

Oct 22-24

International Joint Medical Symposium (2025)

SJTUSM-UOM-CLARA-NUSMED

AI in Medicine, Cancer and Aging



Hosted by:



上海交通大学医学院
Shanghai Jiao Tong University
School of Medicine, China

Organized by:

Cancer Research Cluster of Auvergne-Rhône-Alpes, France
Faculty of Biology, Medicine and Health, University of Manchester, UK
Yong Loo Lin School of Medicine, National University of Singapore, Singapore

DAY 1

Venue: 1st Floor Lecture Hall, 3 East Building, 100 Tianxiong Road, Shanghai
Shanghai Jiao Tong University School of Medicine (Pudong Campus)

Meet at the hotel entrance at **7:45 a.m.** for group transportation to the venue.

OPENING CEREMONY/开幕式

22 OCTOBER 2025, WEDNESDAY

09:00-09:40

- Welcome Remarks by the Conference Chair / 大会主席及各方代表致辞
- Group Photo / 合影留念

AI IN MEDICINE/医学人工智能

Moderator / 主持人: Helen Zhou

TIME	SPEAKER	ORGANIZATION	TOPIC
09:40-10:00	ZHUANG Youwen	SJTUSM	Rational opioid drug design driven by AI and precision pharmacology
10:00-10:20	Alex Frangi	UoM	The Digital Oath: Ethical Medical Product R&D Through Computational Medicine and AI

10:20-10:30



Coffee Break



10:30-10:50	Pascal ROY	CLARA	Artificial intelligence and advanced biostatistics
10:50-11:10	Helen Zhou	NUS	Integrating brain imaging and AI: applications in neurological disorders
11:10-11:30	ZHANG Haicang	SJTUSM	Generative AI for Functional Protein Design

TIME	SPEAKER	ORGANIZATION	TOPIC
11:30-11:50	Jinming Duan	UoM	Large-Scale Cardiac Image Analytics
11:50-12:10	Eric FOLCO	CLARA	Towards an AI-based frugal solution to help patient diagnostic in degraded environment
12:10-12:30	Liu Dianbo	NUS	Causal treatment Effect estimation using real-world medical data

LUNCH BREAK /午餐

12:30-14:00

CANCER/肿瘤

Moderator / 主持人: ZOU Qiang

TIME	SPEAKER	ORGANIZATION	TOPIC
14:00-14:20	ZOU Qiang	SJTUSM	Metabolic control of antitumor immunity
14:20-14:40	Frances Turrell	UoM	The ageing microenvironment and its impact on metastatic dormancy and relapse in ER+breast cancer
14:40-15:00	Nicolas REYNOIRD	CLARA	Protein methylation dynamics in Small Cell Lung Cancer chemoresistance
15:00-15:20	Cheok Chit Fang	NUS	Targeting Synthetic Lethality in Cancer: Uncovering Cancer Vulnerabilities

P R O G R A M M E

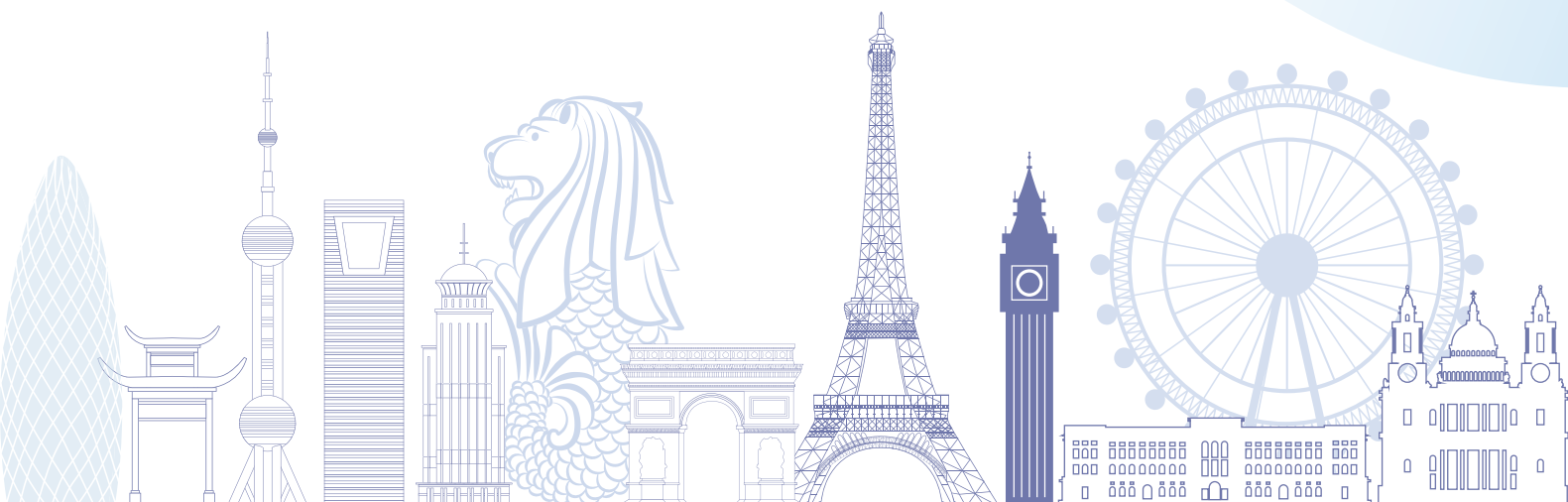
TIME	SPEAKER	ORGANIZATION	TOPIC
15:20-15:40	  	Coffee Break	   
15:40-16:00	XU Yingjie	SJTUSM	mRNA-based therapeutics for cancer treatment
16:00-16:20	Simona Valletta	UoM	AML in Spatial Context: Mapping Tumour-Microenvironment Relationships
16:20-16:40	Olivier LE BACQUER	CLARA	Endocannabinoid system and skeletal muscle wasting in cachexia
16:40-17:00	Joshua Tay	NUS	A sequencing-first approach for identification and prognosis of head & neck malignancies

DINNER/晚餐

18:00-19:30

Restaurant: 3F Function Room 2, Pullman Shanghai Skyway
(all speakers are cordially invited to attend the banquet)

Hotel: Pullman Shanghai Skyway (15 Dapu Rd, Huangpu, China, 200023)



DAY 2

Venue: 1st Floor Lecture Hall, 3 East Building, 100 Tianxiong Road, Shanghai
Shanghai Jiao Tong University School of Medicine (Pudong Campus)

Meet at the hotel entrance at **7:45 a.m.** for group transportation to the venue.

AGING/衰老**23 OCTOBER 2025, THURSDAY**

Moderator / 主持人: Qing-Jun Meng

TIME	SPEAKER	ORGANIZATION	TOPIC
09:00-09:20	HE Ming	SJTUSM	SIRT2, Aging, and the Diseased Liver: A Spatiotemporal Dilemma
09:20-09:40	Emma Stanmore	UoM	Evaluating the effect of a digital health intervention to improve physical function in older adults: a randomised controlled trial in the UK
09:40-10:00	David BERNARD	CLARA	Novel function and mechanism of action of proteins localized at the mitochondria-ER contact sites in regulating cellular senescence and age-related alterations
10:00-10:20	Cheng Ching-Yu	NUS	Oculomics and the Aging Eye: Retinal Biomarkers as Clues to Systemic Health
10:20-10:40	YE Jing	SJTUSM	Age-related TRF2 downregulation and its role in heart failure
10:40-11:00	Qing-Jun Meng	UoM	Circadian rhythm in skeletal ageing and breast cancer
11:00-11:20	Claire FALANDRY	CLARA	Geriatric oncology: constantly evolving models of care
11:20-11:40	Jose Valderas	NUS	Transforming primary care for a healthy longevity

PROGRAMME

LUNCH BREAK/午餐

11:40-13:30

ROUNDTABLE DISCUSSION /圆桌论坛 Moderator: Cheng Ching-Yu

13:30-15:00

Theme / 主题: Future Trends and Global Collaboration in Medical Innovation

医学创新的未来趋势与全球合作

Panelists / 参与嘉宾: Invited experts, host representatives, and young researchers

各国代表专家、主办方代表、青年学者

DINNER/晚餐

17:30-18:30

Restaurant: 3F Function Room 2, Pullman Shanghai Skyway

(all speakers are cordially invited to attend the banquet)

Hotel: Pullman Shanghai Skyway (15 Dapu Rd, Huangpu, China, 200023)

DAY 3

Venue: 100 Tianxiong Road, Shanghai

Shanghai Jiao Tong University School of Medicine (Pudong Campus)

Meet at the hotel entrance at 8:30 a.m. for group transportation to the venue.

LAB VISITS AND CAMPUS TOUR

24 OCTOBER 2025, FRIDAY

9:30-10:00 Department of Laboratory Animal Science

10:00-11:00 Li Bing's Lab

11:00-11:30 Cheng Xi's Lab

Lunch provided at the campus cafeteria.

ZHUANG Youwen



BIOGRAPHY

Youwen Zhuang, Professor and Doctoral Supervisor at Shanghai Jiao Tong University School of Medicine. His research primarily focuses on elucidating the molecular pharmacological and signaling mechanisms of neurotransmitter GPCRs, along with rational drug design. The GPCRs of particular interest in his work include those crucial for the onset and progression of neuropsychiatric disorders such as Parkinson's disease, schizophrenia, depression, and chronic pain. Professor Zhuang has published 19 papers in top-tier journals, including four papers in *Cell*, and others in *Neuron*, *Nat Chem Biol*, *PNAS*, *Cell Res*, etc. One of these *Cell* papers was selected as the cover story, and another was chosen as a featured article and 'Best of Cell 2023'. His research has been supported by NSFC, National Key R&D Program, Science and Technology Commission of Shanghai Municipality, etc. He has been recognized by the Youth Talent Support Program of China Association for Science and Technology and the Youth Innovation Promotion Association of the Chinese Academy of Sciences. The awards and honors he achieved include MIT Technology Review Innovators Under 35 China, First Prize in Shanghai Natural Science Award, and the Sanofi Outstanding Young Scientist Award, etc.

RESEARCH FIELD

G protein-coupled receptors (GPCRs) represent the largest superfamily of membrane proteins in humans and have emerged as the most successful drug targets to date. They play a pivotal role in various physiological processes, including sensory perception, neural signal transduction, and immune regulation. Neurotransmitter GPCRs are integral to the formation of neurotransmitter systems, and disruptions in their signaling and function are closely linked to the onset and progression of neuropsychiatric disorders such as schizophrenia and depression. Therefore, targeting neurotransmitter GPCRs in drug discovery and restoring the delicate balance of their functions and signaling pathways are essential for effectively treating these conditions. The research in Dr. Zhuang's laboratory mainly focuses on the molecular understanding of the signaling and pharmacology of neurotransmitter GPCRs, and structure-based drug design. The GPCRs of particular interest in his work include those crucial for neuropsychiatric conditions, such as dopamine receptors, opioid receptors, and cannabinoid receptors.



Prof Alejandro F Frangi, FREng FIEEE

Bicentenary Turing Chair in Computational Medicine,
Royal Academy Chair in Computational Medicine, Director,
The Christabel Pankhurst Institute, Lead, NIHR Manchester Biomedical
Research Centre, Digital Infrastructure

Bicentennial Turing Chair in Computational Medicine, Division of Informatics,
Imaging & Data Sciences (L5)
Bicentennial Turing Chair in Computational Medicine, Machine Learning and Robotics

BIOGRAPHY

Alejandro (Alex) was born in La Plata, Argentina. In 1991, he moved to Barcelona, Spain, where he obtained his undergraduate degree in Telecommunications Engineering from the Technical University of Catalonia (Barcelona) in 1996. Then, he carried out research on electrical impedance tomography for image reconstruction and noise characterisation at the same institution under a CIRIT grant. In 1997, he obtained a grant from the Dutch Ministry of Economic Affairs to pursue his PhD in Medicine at the Image Sciences Institute of the University Medical Centre Utrecht on model-based cardiovascular image analysis. During this period, he visited a researcher at the Imperial College in London, UK, and at Philips Medical Systems BV, The Netherlands.

Since 2001, he has founded and directed the Centre for Computational Imaging and Simulation Technologies in Biomedicine. Prof Frangi has a visiting position at KU Leuven. At the national level, Prof Frangi leads InSilicoUK Innovation Network, spearheading in silico methods as a source of regulatory evidence and accelerated innovation in the life sciences sector.

Prof. Frangi edited several books, published seven editorial articles and more than 285 journal articles in key international journals of his research field, and more than 200 book chapters and international conference articles with an h-index 75, and more than 32,850 citations according to Google Scholar Citations. He has been three times Guest Editor of special issues of IEEE Trans Med Imaging, one of IEEE Trans Biomed Eng, and one of Medical Image Analysis journals.

He organised many international conferences. He was chair of the Third International Conference on Functional Imaging and Modelling of the Heart (FIMH05) held in Barcelona in June 2005, Publications Chair of the IEEE International Symposium in Biomedical Imaging (ISBI 2006), Programme Committee Member of various editions of the Intl Conf on Medical Image Computing and Computer Assisted Interventions (MICCAI) (Brisbane, AU, 2007; Beijing CN, 2010; Toronto CA 2011; Nice FR 2012; Nagoya JP 2013), International Liaison of ISBI 2009, Tutorials Co-Chair of MICCAI 2010, and Programme Co-chair of MICCAI 2015. He was also the General Chair for ISBI 2012, held in Barcelona, MICCAI 2018, held in Granada, Spain, and Information Processing in Medical Imaging (IPMI) 2023 in Bariloche, Argentina.

Pascal Roy

Professor of Biostatistics



BIOGRAPHY

Pascal Roy is a Professor of Biostatistics at Université de Lyon and Hospices Civils de Lyon. He obtained a MD degree in Public Health in 1991 from Université de Lyon and a PhD in Biostatistics in 1993 from Université Paris XI. He worked on Generalized Linear Models and Generalized Additive Models first as a researcher at the International Agency for Research on Cancer (IARC, Lyon), then at the Department of Biostatistics of the University of Washington (Seattle) during his postdoctoral fellowship. He is currently the coordinator of the Master's program in Public Health and its specialisation in “biostatistics, bioinformatics, artificial intelligence, epidemiology”. At the Sino-French Medical School of the Faculty of Medicine at Shanghai Jiao Tong University, he coordinates the Master's 1 program in Biostatistics, which welcomes students from the French-speaking medical program and from the French-speaking research program. His current research on statistical inference in personalized medicine includes works on the analysis of genomic (Massive Parallel Sequencing), transcriptomic, and proteomic data. He is involved in the development of artificial intelligence at the Lyon University Hospital Centre, focusing his research on study designs and on the transition between generalized linear models (GLM), generalized additive models (GAM) and generalized deep learning models (GDLM).



Associate Prof Juan Helen ZHOU

BIOGRAPHY

Dr. Juan Helen ZHOU is an Associate Professor at the Centre for Sleep and Cognition & Department of Medicine, and Director of the Centre for Translational MR Research, Yong Loo Lin School of Medicine, National University of Singapore (NUS). She is affiliated with Healthy Longevity & Human Potential Translational Research Program. She holds a joint appointment with the Department of Electrical and Computer Engineering, NUS, and is affiliated with Duke-NUS Medical School.

Her research focuses on selective brain network-based vulnerability in aging and neuropsychiatric disorders, leveraging multimodal neuroimaging and machine learning approaches. Her recent research focuses on brain decoding and brain foundation models using deep learning to facilitate preventive, precise, and personalized medicine.

Before joining NUS in 2011, Helen was an associate research scientist in the Department of Child and Adolescent Psychiatry, New York University. She did a post-doctoral fellowship at the Memory and Aging Centre, Department of Neurology, University of California, San Francisco, and in the Computational Biology Program at Singapore-MIT Alliance. Helen received her Bachelor's degree with first-class honour (accelerated) in 2003 and her Ph.D. in 2008 from the School of Computer Science and Engineering, Nanyang Technological University, Singapore. She is the recipient of an undergraduate scholarship from the Ministry of Education, Singapore (1998-2003) and the nominee for the Lee Kuan Yew Gold Medal and the Institution of Engineers Singapore Gold Medal, Singapore in 2004.

Dr. Zhou has served as a Council Member and a Program Committee member of the Organization of Human Brain Mapping. She serves on the advisory board of Cell Reports Medicine and as an Editor of multiple journals including Elife, Human Brain Mapping, NeuroImage, and Communications Biology. Dr. Zhou has received research support from the National Medical Research Council, Biomedical Research Council, National Research Foundation, Ministry of Education, Singapore, the Royal Society, UK, and NIH, USA

ZHANG Haicang



BIOGRAPHY

Dr. Haicang Zhang is a Professor at Shanghai Jiao Tong University School of Medicine. He received his Ph.D. in computer science from the Institute of Computing Technology at the Chinese Academy of Sciences. Previously, he served as an AI algorithm engineer at ByteDance, a postdoctoral scientist at Columbia University in the United States, and an Associate Professor at the Institute of Computing Technology, Chinese Academy of Sciences. Dr. Zhang's research focuses on AI-driven protein design and drug design. He has developed the AI protein design platform "CarbonMatrix". As the first or corresponding author, his major works have appeared in journals such as Nature Machine Intelligence (two papers in 2022 and 2024) and Nature Communications (2021), as well as at top AI conferences including NeurIPS (2023), ICML (two papers in 2024), and ICLR (2025). In 2022, he was selected for the Youth Innovation Promotion Association of the Chinese Academy of Sciences.

Jinming Duan



Dr, Turing Fellow, FHEA
Senior Lecturer (Medical Imaging & AI),
Division of Informatics, Imaging & Data Sciences (L5)

BIOGRAPHY

Dr. Jinming Duan received his PhD from the University of Nottingham in 2018, followed by postdoctoral research at Imperial College London. In 2019, he joined the University of Birmingham as a lecturer and was awarded Honorary Associate Professor in 2024. Later that year, he became an Associate Professor at the University of Manchester.

Dr. Duan has published over 140 papers in leading journals such as The Lancet, Nature Machine Intelligence, TPAMI, TMI, and TIP, with a focus on machine learning and imaging methods in medical and cardiovascular applications. He has presented his work at major conferences like MICCAI, CVPR, ECCV, ICCV, NeurIPS, and AAAI. His research has been cited over 5,000 times on Google Scholar, with three papers recognised as Highly Cited by ESI. He holds five patents and has led or contributed to research projects, including international PhD scholarships, with funding totalling around £1.2 million.

In 2021, Dr. Duan was named a Turing Fellow by The Alan Turing Institute for his contributions to AI and data science. He is also a Fellow of the UK Higher Education Academy (HEA) and serves on an Associate Editor for three scientific journals, including IEEE TNNLS. Dr. Duan has received numerous awards, including 2nd place in the 2023 MICCAI Learn2Reg Challenge, 2nd place in the 2023 ISBI RnR-ExM Challenge, 1st place in the 2022 MICCAI Learn2Reg Challenge, and 2nd place in the 2019 Facebook fastMRI International Challenge. He also received the Outstanding Research Project Award at the 2022 CHORUS Seoul Conference, the 2018 NVIDIA GPU Grant, and the Chinese Government Award for Outstanding Self-financed Students Abroad in 2016, the highest national recognition for Chinese PhD students studying overseas. Early in his career, he earned several Student Travel Grants, the Shandong Province Best Master's Thesis Award, and the Shandong Province Graduate Student Science and Technology Award.

Eric Folco



CTO (Chief Technical Officer)

BIOGRAPHY

Eric Folco is Chief Technology Officer at OneTreck (formerly Reckonect), where he leads the company's technical vision and the deployment of biomedical AI innovations. He first joined the organization as a Data Scientist, pioneering the integration of complex biomedical data into deep learning models to create biomedical avatars—work that naturally led to his transition into the CTO role.

Before moving into industry, Eric built a distinguished academic career at Harvard Medical School, the Institute for Advanced Biosciences, and the École normale supérieure de Lyon. His research spanned RNA splicing, non-coding RNAs, circadian biology, and chromatin regulation, resulting in pioneering methods still used worldwide and multiple high-impact publications in top-tier journals.

Eric holds a PhD in molecular biology from the Institute for Advanced Biosciences.

Dr Dianbo LIU



BIOGRAPHY

Dr Dianbo Liu is leader of Cognitive AI for Science team (CogAI4SCI.com) and assistant professor at National University of Singapore. The Cognitive AI for Science (CogAI4Sci) team focuses on two branches of research: 1) develop AI inspired by cognitive science to enable machine to learn, reason and create and 2) use AI to improve biomedical scientific discovery and medical practice.

Before starting CogAI4Sci team, Dianbo was a group leader at the Broad Institute of MIT and Harvard. Prior to the Broad Institute, Dianbo worked as a postdoctoral researcher with Prof. Yoshua Bengio (a Turing Award winner) and led the Humanitarian AI team at the Mila-Quebec AI Institute. This followed his fellowship training and studies in medical informatics at Harvard Medical School. Dianbo earned his PhD from the University of Dundee, Scotland, under the supervision of Prof. Timothea Newman. During his doctoral studies, he received the Vest Scholarship from the Massachusetts Institute of Technology (MIT) and was a special graduate student at the MIT Computer Science and Artificial Intelligence Lab. Dianbo also co-founded two start-ups, “GeneTank” and “SecureAILabs,” to advance AI applications in biomedical sciences during his training.

ZOU Qiang



BIOGRAPHY

Dr. Qiang Zou received his Ph.D. degree in Microbiology from China Agricultural University in 2012. From 2012 to 2016, he was a postdoctoral fellow at the MD Anderson Cancer Center, USA. In March 2016, he joined the Shanghai Institute of Immunology, School of Medicine, Shanghai Jiao Tong University. The “Cancer Immunometabolism” laboratory has been established to explore the metabolic regulation mechanism of tumor immune response and tolerance, and a series of important academic achievements have been made. Numbers of papers have been published in academic journals such as Cell Metabolism, Molecular Cell, Journal of Clinical Investigation, Journal of Experimental Medicine and Nature Communications. In recent years, he has presided over a quantity of projects containing: Overseas High-level Talent Introduction scheme Youth programme (Organization Department of the CPC Central Committee, 2016), Key project of National Natural Science Foundation of China(2020), National Natural Science Funds for Excellent Young Scholar(2020), General project of National Natural Science Foundation of China(2017, 2019), and participated in two National Key Research and Development Program of China(2020, 2021). In 2016, he was selected for the “Early Star Program” of Shanghai Science and Technology Commission; in 2018, he was selected for the “Excellent Youth Program” of Shanghai Health and Family Planning System; in 2018, he was awarded the outstanding Young Scholar Award of the 15th Yangtze River Delta Science and Technology Forum; and in 2019, he was awarded the “Young Outstanding Award” of Shanghai Society of Biochemistry and Molecular Biology. He is also the reviewers for Cell Research, Journal of Cell Biology, Communications Biology, FASEB Journal, Protein & Cell, Eur J Immunol, etc.

SCIENTIFIC RESEARCH PROJECTS

- 2021YFA1301400, Adaptive immunity basis of individual differences in antiviral immunity. Panoramic study of immune response to respiratory virus infection, National Key Research and Development Program of China, 2021/12~2026/11, 1.47 million yuan, Project participant.
- 2020YFA0803600, Regulation mechanism of metabolic plasticity and memory in tissues and organs and its physiological and pathological significance, National Key Research and Development Program of China, 2020/12~2025/11, 1.45 million yuan, Project participant.
- 81930040, Functions of T cell glucose metabolism in colorectal carcinogenesis, Key Program of National Natural Science Foundation of China, 2020/01~2024/12, 3.00 million yuan, Project director.
- 31922025, Glucose metabolism and antitumor immunity. National Natural Science Funds for Excellent Young Scholar, 2020/01~2022/12, 1.20 million yuan, Project director.

Frances Turrell



Dr

Lecturer in Cancer Biology, Division of Cancer Sciences (L5)

BIOGRAPHY

Metastasis is responsible for almost all breast cancer-related mortalities. Patients with oestrogen receptor-positive (ER+) breast cancer, the most common type of breast cancer, are at risk of developing metastatic disease for years or even decades after diagnosis. Crucially, we do not know who is at risk of this late metastatic relapse or how we would prevent or treat it. Underlying these late recurrences is the ability of disseminated tumour cells (DTCs) to lie in a dormant, therapy-resistant state for extended periods of time at the secondary sites until they are triggered to reawaken, with the microenvironment at the metastatic site key in controlling both the survival of dormant tumour cells and their subsequent outgrowth.

The Turrell laboratory focusses on the microenvironmental control of tumour progression, dormancy and metastasis in ER+ breast cancer. Previous work characterised syngeneic ER+ breast cancer models and demonstrated that an aged or fibrotic lung supports rapid metastatic outgrowth of the DTCs, uncovering a key role for PDGF-C in ER+ breast cancer metastasis. We aim to delineate the mechanisms of DTC-niche crosstalk and specifically how age-related changes affect ER+ breast cancer metastasis. The overall goals are to better understand which patients are at higher risk of recurrence and to uncover novel therapeutic strategies to limit metastatic relapse in ER+ breast cancer.

A further aim of our research is to employ ER+ syngeneic models to study tumour-immune interactions and establish how an ageing immune system affects the tumour immune microenvironment and response to therapy in this breast cancer subtype, with the ultimate goal of identifying novel immunotherapy strategies and improving treatment options for the patients.

Nicolas Reynoird

CNRS scientist and team leader, Institute for Advanced Biosciences, Grenoble, France



BIOGRAPHY

While histone methylation is an important regulatory mechanism of chromatin functions and epigenetics, consequences of non-histone protein methylation remain overlooked. The regulatory system defined by protein methylation signaling appears to impact key biological processes, and its deregulation proves to be a mediator of human pathologies, including cancers.

Our research program aims to tackle this gap of knowledge, by focusing on the relatively untapped niche of histone-independent methylation signaling involved in cell plasticity and oncogenic processes. We use original unbiased mechanistic approaches to decipher the under-appreciated functional consequences of non-histone protein methylation signaling in cell homeostasis, with the overarching goal to offer innovative clinical targets for cancer treatment.

Throughout my career, I have focused on characterizing the molecular mechanisms and functional consequences of signaling pathways regulated by post-translational modifications (PTMs) in cellular homeostasis and cancer etiology.

During my PhD at Grenoble University in France (Khochbin Lab), I demonstrated that the BRD4–NUT fusion protein disrupts global histone acetylation and inactivates p53, thereby explaining the aggressive progression of cancers harboring this translocation (Reynoird et al., EMBO J 2010). As a postdoctoral researcher at Stanford University in the USA (Gozani lab), I identified the lysine methyltransferases (KMTs) SMYD2 and SMYD3 as key players in RAS signaling in lung and pancreatic adenocarcinomas (Mazur & Reynoird et al., Nature 2014; Reynoird et al., Genes & Dev 2016). I then was hired in 2017 as a CNRS scientist and group leader at the Institute for Advanced Biosciences in Grenoble, focusing on characterizing non-canonical functions of protein methyltransferases and elucidating the role of lysine methylation in cancer and other human diseases. This led to the creation of my lab in 2023, with works highlighting the relevance of these signaling pathways across several cancer types and laying the groundwork for innovative therapeutic strategies targeting key actors directly involved in tumor progression and plasticity (Lukinovic et al., Cancer Discovery 2022; Casanova et al., Cell Discovery 2024; Ahmad et al., in preparation).

Dr CHEOK Chit Fang



BIOGRAPHY

Dr Cheok Chit Fang received her B.Sc (Hons) from Imperial College London and her DPhil degree from the University of Oxford. Chit Fang started her career in PhD training in genomic instability in cancers with Prof Ian Hickson at the University of Oxford (CRUK) before completing a Postdoctoral Fellowship with Sir David Lane at A*STAR (Singapore).

Her interest in molecular vulnerabilities in cancers forms the fundamental basis of her research in identifying new therapeutic targets and modalities. By exploiting gene perturbation studies and chemical biology screens, new lead targets are identified with accompanying biomarkers as predictive diagnostics. This work has also broadened to encompass interests in cancer metabolism as well as DNA damage and repair pathways.

We are open to collaborative opportunities in various aspects of cancer signaling including studies of:

- i) DNA replication and damage responses in cells and its therapeutic exploitation
- ii) mitochondrial uncoupling in cells and its manipulation in neurodegenerative diseases and cancers

XU Yingjie



BIOGRAPHY

Yingjie Xu, graduated from Shanghai Second Medical University with a seven-year program of clinical medicine. She obtained her doctorate degree from the Department of Experimental Medicine of McGill University in Canada in 2011. Yingjie Xu has extensive experience in in vitro synthesis and in vivo delivery of chemically modified mRNA. During her postdoctoral training at Boston Children's Hospital of Harvard Medical School, she carried out pioneering work on the treatment of metastatic prostate cancer with PTEN deficiency by nanoparticle delivery of the tumor suppressor PTEN mRNA. In July 2017, she joined the Department of Biochemistry and Molecular Cell Biology, School of Medicine, Shanghai Jiao Tong University as a Principal investigator. Dr. Xu and her team focus on mRNA-based therapeutic application and mechanism study, and are committed to building a technical platform and system from target discovery-mRNA molecule optimization-synthesis-delivery to clinical application. The research findings have been published in academic journals such as Nature Biomedical Engineering, Cell Research, etc., and have been authorized and applied for a number of mRNA application patents.

RESEARCH FIELDS

- Mechanism study and target discovery of cancer metastasis and drug resistance
- Optimization of in vitro mRNA synthesis and in vivo delivery
- Development of mRNA-based therapeutic applications: including mRNA vaccines for cancer and infectious diseases, mRNA protein replacement therapies for cancer and other diseases

Simona Valletta



Dr, PhD
Lecturer in Cancer Biology (T&R),
Division of Cancer Sciences (L5)

BIOGRAPHY

2023-present: Lecturer in Cancer Biology
Division of Cancer Sciences, School of Medical Sciences, University of Manchester

2019- 2023: Kay Kendall Leukaemia Fund Intermediate Research Fellow
MRC Weatherall Institute of Molecular Medicine, Radcliffe Department of Medicine, University of Oxford

2021-2023: PI in Radcliffe Department of Medicine, University of Oxford

2019- 2023: Research Associate in the Medical Sciences St Catherine's College, University of Oxford

2015- 2019: Postdoctoral Scientist- Hematopoietic Stem Cell Genetics Group, MRC Weatherall Institute of Molecular Medicine, Radcliffe Department of Medicine, University of Oxford

2014- 2015: Postdoctoral Scientist- Blood Cancer UK Molecular Haematology Unit, Nuffield Division of Clinical Laboratory Sciences, Radcliffe Department of Medicine, University of Oxford

RESEARCH INTERESTS

Haematology- Acute Myeloid Leukaemia- Ageing- Niche- Tumor microenvironment

Olivier Le Bacquer

Researcher (UMR1019-INRAE Human Nutrition Unit)



BIOGRAPHY

During aging, there is an involuntary decline in muscle mass and a loss of muscle function. This phenomenon, called sarcopenia, has been observed in humans and rodents. This sarcopenia results in reduced mobility in older adults, greater frailty, an increased risk of falls and fractures, and metabolic disorders. Thus, identifying the factors responsible for this muscle loss observed with age is necessary to define ways to preserve muscle mass and function, thereby ensuring the maintenance of health and quality of life in older adults.

The causes of sarcopenia are multiple and include decreased protein synthesis, increased proteolysis, resistance to anabolic signals (amino acids, insulin, etc.), and inadequate or insufficient protein bioavailability. This sarcopenia also results from intrinsic factors involving molecular and cellular alterations, and extrinsic factors such as nutrition or physical activity.

There is considerable variability in muscle mass and strength in older adults, which remains unexplained. Therefore, understanding the mechanisms involved in the development of sarcopenia is important for developing strategies that include preventative nutrition and exercise to maintain muscle mass and help maintain quality of life in older adults.

RESEARCH ACTIVITY

The endocannabinoid system is involved in the control of metabolic homeostasis and is becoming an increasingly popular target for pharmacotherapy. Two types of cannabinoids are distinguished: endocannabinoids produced endogenously by mammals and phytocannabinoids from *Cannabis sativa*. A growing number of studies have highlighted the involvement of this system in the control of lipid and carbohydrate metabolism, mitochondrial biogenesis and activity, as well as muscle development and metabolism.

Cannabidiol (a phytocannabinoid) possesses antioxidant and anti-inflammatory properties and modulates respiration and mitochondrial dynamics in various cellular models. In addition to these effects, cannabidiol partially restores muscle function in dystrophic mdx mice and attenuates oxidative stress induced by an obesogenic diet in skeletal muscle. The main objective of my research is to characterize the role of this system in the control of skeletal muscle homeostasis in the context of sarcopenia and cachexia. To address this question, we use an in vitro muscle differentiation model (C2C12 cells) and in vivo models using aged rodents or rodents in which cachexia is induced by tumor implantation or chemotherapy treatment (cisplatin).

Dr TAY Kai Xun Joshua



BIOGRAPHY

Dr Joshua Tay completed his undergraduate medical training at the National University of Singapore, achieving a distinction in the Undergraduate Research Opportunities Programme and winning the Outstanding Undergraduate Researcher Prize.

He underwent speciality training in Otolaryngology – Head & Neck Surgery in Singapore and was awarded the College of Surgeons Gold Medal for the best performing resident at the Otolaryngology Exit Examinations. Dr Tay was subsequently awarded the Ministry of Health Healthcare Research Scholarship, during which he completed a PhD in Cancer Biology at the Stanford University School of Medicine focusing on molecular subtypes of nasopharyngeal cancer, under the guidance of Professors John B. Sunwoo and Robert B. West.

Dr Tay's research involves classifying tumors based on their gene signatures and matching them with targeted therapies for personalized treatment. Together with A/Prof Thomas Loh, he leads a Head and Neck Cancer Genomics laboratory at NUS, with special expertise in microdissected gene expression profiling from paraffin specimens.

During the COVID-19 pandemic, Dr Tay led multi-center clinical diagnostic studies to validate 3D-printed and injection-molded nasopharyngeal swab prototypes for SARS-CoV-2 testing. He also works closely with biomedical engineers and researchers to improve the outcomes of diagnostic tests and cancer screening.

Dr Tay is currently an Assistant Professor and a Consultant Surgeon at the Department of Otolaryngology – Head & Neck Surgery. In his clinical practice, Dr Tay sees patients with nasopharyngeal cancer as well as patients with general Ear, Nose and Throat conditions.

HE Ming



BIOGRAPHY

He Ming, Professor, Doctoral Supervisor, PI in Department of Pathophysiology. Recipient of "Shanghai May 1st Labor Medal", "Shanghai Youth May 4th Medal", "Shanghai Pujiang Program", "Shanghai Teaching Expert", "Huangpu District Youth Post Expert", "Shanghai Jiaotong University Teaching and Education Award", "Shanghai Jiaotong University Teaching Expert", Shanghai Jiaotong University Medical School "Shangyao Xinglin Talent Award", "Jiulong Medical Excellent Young Talent Award", "Excellent Young Teachers" "Excellent Instructor of the Innovation Training Program for College Students"; Winner of "Outstanding Member of the Communist Party of China", "Outstanding Employee (2017 and 2018)" and "RBL Excellent Instructor" of College of Basic Medical Science; He was selected into the "The National 10000 Excellent Innovation and Entrepreneurship Tutors Talent Pool" of the Ministry of Education; Winner of the second prize of "National Young Teachers' Teaching Competition in Colleges and Universities" and the special prize of "Shanghai Young Teachers' Teaching Competition in Colleges and Universities". Professor He Ming has long been engaged in the molecular mechanism and translational research of Aging and Metabolism. He has successively obtained over 5 National Natural Science Foundation and 4 Shanghai Projects. He has published more than 40 papers in international journals such as Cell Metabolism, Cell Discovery, Cell Death & Differentiation, Cell Reports, etc.

RESEARCH FIELD

The pathophysiological mechanism of aging and metabolism-related diseases. The research group mainly focuses on the role of protein modification in aging, liver metabolic diseases and tumorigenesis. Our research interests include: Mechanism in which glucose and lipid metabolic remodeling determines the fate of different hepatic cells and its pathophysiological role in ALD, NAFLD and HCC; Mechanism of inter-organ communication during aging and metabolic remodeling; Research and development the corresponding biomarker and targeted therapies.

Emma Stanmore, PhD, MRes, BNurs (Hons), DN, RN



Professor
Reader, Nursing & Midwifery

BIOGRAPHY

Prof Emma Stanmore gained her Bachelors, Masters and PhD from the University of Manchester and is the Lead for the Healthy Ageing Research Group. Emma has over 25 years combined experience in healthcare, research and teaching with a particular focus on health innovation (new ways of delivering care or use of digital health technologies to promote uptake, access to services and avoid hospitalisation) and the promotion of healthy ageing. She leads the KOKU Health Digital Falls Prevention programme which is currently being scaled up with funding from NHS England.

Before joining the Division of Nursing, Midwifery and Social Work in 2005, Emma implemented a number of new healthcare schemes as a Clinical Manager in primary care, including hospital at home for patients with COPD, generic healthcare assistants (trained in nursing, physio, OT and SALT), community rapid response schemes and care home training co-ordinators all with the aim of reducing unnecessary hospital admissions and improving the care for older people.

Emma has completed research projects investigating falls incidence, fear of falling and risks for people with rheumatoid arthritis, user-centred health technologies in rehabilitation (RehabMat to measure balance using iMagiMat technology), the effectiveness and cost-effectiveness of Exergames (gamified active-video games that track real time adherence) for falls prevention exercises amongst older people. Her current programme of research focuses on using gamification to improve health literacy and prevent functional decline in older adults.

Emma also works as an Ambassador for Manchester: Integrating Medicine and Innovative Technology (MIMIT™ affiliate of MIT, Boston) to accelerate development of new healthcare technologies by enabling innovators. She is Business Engagement Lead for the Division of Nursing, Midwifery and Social Work, charged with increasing industry/commercial collaborations. She has held grants as PI from Versus Arthritis, MRC, Innovate UK, ESRC, Wellcome Trust and NHS Trusts and as Co-I from the European Commission, NIHR and Innovation Fund Denmark.

David Bernard



Research director at the CNRS, head of the team
« Cellular senescence, Cancer & Aging » at the CRCL

BIOGRAPHY

Our team is interested in (i) the mechanisms regulating cellular senescence and (ii) the roles of these mechanisms and of cellular senescence in the biology of cancer and aging. Around this general theme, we are developing several research projects (see publications) focused on new mechanisms and actors of senescence identified by the team.

P Bertolino and his group are developing research projects that aim at understanding the contribution of cellular senescence on the onset and behavior of pituitary tumors (Bertolino's group).

Our work should in the long term make it possible to propose new strategies to impact cancer and / or other pathologies associated with aging.

Professor CHENG Ching Yu



BIOGRAPHY

Professor Cheng Ching Yu is a distinguished clinician-scientist renowned for his dual expertise in ophthalmology and data science. As an Ophthalmology Researcher, his extensive research focuses on the epidemiology, data science, and clinical aspects of blinding age-related ocular diseases, particularly glaucoma. Utilising cutting-edge genotyping and sequencing technologies, Professor Cheng Ching Yu has made significant strides in identifying susceptibility genes for various ocular traits.

As the Director of the Singapore Epidemiology of Eye Diseases (SEED) program (2014-now), Professor Cheng Ching Yu has developed a world-class translational research initiative in population eye health. Under his leadership, SEED has established one of the largest epidemiological databases and biobanks for eye diseases globally, encompassing over 10,000 participants. This monumental achievement has led to numerous high-impact publications in prestigious journals and a wealth of new knowledge in blindness prevention. The data collected from SEED is extensively utilised by leading international agencies, including the World Health Organization (WHO), further cementing his status as a global authority in population eye health as an esteemed ophthalmologist.

As the Director of Centre for Innovation and Precision Eye Health since 2023, Professor Cheng has advanced into AI-based big data analytics for disease prediction and risk stratification. By harnessing the power of AI, he and his team are addressing unmet clinical needs to improve eye health care. By harnessing the power of AI, he and his team are addressing unmet clinical needs to improve eye health care. This innovative work includes developing sophisticated algorithms and predictive models that can accurately identify individuals at high risk of developing diseases. These AI-driven solutions not only enhance early detection and personalised management plans but also align with the Ministry of Health's priorities in healthy ageing and precision medicine, as well as Singapore's Smart Nation initiative. His pioneering efforts in integrating AI with ophthalmology are setting new standards in the field and paving the way for more efficient, data-driven eye care solutions globally. As an esteemed ophthalmologist, Professor Cheng Ching Yu is leading transformative advancements in the field.

As a prolific Ophthalmology Researcher, Professor Cheng Ching Yu has an impressive publication record, co-authoring over 600 clinical and scientific papers, including those in top-tier journals such as NEJM, JAMA, Cell, Nature Medicine, Nature Genetics, Lancet Global Health, and Lancet Digital Health. His numerous accolades include the Clinician Scientist Award (CSA) from the National Medical Research Council (NMRC) of Singapore in 2012, and the CSA-Senior Investigator awards in 2017 and 2023. Additionally, he has received the Asia-Pacific Academy of Ophthalmology (APAO) Achievement Award and Senior Achievement Award, the Outstanding Service in Prevention of Blindness Award, and the American Academy of Ophthalmology (AAO) Achievement Award.

Professor Cheng Ching Yu's pioneering work continues to have a profound impact on the field of ophthalmology, enhancing our understanding and management of eye diseases on a global scale.

YE Jing



RESEARCH INTERESTS

The goal of Prof. Jing Ye is to lead the study of telomeres in aging research and medical practice. During her early career as a researcher, Prof. Jing Ye identified a crucial role of the shelterin protein TRF2 during telomere replication. This was followed by unexpected results pointing to “non canonical” roles of the same protein in neuronal gene expression and function. These seminal discoveries contributed to the concept of tissue-specific signaling of telomere dysfunction. Her current work is devoted to understand how these pathways shape systemic aging. As a clinical doctor, Prof. Jing Ye makes a substantial effort to understand the molecular mechanism of organic aging and the early prevention of age-related diseases. She is also contributed to translating her results in the clinic, particularly by the development of innovative telomere assays to screen compounds preventing the installation of neuro-degenerative and metabolic disorders in the aging population.

Qing-Jun Meng, MD, PhD



Prof
Chair, Division of Cell Matrix Biology & Regenerative
Medicine (L5)

BIOGRAPHY

Qing-Jun Meng is a Professor of Chronobiology, and the Associate Dean for Internationalisation (Research & Innovation) in the Faculty of Biology, Medicine and Health, at the University of Manchester. He is the Theme Leader of the Chrono-Matrix research theme within the Wellcome Centre for Cell-Matrix Research, the Co-director of the Wellcome Trust Immuno-Matrix in Complex Diseases PhD programme. He is also the co-founder of the Biosciences International Summer School (BIO-SISS) in the School of Biological Sciences. He is the Secretary of the British Society for Matrix Biology (BSMB), a Council Member of the International Society for Matrix Biology (ISMB), and the Chair of the Gordon Research Conference (GRC) Cartilage Biology and Pathology 2027 (Vice Chair 2025). He is the recipient of the University of Manchester Distinguished Achievement Medal Award - the FBMH Researcher of the Year 2024.

In 2009, Qing-Jun (MD and PhD) was awarded a Medical Research Council Career Development Award Fellowship on clocks, ageing and age-related diseases. In 2015, he was awarded an Arthritis Research UK (Versus Arthritis) Senior Research Fellowship to continue his work into the roles of circadian clocks in health and disease of the musculoskeletal system. In 2017, he was promoted to a Professor of Chronobiology.

Claire Falandry



University Professor - Hospital Practitioner (PU-PH)

BIOGRAPHY

Claire Falandry, MD, PhD is medical oncologist, Professor of Geriatrics at Lyon University, Director of research and training at the Institute of Aging of the Hospices Civils de Lyon. She has developed clinical research expertise in the field of cancer treatment adaptation, particularly in the context of gynecological cancer, patient education, prehabilitation strategies. She also developed translational research programs on aging biomarkers and gerontogenic consequences of cancer treatments. Actively involved in national and international learned societies, she is co-chair of the ESGO-SIOG Guidelines for the management of older and frail patients with gynecological cancers.

Professor Jose M VALDERAS



BIOGRAPHY

I am an Academic Family Physician, with a commitment to research that is relevant for decision making in clinical practice and health policy. I am a Professor of Medicine and Director of the Centre for Research in Health Systems Performance at the National University of Singapore, and Head of the Department of Family Medicine of the National University Health System.

After completing training in Medicine (University of Barcelona, Spain (1990/7), Spain), Family & Community Medicine (2000/3), and Public Health and Health Services Research (Masters in Public Health (2003/5) and PhD (1998-2005), Pompeu Fabra University, Spain), I started my independent academic career at the Department of Health Policy & Management, Johns Hopkins University, US (2006/7), and subsequently joined the National Primary Care Research & Development Centre, University of Manchester, UK (2007/10); Nuffield Department of Primary Care Health Sciences, University of Oxford, UK to set up and lead the Health Services & Policy Research Group (2010/13); University of Exeter, UK (2013/21) as Chair in Health Services & Policy; and National University of Singapore (since 2021). I have had visiting appointments at the London School of Economics, UK (2010/13), the WHO European Observatory for Health Systems & Policies (2010/13), and the Universities of Sydney, Australia (2011) and Paris, France (2021).

I have worked as a Family Physician in Spain (2003/6) and the UK (2007/21) in a variety of socio-demographic environments, and also in low-income countries for brief periods (Tindouf, Algeria (2002) and The Gambia (2003)). I was awarded a Clinical Excellence Award for my contributions to the development of the National Health Service (UK) (2017/21).

I have provided expert advice to multiple national and multinational institutions, such as:

- World Health Organization (WHO) on the WHO/UNICEF Declaration of Astana for Primary Health Care (WHO-HQ/Euro, 2017/8) and linked projects (WHO-HQ/Country Offices (CO)-Ghana/Zambia, since 2021) ; Strengthening Health Systems for Non Communicable Diseases Response (WHO-Euro/BCN(Health Financing)/CO-Türkiye/Mauritius, 2015/8); Safer Primary Care (WHO-HQ, 2014/6); and Primary Health Care Workforce (PAHO-HQ/CO-Paraguay, 2004/6 & 2019)
- World Economic Forum on Health Equity (since 2024)
- Organisation for Economic Co-operation & Development (OECD) on patient reported quality indicators (since 2017)
- Wellcome Trust on patient reported quality indicators (2024).

I have conducted accreditation of Family Medicine practices for the World Organisation of Family Doctors (WONCA) (2024/5). I am a Lancet Commissioner for Pandemic Readiness, Implementation, Monitoring and Evaluation (PRIME) (since 2023), and for Primary Health Care Transformation (since 2024).

I am a Fellow of the Academy of Medicine of Singapore (FAMS). I am proud to have been elected by my peers to serve as Chair of the WONCA Working Party on Quality & Safety (202/25) and as President of the International Society for Quality of Life Research (2017/19).



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