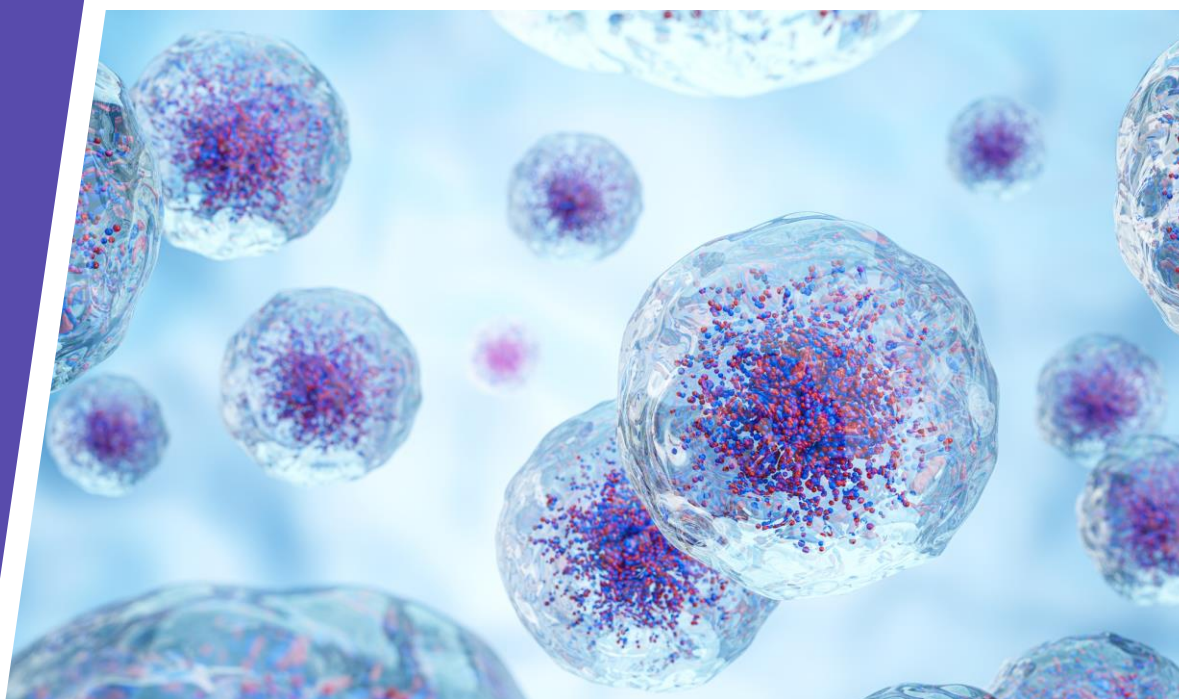


MoE-FSCPO/SUAT Joint Workshop/Symposium on Cancer Biology



19

June 2025



澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU



深圳理工大学
SHENZHEN UNIVERSITY OF
ADVANCED TECHNOLOGY

MoE-FSCPO/SUAT
Joint Workshop/Symposium on
Cancer Biology

Pre-Meeting of
11th Macau Symposium on Biomedical Sciences 2025

19 June 2025

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Programme Rundown

Date : 19 June 2025
Location : N1 – Multifunction Hall, UM

MoE-FSCPO/ SUAT Joint Workshop/Symposium on Cancer Biology Pre-Meeting of 11 th Macau Symposium on Biomedical Sciences 2025	
Time	Event
14:00 – 14:20	<i>Introduction of the Ministry of Education Frontiers Scientific Center for Precision Oncology (MoE-FSCPO)</i> by Prof. Chuxia DENG <i>Introduction of Faculty of Synthetic Biology, Shenzhen University of Advanced Technology</i> by Prof. Xian-En ZHANG
14:20 – 16:20	Session I
16:20 – 16:50	Coffee break and Poster Review
16:50 – 18:30	Session II

Talk Schedule

Session I

Session Chairs: Prof. Xian-En ZHANG and Prof. Ping WEI

Time	Talk
14:20 – 14:40	<i>Triple Negative Breast Cancer (TNBC): Its Formation and Potential Drivers</i> Prof. Chuxia DENG, University of Macau
14:40 – 15:00	<i>Deciphering Tumor Evolution with DNA Barcoding-based Lineage Tracing</i> Prof. Zheng HU, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences
15:00 – 15:20	<i>A Strategy of Immune Cell Therapy based on Modification of the Local Tumor Microenvironment</i> Prof. Yong ZHAO, Shenzhen University of Advanced Technology
15:20 – 15:40	<i>Microbe-assisted Synthesis of Polymeric Materials</i> Prof. Xuanjun ZHANG, University of Macau
15:40 – 16:00	<i>Mesenchymal Stem Cells (MSCs) in Cancer: Friend or Foe?</i> Prof. Qizhou LIAN, Shenzhen University of Advanced Technology
16:00 – 16:20	<i>Single-Cell Lineage Tracing Meets Evolutionary Phylogenetics in Breast Cancer Study</i> Prof. Kai MIAO, University of Macau

Session II

Session Chairs: Prof. Chuxia DENG and Prof. Lijun DI

Time	Talk
16:50 – 17:10	<i>Modular Design of T Cell Signaling for Cancer Immunotherapy</i> Prof. Ping WEI, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences
17:10 – 17:30	<i>Metal Coordination Nanomaterials for Anticancer Immunotherapy</i> Prof. Yunlu DAI, University of Macau
17:30 – 17:50	<i>Extrachromosomal DNA Replication and Maintenance Couple with DNA Damage Pathway in Tumors</i> Prof. Haiyun GAN, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences
17:50 – 18:10	<i>Reciprocal Stabilization of CtBP and TRIM28 represses autophagy to promote metastasis</i> Prof. Lijun DI, University of Macau
18:10 – 18:30	<i>Towards therapeutic development via reconstruction of gene editing systems</i> Prof. Yu WANG, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences

Speaker's Biography



Prof. Yunlu DAI

Associate Professor, University of Macau

Prof. Yunlu DAI is Associate Professor of Faculty of Health Sciences. He received his PhD degree in 2014 from the Changchun Institute of Applied Chemistry, Chinese Academy of Sciences. After his postdoctoral research, He initiated an independent research programme at University of Macau as an Assistant Professor in 2018. He was promoted to Associate Professor in 2022. He was also awarded the National Natural Science Foundation of China (NSFC) Excellent Young Scientists Fund (Hong Kong and Macao) in 2022. His research team mainly focuses on multifunctional hybrid nanomaterials for biomedical applications.

Personal website:

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Prof. Chuxia DENG

Dean of Faculty of Health Sciences, University of Macau
Chief Scientist of MoE Frontiers Science Center for Precision Oncology,
University of Macau
Chair Professor, University of Macau



Prof. Chuxia DENG is the Founding Dean of Faculty of Health Sciences and the Chief Scientist of MoE Frontiers Science Center for Precision Oncology, University of Macau. He received MS from Chinese Academy of Sciences in 1984, and PhD from University of Utah in 1992 under the supervision of Prof. Mario R. CAPECCHI, Winner of 2007 Nobel Prize in Physiology or Medicine. After his postdoctoral fellow training at Harvard Medical School, he has been Investigator, Senior Investigator and Chief of Mammalian Genetics Section, Genetics of Development and Disease Branch of National Institute of Diabetes, Digestive and Kidney Diseases (NIDDK) of National Institutes of Health (NIH), USA from 1995 to 2014. Prof. Deng has received numerous awards in recognition of his outstanding achievements in teaching and research, including the NIH-APAO Outstanding Achievement Award (2000, NIH), the Outstanding Overseas Scholar from National Science Foundation (2002, China), NIDDK "You Make A Difference Award" (2005, 2013), the NIDDK Director's Award (2011), and Second Prize in the Natural Science Award awarded by the Macao SAR Government (2024). He was elected as a fellow of the American Association for the Advancement of Science (2012), topped the list in biology and biochemistry among all Chinese scientists in Best Scientists Ranking (2023) announced by Research.com, and named in Stanford University's World Top 2% Scientists 2024 for his career-long citation impact. He is the author or co-author of over 470 peer-reviewed papers. As at May 2025, Prof. Deng has an H-index at 152 with a total citation over 83,600. He is currently Editor-in-Chief of International Journal of Biological Sciences. Prof. Deng has a remarkable track record in cancer research, with particular focuses lately on precision oncology, oncogenes and tumour suppressor genes, as well as gene targeting and drug development.

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Prof. Lijun Di

Assistant Dean (Global Engagement and Outreach) of Faculty of Health Sciences, University of Macau
Associate Professor, University of Macau

Prof. Lijun Di is currently Associate Professor of Faculty of Health Sciences, University of Macau. Prof. Di graduated from Peking Union Medical College in Beijing with a PhD degree. From 2007 to 2012, he completed his postdoc training in National Cancer Institute, USA. Prof. Di has the research interest of understanding the mechanisms involved in the development of diseases such as cancer, diabetes, and obesity, and intends to discover the novel therapeutic targets. His group has studied the relationship between the intracellular metabolic pathways and cancer development (Cell death and Diseases 2015, Oncogenesis 2017, and Oncogene 2018). His group has also studied the mechanisms of initiation, development and metastasis in breast and ovarian cancers. The representative findings include the distinguishment of the cell origins of high-grade serous ovarian carcinoma, immune microenvironment and chemosensitivity study in ovarian cancer, the correlation study between estrogen signaling and DNA damage repair in ovarian cancer (*Nature Structural & Molecular Biology* 2010, 2025; *Nature Communications* 2012; *Clinical Cancer Research* 2018, 2019; *Theragnostic* 2020; *International Journal of Biological Sciences* 2022). In addition, his group has also studied the etiology of obesity, and understood how obesity contributes to the type II diabetes phenotypes through regulating adipose tissue microenvironment such as inflammation, endoplasmic reticulum stress, etc to result insulin resistance, and glucose intolerance (*Diabetes* 2013; *Journal of Biological Chemistry* 2015; *FASEB Journal* 2018; *Arteriosclerosis, Thrombosis, and Vascular Biology* 2018; *Circulation Research* 2024).



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Prof. Haiyun GAN

Professor, the Shenzhen Institute of Advanced Technology,
Chinese Academy of Sciences



Prof. Haiyun GAN is Professor at the Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (CAS), and a recipient of the National High-Level Young Talent Program (Overseas) and the '100 Talents Program' of Chinese Academy of Sciences. He received PhD in 2011 from the Institute of Zoology, CAS, followed by postdoctoral training at Mayo Clinic and Columbia University. Prior to returning to China, he served as a Bioinformatics Scientist at St. Jude Children's Research Hospital, USA. His research focuses on the memory of epigenetic information, aiming to decipher the mechanisms governing the maintenance of epigenetic identity during cell division, differentiation, and disease progression. His work has been published as first/corresponding (including co-) author in top-tier journals such as *Cell*, *Science* (2 papers), *Nature Genetics*, *Molecular Cell* (4 papers), and *Proceedings of the National Academy of Sciences*, with over 3,800 citations in the SCI database.

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Prof. Zheng HU

Principal Investigator, Director of Center for Synthetic Biology and Evolution,
Shenzhen Institute of Synthetic Biology,
Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences

Prof. Zheng HU is a Principal Investigator at Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (CAS). He is also the Director of Center for Synthetic Biology and Evolution. Prof. Hu received his BS in Biomedical Engineering from Huazhong University of Science and Technology in 2010. He received his PhD in Evolutionary Genetics from Beijing Institute of Genomics, CAS in 2015 in the lab of Prof. Chung-I WU. From 2015 to 2020, he was a Innovative Genomics Institute Postdoctoral Fellow in Prof. Christina CURTIS's lab at Stanford University School of Medicine. Prof. Hu's research interests span from cancer genomics, cancer evolution, lineage tracing to computational biology. His research on measuring cancer evolutionary dynamics has yielded novel insights into cancer formation and metastasis, facilitating biomarker discovery for risk prediction and treatment decision making. Prof. Hu's publications as corresponding author or first author include *Nature* (2024), *Nature Biotechnology* (2023), *Nature Genetics* (2020, 2019, 2017), *Genome Biology* (2025), *Cell Systems* (2025), etc.



Personal website:

https://isynbio.siat.ac.cn/siat/2025-03/06/article_2025030601270123960.html

Prof. Qizhou LIAN

Professor, Faculty of Synthetic Biology,
Shenzhen University of Advanced Technology



Prof. Qizhou LIAN works at the Faculty of Synthetic Biology at Shenzhen University of Advanced Technology and the Shenzhen Institutes of Advanced Technology, the Chinese Academy of Sciences. His research centers on stem cells and gene therapy for genetic and metabolic diseases. He was a pioneer in establishing clinical-grade mesenchymal stem cells from pluripotent stem cell sources and their global therapeutic applications. Since 2014, he has led Asia's first hematopoietic stem cell gene therapy for metachromatic leukodystrophy (MLD), successfully treating patients with this fatal lipid storage disorder-induced white matter degeneration and enabling their long-term recovery, significantly advancing the fields of cell and gene therapy. He plays a crucial role in establishing a Cell Therapy Manufacturing Center at the University of Hong Kong, meeting the Pharmaceutical Inspection Co-operation Scheme (PIC/S) Good Manufacturing Practice (GMP) standards. His patented technologies and research results have been translated into industrial applications, with over 130 publications in esteemed scientific journals such as *Circulation*, *Cell Stem Cell*, *Nature Metabolism*, and *Nature Communications*. Additionally, he serves as a scientific grant reviewer for international funding agencies such as French National Research Agency, Independent Schools Foundation, Medical Research Council, UK Research and Innovation, and National Natural Science Foundation of China, and has served as an Associate Editor for the international scientific journal "Transplantation" (JCR/Q1 in Surgery).

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Prof. Kai MIAO

Assistant Professor, University of Macau

Prof. Kai MIAO is Assistant Professor of the Faculty of Health Science, University of Macau. He currently serves as the President of the Macau Young Scientists Association and a member of the Academic Committee of the World Young Scientist Summit. His primary research focuses on functional genomics with specific interests in: High-throughput functional genetic screening and identification using single-cell barcode-labeled CRISPR libraries; Functional characterization of DNA methylation drivers in cancer; and Lineage tracing analysis of tumor metastasis.

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Prof. Ping WEI

Director, Institute of Synthetic Biology and Center for Cell and Gene Circuit Design, Shenzhen Institute of Advanced Technology,
Shenzhen University of Advanced Technology
Professor, Shenzhen University of Advanced Technology



Prof. Ping WEI is Professor and PhD supervisor at the Institute of Synthetic Biology, Shenzhen Institute of Advanced Technology (SIAT), Chinese Academy of Sciences, where he also serves as Director of the Institute and Director of the Center for Cellular and Gene Circuit Design. He completed postdoctoral training at the Center for Quantitative Biology, Peking University in 2007. From 2008 to 2013, he conducted postdoctoral research at the University of California, San Francisco. From 2013 to 2021, he served as Principal Investigator at the Center for Quantitative Biology, Peking University, before joining SIAT in 2021. His research focuses on understanding design principles of cellular and gene circuits, synthetic immunology, and cell therapy. He was selected for the Young Thousand Talents Program by the Central Organization Department of China in 2014 and received the Excellent Young Scientists Fund from the National Natural Science Foundation of China in 2016. He currently holds memberships in the Synthetic Biology Committee of the Chinese Society of Biotechnology and the Synthetic Biotechnology Branch Committee of the Chinese Society of Pharmaceutical Biotechnology. His seminal work has been published as first or corresponding author in top-tier journals including *Nature*, *Science*, *Cell Systems*, *Angewandte Chemie International Edition*, and *eLife*.

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Prof. Yong ZHAO

Chair Professor, Shenzhen University of Advanced Technology
Deputy Director for research, the Institute of Zoology,
Chinese Academy of Sciences
Director, National Key Laboratory of Membrane Biology
Director, Department of Immunology, Cunjie Medical College,
University of Chinese Academy of Sciences
Vice Chairman, Transplantation Immunology Committee,
Chinese Society for Immunology
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Prof. Yong ZHAO is Chair Professor in Shenzhen University of Advanced Technology; Deputy Director for research, the Institute of Zoology, Chinese Academy of Sciences; Director of the National Key Laboratory of Membrane Biology; Director of the Department of Immunology, Cunjie Medical College, University of Chinese Academy of Sciences; Vice Chairman of Transplantation Immunology Committee, Chinese Society for Immunology; Council of Chinese Society for Immunology. He is also Editor of *Expert Review of Clinical Immunology*, *Cell and Molecular Immunology*, and *Frontiers in Immunology*. He has received the National "Outstanding Youth Fund". Prof. Zhao mainly engaged in transplant immunology research, including the induction of immune tolerance and its cellular molecular mechanisms, the induction and application of immunosuppressive cells, the molecular regulation of thymus development and differentiation, and macrophage biology. He also interested in identification of novel functional subpopulations of innate immune cells. He has achieved a series of important research results, and published more than 200 SCI articles and more than 70 articles in Chinese core journals, including *Nature Medicine*, *Nature Communications*, *Journal of Experimental Medicine*, *Blood*, *Journal of Immunology*, *American Journal of Transplantation* and *Transplantation*, and obtained two Chinese invention patent authorizations. He has also published two books "Xenotransplantation Immunology" and "Transplant Immune Tolerance" as Editor-in-chief, and five books as co-editors.

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Prof. Yu WANG

Principle Investigator
Institute of Synthetic Biology, Shenzhen Institutes of Advanced Technology,
Chinese Academy of Sciences



Prof. Yu WANG is a principal investigator at the Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences. He received his bachelor's degree from the University of Science and Technology of China and his PhD from Harvard University. He has been selected for high-caliber talent programmes by the Chinese Academy of Sciences, Guangdong Province, and Shenzhen. His primary research interest is the novel screening and design approaches for biological, chemical, and gene therapeutics guided by the principles in synthetic biology, leveraging interdisciplinary collaboration and integration of AI. In recent years, he has published papers as the lead corresponding author in several important international academic journals, including *Advanced Science*, *Nucleic Acids Research*, *Cancer Research*, *Proceedings of the National Academy of Sciences*, and *Cell Chemical Biology*. He currently serves as a standing committee member of the Pharmaceutical Gene Engineering and Cellular Engineering Branch of the China Pharmaceutical Biotechnology Association, and a committee member of the Gene Editing Technology Branch. Among his multiple invention patents, one has been licensed to Roche-Genentech. His research has been supported by several national research grants including key research and development programmes from the Ministry of Science and Technology and key research programmes from the National Natural Science Foundation of China.

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Prof. Xian-En ZHANG



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Vice President of Chinese Society of Biotechnology
Founding co-chair of the Division of
Nanobiotechnology/Biosensors/Biochips,
Asian Federation of Biotechnology (AFOB)

Prof. Xian-En ZHANG is the Dean and Chair Professor of the Faculty of Synthetic Biology, Shenzhen University of Advanced Technology and PI Professor of the Institute of Biophysics, Chinese Academy of Sciences (CAS). He received MPhil (microbiology) and PhD (biochemistry) from CAS, and Honorary Doctor of Science Degree from the University of Alberta, Canada (2015). He became a full professor in 1993. He has been engaged in interdisciplinary research at the intersection of biosensing, nanobiology, and synthetic biology, applying these approaches to address scientific questions in cell biology, virology and cancer biology. He pioneered the tracking virus-host cell interactions using the synthesized multi-signaling system, and created the M. tuberculosis whole proteome microarray - an unique high-throughput platform advancing TB research and prevention. He is an elected Fellow of American Institute of Medicine and Biological Engineering and a Fellow of Royal Society Chemistry. He serves as the coordinator of the expert committee of the China synthetic biology research program and the report Synthetic Biology Roadmap 2030. He also serves as the Vice President of Chinese Society of Biotechnology, member of the organizing committee of the World Congress on Biosensors, and founding co-chair of the Division of Nanobiotechnology/Biosensors/Biochips, Asian Federation of Biotechnology (AFOB).

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Prof. Xuanjun ZHANG

Assistant Dean (Student Affairs) of Faculty of Health Sciences,
University of Macau
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Prof. Xuanjun ZHANG is Professor of Faculty of Health Sciences, University of Macau. Prof. Zhang obtained his PhD degree from University of Science and Technology of China. He worked as postdoc fellow and visiting scientist at National University of Singapore, Linköping University, and University of Washington from 2006-2011. He started his assistant professor position at Linköping University in 2011 and joined University of Macau in 2015. His research focuses on the development of chemical tools for biomedical research, including molecular probes and nanosensors. He has developed a series of fluorescent/photoacoustic probes for bioimaging and visualized theranostics. By combining fluorescent probes and nanoporous membrane, his lab has developed highly sensitive nanochannel sensors for practical detection of toxic substances. Another research direction in his lab is abiotic synthesis in living systems, for examples, *in situ* synthesis of anti-cancer drugs, and microbe-assisted synthesis of functional biomaterials. He has published more than 180 papers in renowned journals, including *Journal of the American Chemical Society*, *Angewandte Chemie International Edition*, *Nature Communications*, *Advanced Materials*, *Advanced Science*, etc.

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