學建校四十週年，何鴻燊博士醫療拓展基金會於2021年設立了一個為期十年，每一年捐款一百萬澳門元的專項資助計劃—「何鴻燊博士醫療拓展基金會"揚帆追夢、創啟未來"資助計劃」，以支持青年學者勇於追夢，在其科研領域敢於創新探究，尋求突破，為國家與澳門的未來發展作出貢獻。

自2022年起，澳門大學與基金會共同舉辦「傑出學者論壇」，讓獲獎者分享其在資助計劃下的研究成果。此外，還邀請來自中國及海外的專家學者發表最新研究成果。這些學術交流活動為專家學者展示最新研究進展及應用提供了平台，同時也為研究人員和學生與國內外學者互動、探索合作創造了機會。

Programme Rundown
活動流程

Time 時間	Activity 內容	
14:00 – 14:20	**Welcome Remarks** **Prof. Wei GE** Vice Rector (Research), University of Macau **Mr. Chung Yuen Ian HUEN** Vice Chairman, Board of Trustees, Dr. Stanley Ho Medical Development Foundation	**歡迎辭** **葛偉教授** 澳門大學副校長(研究) **禤駿遠先生** 何鴻燊博士醫療拓展基金會信託委員會副主席
14:20 – 14:30	**Group photo 大合照**	
14:30 – 15:00	**Keynote Speaker's Presentation** Moderator: **Prof. Iek Man LEI** Assistant Professor, Faculty of Science and Technology, University of Macau Speaker: **Prof. Qianjun HE** Distinguished Professor, School of Materials Science and Engineering, Shanghai Jiao Tong University Topic: Hydrogen & Life Health	**特邀講座** 主持: **李奕雯教授** 澳門大學科技學院助理教授 講者: **何前軍教授** 上海交通大學材料科學與工程學院特聘教授 題目: 氫與生命健康
15:00 - 16:15	**Grantees' Research Findings and Sharing** Moderator: **Prof. Iek Man LEI** Assistant Professor, Faculty of Science and Technology, University of Macau Speaker: **Prof. Junwen ZHONG** Assistant Professor, Faculty of Science and Technology, University of Macau Title: Flexible electromechanical sensors/ actuators for human health Speaker: **Prof. Songnan QU** Professor, Institute of Applied Physics and Materials Engineering, University of Macau Title: Luminescent Carbon dots and their biomedical applications Speaker: **Prof. Xiuping CHEN** Professor, Institute of Chinese Medical Sciences, University of Macau Title: Vitamin C and Cancer Prevention: History and Controversy Speaker: **Prof. Seng Peng MOK** Professor, Faculty of Science and Technology, University of Macau Title: Precision Radiotheranostics Therapy via Integrated Physics and AI Approaches Speaker: **Prof. Pui Man HOI** Associate Professor, Institute of Chinese Medical Sciences, University of Macau Title: The Pain of Irritable Bowel Syndrome	**獲資助者分享科研成果講座** 主持: **李奕雯教授** 澳門大學科技學院助理教授 講者: **鍾俊文教授** 澳門大學科技學院助理教授 題目: 柔性機電傳感器/執行器用於人體健康 講者: **曲松楠教授** 澳門大學應用物理及材料工程研究院教授 題目: 發光碳點生物醫藥材料研究 講者: **陳修平教授** 澳門大學中華醫藥研究院教授 題目: 維生素C抗腫瘤:歷史與爭論 講者: **莫昇萍教授** 澳門大學科技學院教授 題目: 以物理協同AI實現精準核素診療一體化 講者: **許貝文教授** 澳門大學中華醫藥研究院副教授 題目: 攜手對抗慢性疼痛邁向健康老化: 合作研究新篇章
16:15 - 16:30	**Closing Remark** **Prof. Cheng-Zhong XU**, Dean, Faculty of Science and Technology	**閉幕辭** **須成忠教授** 澳門大學科技學院院長
16:30 - 17:00	**Refreshment and exchange 茶歇與交流**	

Hydrogen & Life Health

Keynote Speaker: Prof. Qianjun HE
Distinguished Professor, School of Materials Science and Engineering, Shanghai Jiao Tong University

Abstract

Hydrogen molecules have a wide-spectrum anti-oxidation and anti-inflammation effect, and exhibit a clear biological effects and high biosafety in treatment of many inflammation-related diseases. Hydrogen therapy becomes an emerging and promising therapeutic strategy. However, hydrogen medicine currently faces three major problems, including (1) what is the fundamental principle of hydrogen therapy; (2) how to real-time detect hydrogen molecules in vivo; (3) how to efficiently deliver hydrogen molecules to the focus. We propose to define "Hydrogen Medicine Materials" as a new concept of biomedical materials specifically engineered to overcome critical challenges in hydrogen medicine, including exploration of bioeffects and mechanisms of H2 by *in vivo* monitoring of H2 transportation, metabolism and transformation, enhancement of H2 therapeutic efficacy against various oxidative stress-related diseases by high-efficiency and site-specific delivery and controlled release of H2, *etc*. In an attempt to overcome address these challenges, our group does researches about principle exploration, tool development and materials application, harvesting a series of innovative achievements, mainly including: (1) we have discovered the biological target of hydrogen molecules, and revealed the fundamental principles of H2 anti-inflammation, anti-cancer and anti-senescence; (2) we have developed the first bio-probe of H2, and testified high bio-barriers-crossing capability of H2; (3) we have developed a series of novel H2-delivering biomaterials to enhance H2 delivery efficacy and applied these materials for treatment of major intractable diseases. This report will present the related research advances achieved by us in the recent years.

Biography

Prof. Qianjun He earned his PhD in 2010 from Shanghai Institute of Ceramics, Chinese Academy of Sciences, and was then assigned as an Assistant Professor there. He moved to University of Leeds in 2012 to receive a Marie Curie Fellowship. After two years, he joined the Laboratory of Molecular Imaging and Nanomedicine, NIBIB, National Institutes of Health (NIH, USA), as a postdoc. In 2015, he joined Shenzhen University as a Tenured Professor. In 2022, he moved to Shanghai Jiao Tong University (SJTU) and was appointed a Tenured Professor of Materials Science. Currently, he is a Distinguished Professor of School of Materials Science and Engineering at SJTU. His research focuses on the engineering and development of advanced nanomaterials and nanomedicines for precision theranostics and hydrogen therapy of intractable diseases. As the first author or corresponding author, he has published more than 100 peer-reviewed papers (h index of 70) in Sci. Adv., Nat. Commun., Cell Biomater., etc. He is a winner of Distinguished Young Scientists of National Natural Science Foundation of China. He was awarded Distinguished Leadership in Molecular Hydrogen Research by European Academy for Molecular Hydrogen Research in Biomedicine (2022). He currently is the chair of International Society for Hydrogen Medicine and Hydrogen Biology. He is sitting the Associate Editors of Medical Gas Research.

Flexible electromechanical sensors/actuators for human health

Grantee: Prof. Junwen ZHONG
Assistant Professor, Faculty of Science and Technology, University of Macau

Abstract

Flexible electromechanical sensors/actuators are widely used for the capture and reproduction of diverse human movements, holding significant application value in fields such as physiotherapy and rehabilitation. We focus on the fabrication and application of piezoelectret-based flexible bidirectional electromechanical transducers, primarily including wearable sensing and feedback devices. In terms of fabrication, we have focused on improving key metrics such as the output performance, operational stability, and environmental adaptability. For the wearable sensing devices, we have monitored key physiological signals like respiration and pulse based on ultra-sensitive devices, and performed intelligent diagnosis using machine learning algorithms. For the wearable feedback devices, we have developed an array of devices with an output force comparable to that of a smartphone's vibration mode, and demonstrated their applications in areas such as smart Braille and stroke rehabilitation. Related results have been published in internationally renowned journals such as *Nature Communications, Advanced Materials, and The Innovations.*

Biography

Prof. Junwen Zhong, Assistant Professor at the Department of Electromechanical Engineering and the Centre for Artificial Intelligence and Robotics, Faculty of Science and Technology, University of Macau. He obtained his Bachelor and Ph.D. degrees from Huazhong University of Science and Technology in 2011 and 2016, respectively. From 2016 to 2019, he conducted postdoctoral research at the University of California Berkeley. In 2020, he worked as a Special Postdoctoral Researcher at the RIKEN Institute in Japan. He has long been engaged in fundamental and applied research related to the field of flexible electromechanical sensors and actuators. As the first or corresponding author, he has published over 60 papers in internationally renowned journals such as Science Robotics, Science Advances, and Nature Communications, with being cited over 10,000 times. He has led projects funded by the National Science Fund for Excellent Young Scholars (Category B), the NSFC-FDCT Joint Project, and the MOST-FDCT Joint Project.

Luminescent Carbon dots and their biomedical applications

Grantee: Prof. Songnan QU
Professor, Institute of Applied Physics and Materials Engineering, University of Macau

Abstract

Hydrogels hold promise as biomaterials for in vitro cell culture and in vivo tissue engineering due to their ability to mimic the extracellular matrix. Carbon dots (CDs) are renowned for their exceptional biocompatibility, low toxicity, and adaptable optical characteristics. Our group aims to develop multifunctional luminescent CDs, combine them with natural products and molecules derived from traditional Chinese medicine, and create functional CD-based hydrogel materials to advance their clinical translation. The specific work is as follows:

1. A CDs-crosslinked egg white hydrogel (CEWH) is synthesized from chicken egg white (EW) and carbon dots (CDs) for modulating long-term immune-mediated tissue engineering. The introduction of CDs as cross-linkers promotes the unfolding and connection of EW protein peptide chains in dilute solutions, thereby effectively avoiding self-crosslinking and self-aggregation of EW. (Adv. Sci. 2024, 240470285)
2. The CDs crosslinked egg white hydrogel loaded with LPS and CA170 (TTF-L-C) can realize spatiotemporal tumor-associated macrophages (TAMs) transformation from multi-level dimensions, including spatial recruitment, cell phenotype reprogramming, and immune checkpoint molecule blockade. Finally, at the in vivo level, TTF-L-C can stimulate anti-tumor immunity through TME remodeling and reduce tumor recurrence with satisfactory biosafety. (Adv. Mater. 2025, 37, 2420068)
3. Traditional Chinese Medicine-derived CDs nanoplatform reprograms tumor cell death from apoptosis to necroptosis, dismantling therapy-induced collagen barriers and promoting immunogenic death. pH-responsive hydrogel assembled from carbon dots for localized delivery, this strategy suppresses primary tumors and metastasis, offering a new paradigm in death-modality-engineered cancer nanotherapeutics. (Adv. Funct. Mater. 2025, e22706)

Biography

Prof. Songnan Qu achieved his PhD degree in Jilin University. From 2009-2018, he worked in State Key Laboratory of Luminescence and Applications at CIOMP, CAS. In 2019, he moved to University of Macau as a full Professor. His research interests focus on development and applications of luminescent CDs. He has published over 160 SCI- indexed papers in prestigious international journals such as Adv. Mater., Light: Sci. Appl., and Angew. Chem. Int. Ed., with citation of more than 15300 and H-index of 63.

Vitamin C and Cancer Prevention: History and Controversy

Grantee: Prof. Xiuping CHEN
Professor, Institute of Chinese Medical Sciences, University of Macau

Abstract

Malignant tumors represent a major threat to human health. Currently, almost all clinically used anticancer agents are associated with significant toxic side effects. Vitamin C, a naturally occurring antioxidant, is widely utilized in cosmetics, pharmaceuticals, and food additives. Decades ago, studies initially suggested that vitamin C possessed anticancer properties, leading to clinical trials which, however, yielded conflicting results. Recent research has confirmed that vitamin C can selectively kill cancer cells, although this effect requires high-dose intravenous administration, as oral intake does not achieve effective concentrations. With minimal toxicity, vitamin C exerts its anticancer effects through mechanisms such as induction of ROS, making it a promising candidate for anticancer drug development. Here, we discuss both the discoveries and ongoing debates regarding its anticancer role, incorporating experimental findings from our research group.

Biography

Prof. Xiuping Chen began his academic career as an Assistant Professor at the University of Macau in 2010, and was subsequently promoted to Associate Professor in 2015 and to Full Professor in 2021. His research centers on pharmacology, with a particular focus on screening and identifying regulators of programmed cell death (PCD) and epithelial-mesenchymal transition (EMT) from natural compounds. These efforts aim to discover lead compounds or potential therapeutics for cancers, cardiovascular diseases, and fibrotic disorders. Among his notable accolades are the 17th SERVIER Young Pharmacologist Award in 2013 and the Second Prize of the Macao Science and Technology Awards in both 2012 and 2014. Since 2023, Dr. Chen has been a Member of the Royal Society of Biology. He has authored more than 100 publications, which have accumulated over 16,000 citations, and currently maintains an h-index of 69.

Precision Radiotheranostics Therapy via Integrated Physics and AI

Keynote Speaker: Prof. Seng Peng MOK
Professor of Faculty of Science and Technology, University of Macau

Abstract

Along with the approval and availability of new radiotheranostic agents, targeted radionuclide therapy (TRT) shows great promise for the treatment of late stage cancers. In order to maximize the tumor dose, while keeping the potential toxicity in critical organs under a safety level and monitor the treatment effects, the conventional fixed or mass-based injection activity regime is obviously deficit. Patient-specific treatment planning based on patients' own kinetics data is desirable to maximize the treatment efficacy, with reference to the common practice of external beam radiation therapy. Quantitative 3D imaging methods, especially SPECT/CT and PET/CT, can provide the spatial distribution of TRT theranostic tracers on a voxel level with improved quantitative accuracy. Following quantitative imaging, the use of a streamlined 3D dosimetric software with functions of volume-of-interest segmentation, image registration, time-activity-curve fitting and dose conversion is essential for successful clinical dosimetry practice. Here we present an overview and share our current research experience of Y-90 microsphere for liver cancer. A self-developed comprehensive and 1-stop internal dosimetry software, BIGDOSE, will also be introduced.

Biography

Prof. Greta Seng Peng MOK is a Professor in the Department of Electrical and Computer Engineering, Faculty of Science and Technology at the University of Macau, with joint affiliations at the Center for Cognitive and Brain Sciences and the MOE Frontiers Science Center for Precision Oncology. She earned her Ph.D. in Medical Imaging Physics from Johns Hopkins University, USA, and her B.S. in Biomedical Imaging and Radiological Sciences from Yang-Ming University, Taiwan. Her research encompasses medical imaging technologies including SPECT, PET, multi-modality imaging (PET/SPECT/CT/MRI), internal dosimetry, molecular imaging, and AI in medical imaging. Prof. Mok serves as Associate Editor for EJNMMI Physics and Medical Physics, and is an Editorial Board Member of European Journal of Nuclear Medicine and Molecular Imaging (EJNMMI), Quantitative Imaging in Medicine and Surgery (QIMS) and Nuclear Medicine and Molecular Imaging (NMMI). She published >110 SCI papers and is the principle investigator of >20 funded research projects, including the 2020-2022 Excellent Young Scientists Fund (Hong Kong and Macau) from Natural Science Foundation of China. She is the Founding and Current President of the Macao Society of Nuclear Medicine and Molecular Imaging and a Senior Member of IEEE.

The Pain of Irritable Bowel Syndrome

Grantee: Prof. Pui Man HOI
Associate Professor, Institute of Chinese Medical Sciences, University of Macau

Abstract

The gut is often called our second brain, not just for its dense network of neurons, but for its ability to sense, respond, and feel pain. Gut inflammation rewires the sensory landscape, leading to visceral hypersensitivity in irritable bowel syndrome (IBS). Building on previous work in epithelial barrier inflammation, we have established cellular and animal models to study barrier-immune cell interactions. In collaboration with Prof. David Bulmer from University of Cambridge, we aim to investigate how inflammatory signals upregulate pain receptors at nerve endings in the gut, amplifying discomfort in the absence of visible damage, and how to recalibrate these hypersensitive circuits.

Biography

Prof. Pui Man Hoi is an Associate Professor at the Institute of Chinese Medical Sciences and Department of Pharmaceutical Sciences, Faculty of Health Science, University of Macau. She leads NSFC-FDCT and FDCT-GDST Projects and received the Macao SAR Science and Technology Award. Her research focuses on traditional Chinese medicine pharmacology, targeting vascular dysfunction and neuroinflammation in ageing-related diseases.

網上報名
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活動主頁
Official Website

查詢 Enquiry

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