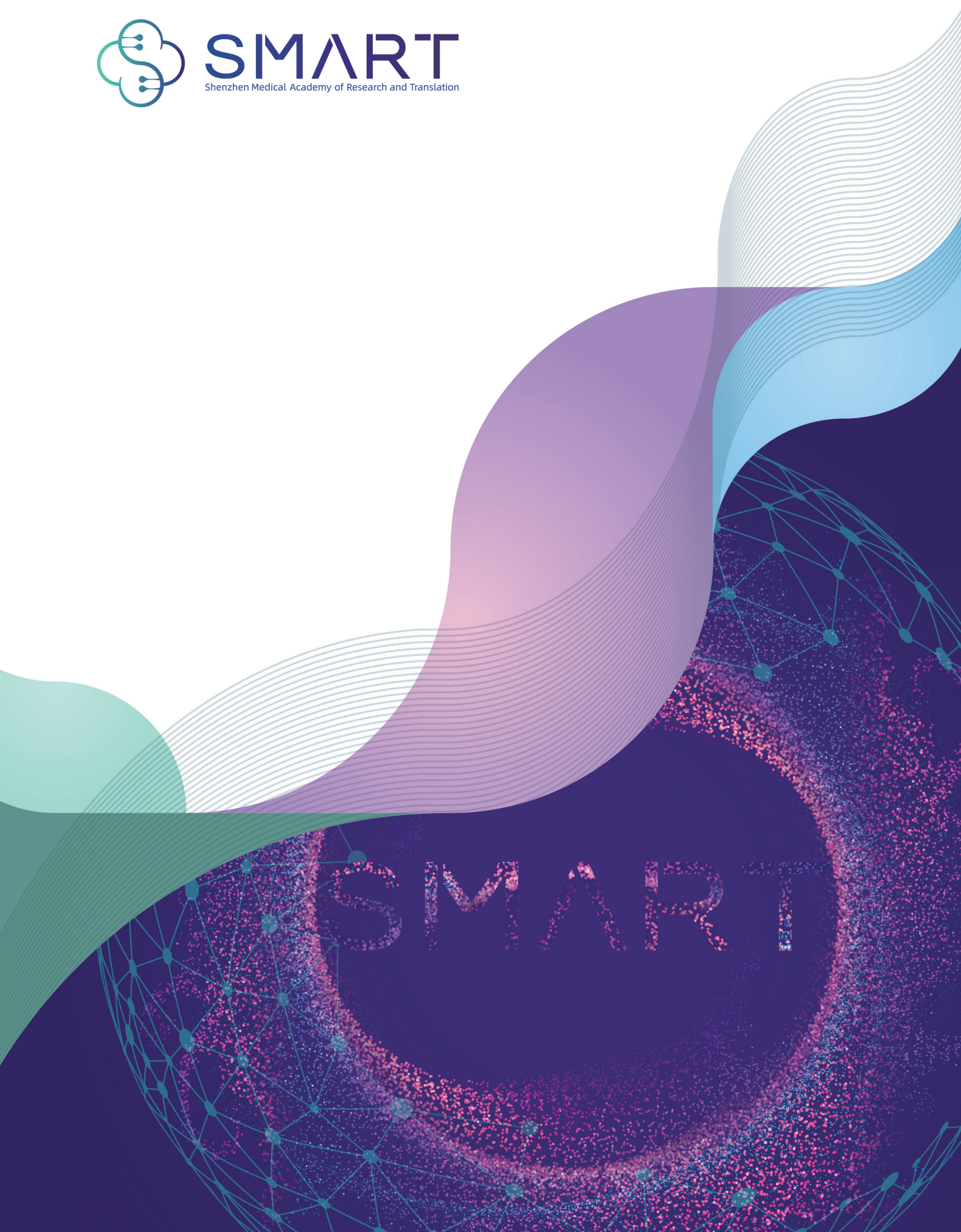




SMART
Shenzhen Medical Academy of Research and Translation



SMART



“We are committed to bridging the gap between research and application, turning knowledge into solutions that benefit our society.”

Nieng Yan, PhD

Founding President, SMART

- Director, Shenzhen Bay Laboratory
- Member, Chinese Academy of Sciences
- International Member, US National Academy of Sciences
- International Honorary Member, American Academy of Arts and Sciences

Shenzhen Medical Academy of Research and Translation (SMART), located in the Greater Bay Area in Southern China, is a leading institute dedicated to advancing medical science. Our mission is to bridge the gap between basic research, translational science, and clinical practice, creating a dynamic environment for innovation with real-world impact.

Established in 2023, SMART has united distinguished clinicians and internationally renowned scientists who have led transformative research in their respective fields. This globally collaborative environment has already led to many groundbreaking discoveries that advance our understanding of the mechanisms underlying human health and disease.

Our Missions



Biomedical
Research



Education and Global
Exchange



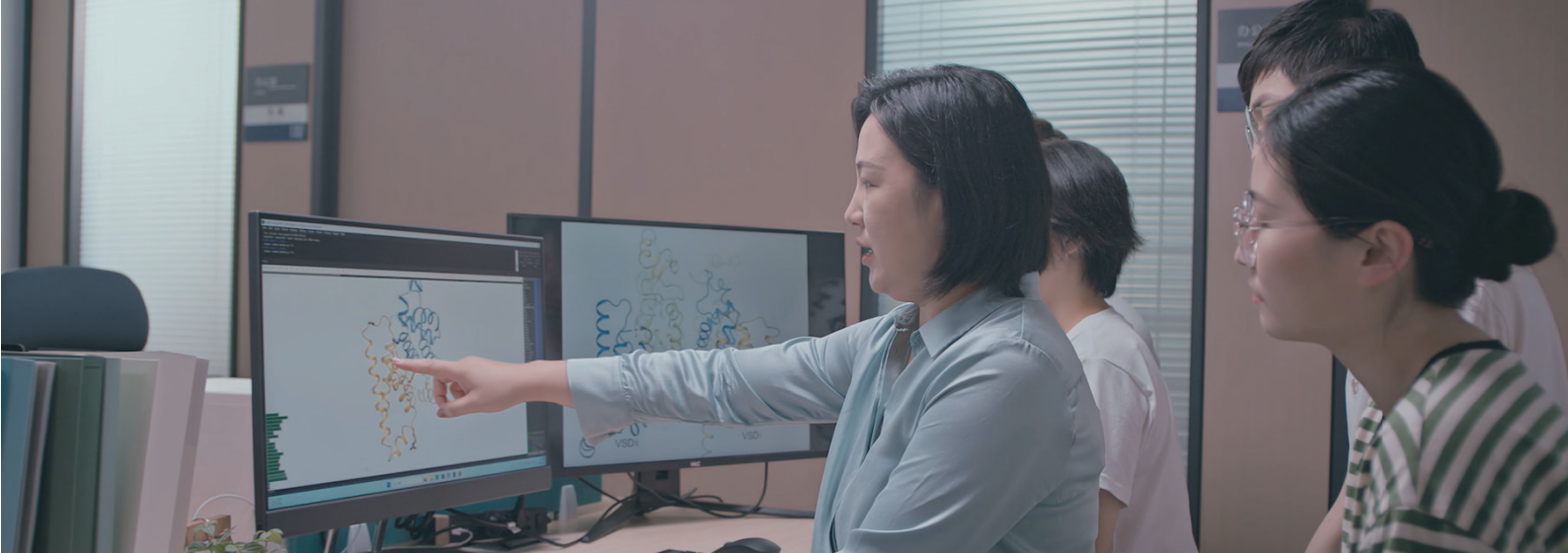
Translational Research and
Technology Transfer



Coordinate Science and
Technology Resources



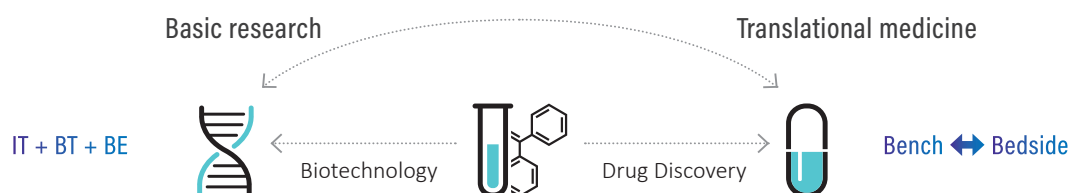
Policy
Consultation



Frontier Science



SMART & Shenzhen Bay Laboratory:
An international hub for research, education, and collaboration



Research Institutes

Institute of Bio-Architecture and Bio-interactions (IBABI)
Institute of Biomaterials and Biomimetics (IBM²)

Institute of Systems and Physical Biology
Institute of Molecular Physiology
Institute of Chemical Biology

Institute of Human Immunology
Institute of Infectious Diseases
Institute of Cancer Research

Institute of Neuromodulation and Cognition (INC)
Institute of Neurological and Psychiatric Disorders
Institute for Brain Research Advanced Interfaces & Neurotechnologies (iBrain)

Senior Principal Investigators



Yang Dan, PhD
Sleep and Brain Function



Wei Lu, PhD
Addiction, Depression
and Anxiety



Jing Wang, PhD
Sensory Neural Circuit



Yanzhuang Wang, PhD
Golgi Apparatus in Diseases



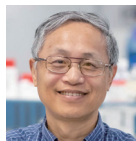
Zhoufeng Chen, PhD
Mechanism underlying
Itch and Pain



Wenbiao Gan, PhD
Learning and Memory



Jian Yang, PhD
Ion Channel and
Neurological Diseases



Yaoqi Zhou, PhD
AI for Science



Zhiping Xu, PhD
Nanomaterials and
Drug Delivery



Gensheng Feng, PhD
Liver Cancer and
Immunotherapy



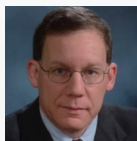
Liang Shan, PhD
Infection Immunity and
Tumor Immunity



Bo Zheng, PhD
Microfluid and
Synthetic Biology

SMART Investigator Program

SMART-funded external investigators



Charles Lieber, PhD
Nanomaterials and
Brain Science



Shuyang Zhang, MD
Diagnosis and Treatment
of Rare Diseases



Ying Mao, MD
Neurosurgery
and Brain Tumors



Yongjun Wang, MD
Ischemic Cerebrovascular
Diseases



Xiangbin Pan, MD
Interventional Technology
for Heart Diseases



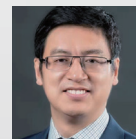
Lin Shen, MD
Gastrointestinal
Oncology and
immunotherapy



Jin Liu, MD
Anesthesiology



Zheng Ouyang, PhD
Mass Spectrometry
Instrumentation



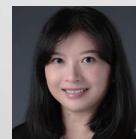
Zheng Zhang, MD
Pathogen Infections



Shang Cai, PhD
Breast Cancer
Microenvironment



Bing Zhang, PhD
Skin and
Hair Follicle
Regeneration



Ya Zhang, PhD
Machine
Learning and
Healthcare



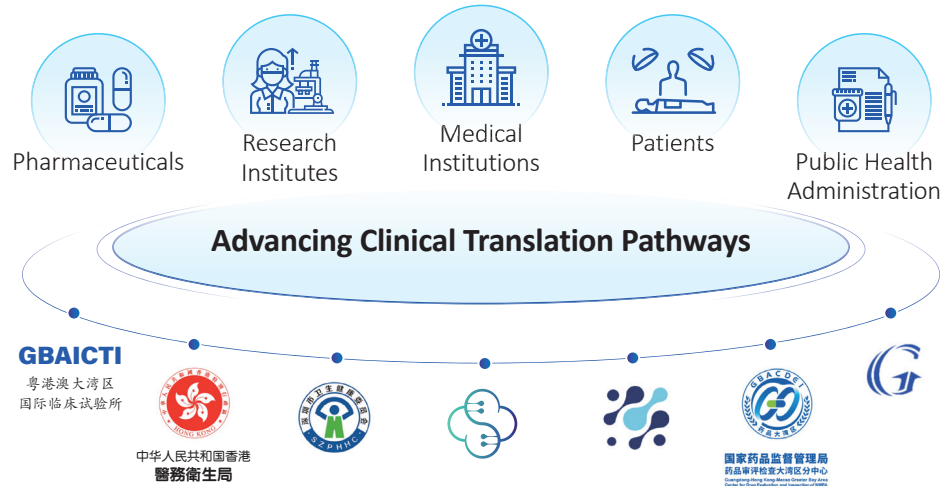
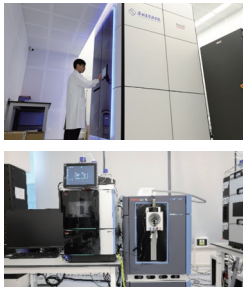
Xueming Li, PhD
CryoEM and CryoET

- Inspired by Howard Hughes Medical Institute (HHMI)'s philosophy of **"funding people, not projects"**
- SMART provides **clinical experts** and **outstanding scientists** with long-term support
- Key areas funded: disease diagnosis and treatment, translational medicine, and breakthrough technologies

Translational and Clinical Research

A Globally Influential Clinical Trials Hub

Core facility & Bio-Incubator
Empowering pharma industry

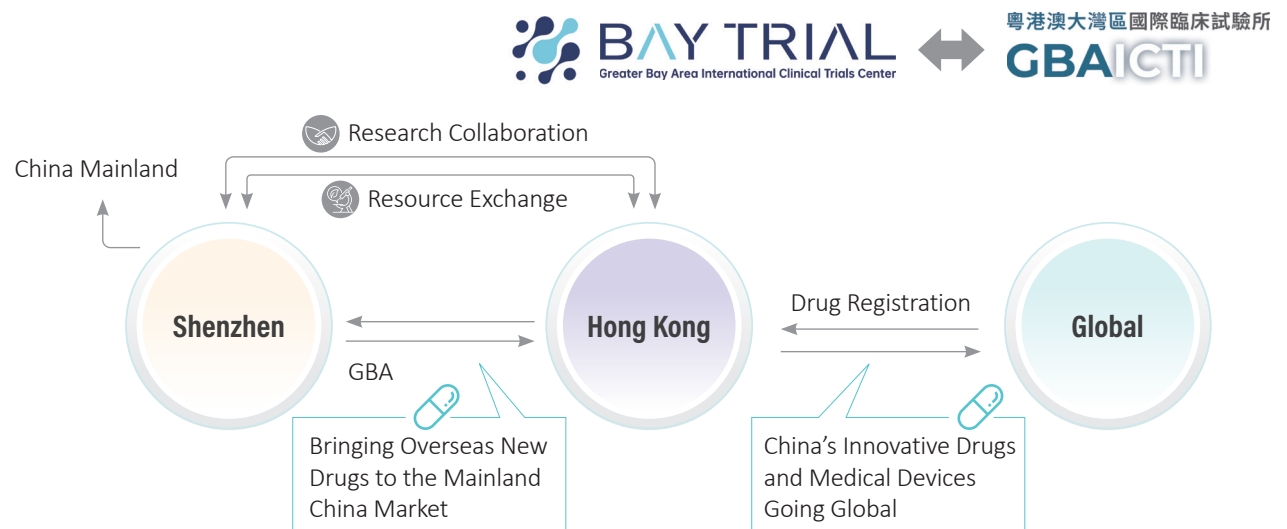


Gateway to Global Clinical Trial

Greater Bay Area International Clinical Trials Center (BAY TRIAL)

November 21, 2024, the Greater Bay Area International Clinical Trials Center (BAY TRIAL) of SMART was officially inaugurated at the Hetao Shenzhen-Hong Kong Science and Technology Innovation Cooperation Zone.

By connecting clinical trials innovation resources from across the Greater Bay Area and fostering deeper collaboration between Shenzhen and Hong Kong, the center will establish a one-stop platform for clinical trials. This platform will provide top-tier technical support, operational management and registration services to both national and international pharmaceutical and medical device development institutions.

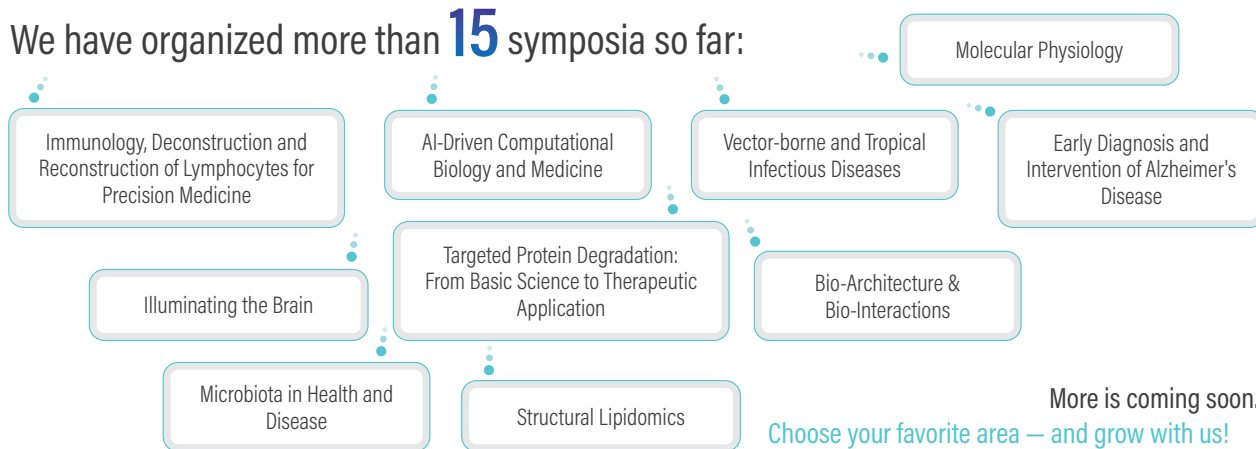


SMART Symposia



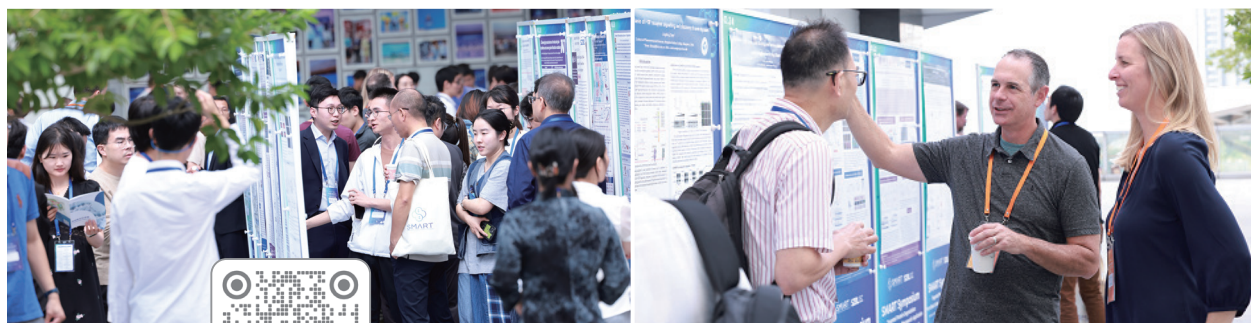
The SMART Symposia are international academic conferences organized by the Shenzhen Medical Academy of Research and Translation (SMART). Our symposia, held during Shenzhen's most favorable seasons, provide a platform to foster cross-disciplinary collaboration and communication among biomedical researchers around the world.

We have organized more than **15** symposia so far:



More is coming soon...

Choose your favorite area – and grow with us!



◀ **Website:** <https://symposia.smart.org.cn/sym>

Contact Us: symposium@smart.org.cn; yysxiang@smart.org.cn

SMART PhD Program

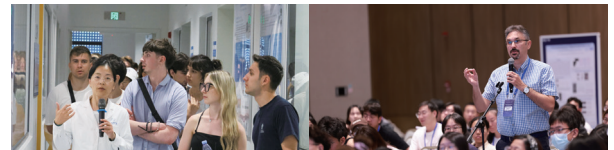
The SMART PhD Program is a collaborative doctoral training initiative between the Shenzhen Medical Academy of Research and Translation (SMART) under its partnerships with top-tier universities in China. The Program aims to explore new paradigms for the training of the next generation of biomedical talents by fostering education-research-translation collaboration.

In 2024, the SMART PhD Program was formally launched, with its initial cohort of doctoral candidates being jointly recruited with Tsinghua University and Westlake University. Distinguished by its high standards of admission, global outlook, cross-disciplinary approach, and pioneering feature, the Program is designed to nurture talented individuals with creativity and the ability to explore profound scientific questions about life and disease. These individuals are prepared to excel in life sciences and medical research.

Joint Training with Top Universities



All English Courses and International Scientific Community



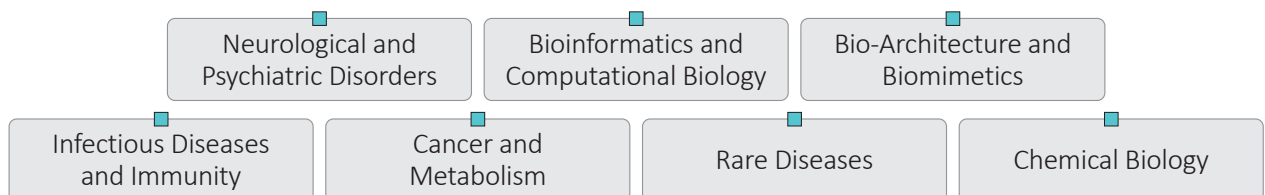
Tuition Scholarships + Generous Stipend and Attractive Accommodation



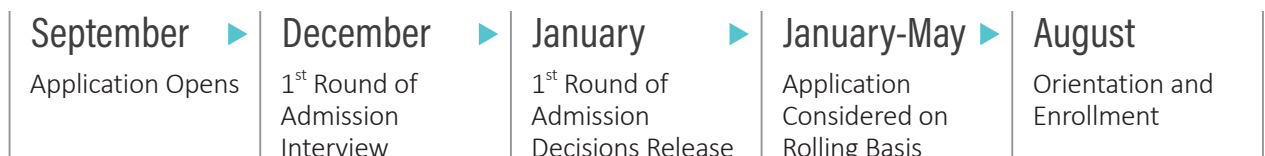
Cross-Disciplinary & **Bedside-Bench-Bedside** Rotation across labs of **70+** world-class faculty



Research Areas



Application



Apply for the SMART International PhD Program

Application Period: Now - 31 May

Website: <https://smart.org.cn/en>

Application Website: <https://yzbm.tsinghua.edu.cn/intlLogin>

Research Labs at SMART and Shenzhen Bay Laboratory

Biophysics and Structural Biology

Xiao Fan, PhD	CryoEM method development; Structural perspectives into the evolution of chemosensory receptors
Long Gui, PhD	Structural insights into human rare disease; Host-parasite interaction
Shangguo Hou, PhD	AI-assisted biological dynamics imaging; Quantitative study of biomolecular dynamics
Mingxu Hu, PhD	Cryo-EM/CryoET; High-throughput CryoEM development; AI for structural biology
Jian Huang, PhD	Mechanistic insights into disease-associated membrane proteins and targeted drug design
Kai Huang, PhD	Physical and AI modeling of genome folding and biological phase separation
Meijing Li, PhD	CryoET method development; Host-pathogen interaction
Yangyi Lu, PhD	Molecular mechanisms of photo-enzymes and photo-receptors
Xiaojing Pan, PhD	Membrane protein related diseases and drug design
Qin Peng, PhD	Decoding nuclear mechanics and epigenetics in aging and diseases by live-cell probes
Qiang Su, PhD	Immunoreceptor engineering and drug discovery
Jian Yang, PhD	Ion channel structure, function, disease mechanisms; TCM-based drug discovery
Wei Yang, PhD	Computational design of de novo proteins with advanced functions for therapeutic applications
Yandong Yin, PhD	Developing computational- and physical-based super-resolution imaging technology
Haoyue Zhang, PhD	Principles of genome folding, and transcription, aging

Biotechnology, disease diagnosis and therapy

Guiwei He, PhD	Construction and applications of human organoids
Andrew Lee, MD/PhD	First in human clinical trials for cell/gene therapy to treat rare genetic disease, ischemic injury, cancer, and anti-aging
Charles Lieber, PhD	Brain and brain diseases; Brain-computer interfaces
Changzheng Lu, PhD	Tumor immunotherapy; Vaccine; CAR-cell therapy; Antibody engineering; Chemo-/radiotherapy
Lang Rao, PhD	Engineering extracellular vesicles for immunotherapy
Kun Sun, PhD	Cancer diagnosis; Pathways in tumor metastasis and inhibition drugs
Wanbo Tai, PhD	Viral infection mechanism; Novel antigen design; mRNA vaccine
Yu-Hsuan Tsai, PhD	Tools for protein regulation and labeling in precision diagnosis and therapy
Zhiping Xu, PhD	Developing oral delivery system of enzymes; Normalization of tumor microenvironment
Chengqian Yin, PhD	Investigation of metabolic regulation and therapeutic target discovery in cancer
Lei Zhang, PhD	Identifying immunotherapy mechanisms and targets by single-cell analysis
Bo Zheng, PhD	Organoid-on-chip; Cell-free synthetic biology; Single cell analysis; Droplet microfluidics

Cell Biology

Meixin Chen, PhD	Interaction of host and microbes
Nanpeng Chen, PhD	Interplay between cell cycle and cell adhesion machineries; Mechanobiology in development and diseases
Lin Deng, PhD	Developing novel anti-cancer drugs based on new mechanism of cancer genome evolution (www.deng-lab.net)
Chao Wang, PhD	Proteostasis regulation; AI for precision drug design
Yanzhuang Wang, PhD	Golgi biogenesis, function, and defects in diseases

Chemical Biology

Yun Ge, PhD	Chemical biology for functional analysis and application of biomolecular glycosylation
Jian Huang, PhD	Mechanistic insights into disease-associated membrane proteins and targeted drug design
Gang Li, PhD	Mass spectrometry-based protein interaction profiling, amino acid labeling, and covalent inhibitor development
Mao Li, PhD	Innovative lipid nanoparticle system for RNA delivery and cancer therapy; Discovery of peptide-based functional materials
Xin Li, PhD	Interrogating histone modifications; Characterizing and targeting protein-protein interactions
Yu-Hsuan Tsai, PhD	Tools for protein regulation and labeling in precision diagnosis and therapy
Yi Yang, PhD	Develop AI-based algorithms, models, and software for molecular modelling and simulation

Computational Biology and Bioinformatics

Kai Huang, PhD	Physical and AI modeling of genome folding and biological phase separation
Lei Li, PhD	Bioinformatics/AI-driven approaches to decipher the regulatory mechanisms of emerging disease non-coding regions
Yangyi Lu, PhD	Molecular mechanisms of photo-enzymes and photo-receptors
Lili Niu, PhD	Population-based proteomics to discover diagnostic, prognostic, and therapeutic targets
Chao Wang, PhD	Proteostasis regulation; AI for precision drug design
Leyao Wang, PhD	Human microbiomes, genomics, and host-pathogen interactions
Wei Yang, PhD	Computational design of de novo proteins with advanced functions for therapeutic applications
Yi Yang, PhD	Develop AI-based algorithms, models, and software for molecular modelling and simulation
Yandong Yin, PhD	Developing computational- and physical-based super-resolution imaging technology
Yaoqi Zhou, PhD	AI-guided protein/RNA structure/function prediction, design and delivery

Immunology and Microbiology

Meixin Chen, PhD	Interaction of host and microbes
Xinhai Chen, PhD	Mechanisms behind bacterial adaptability and effective antibody function
Tingting Chu, PhD	Molecular mechanisms of innate immune pathways and their role in neurodegenerative diseases; Metabolism and tumor immunity
Shibin Hu, PhD	Study RNA-mediated innate immune responses in health and disease
Meijing Li, PhD	CryoET method development; Host-pathogen interaction
Yang Liu, PhD	Mechanisms of viral infection and transmission; Virus-host interactions; Viral vector tools
Changzheng Lu, PhD	Tumor immunotherapy; Vaccine; CAR-cell therapy; Antibody engineering; Chemo-/radiotherapy
Chenyan Ma, PhD	Deciphering the mechanisms of sleep regulation and sleep function from a neuroimmune perspective
Shixin Ma, PhD	Nutrient-driven epigenetic codes in regulating immune function in cancer and autoimmunity
Xinlei Sheng, PhD	Characterization of post-translational modifications in innate immunity
Qiang Su, PhD	Immunoreceptor engineering and drug discovery
Wanbo Tai, PhD	Viral infection mechanism; Novel antigen design; mRNA vaccine
Xiaoyu Tang, PhD	Microbial metabolite-mediated "microbe-microbe" and "microbe-host" interactions
Guoxun Wang, PhD	The pathogenesis of enteric viruses and host antiviral immune response
Leyao Wang, PhD	Human microbiomes, genomics, and host-pathogen interactions
Qiankun Wang, PhD	Innate immune sensing of viral infection; Immunotherapy for HIV/AIDS
Chao Wu, PhD	Viral replication mechanism; Gene delivery and neutrotracing
Lin Wu, PhD	Metabolic regulation in tumor immunology, neuroimmunology, and autoimmunity; and the interplay between immunity and neuronal activity
Hao Xu, PhD	Dynamics of Treg and thymus under pathological and physiological conditions
Lei Zhang, PhD	Identifying immunotherapy mechanisms and targets by single-cell analysis
Yang Zhang, PhD	Transmembrane signaling in reproduction and immunity
Min Zheng, PhD	Mechanisms of tissue damages during infection and auto-immune diseases; identifying molecules to inhibit tissue damages

Metabolism

Tingting Chu, PhD	Molecular mechanisms of innate immune pathways and their role in neurodegenerative diseases; Metabolism and tumor immunity
Shixin Ma, PhD	Nutrient-driven epigenetic codes in regulating immune function in cancer and autoimmunity
Zixi Wang, PhD	Metabolic disorders; Fatty liver disease, liver fibrosis, liver regeneration

Lin Wu, PhD	Metabolic regulation in tumor immunology, neuroimmunology, and autoimmunity; and the interplay between immunity and neuronal activity
Chengqian Yin, PhD	Investigation of metabolic regulation and therapeutic target discovery in cancer

Molecular Biology

W.S. Sho Goh, PhD	Impact of RNA Modifications in Precision Medicine
Shibin Hu, PhD	Study RNA-mediated innate immune responses in health and disease
Feng Liu, PhD	Mosquito chemosensory physiology; Gene drive; Evolution of insect olfactory system
Haizhen Long, PhD	Epigenetic regulation of genome replication and its roles in disease and development
Qin Peng, PhD	Decoding nuclear mechanics and epigenetics in aging and diseases by live-cell probes
Haoyue Zhang, PhD	Principles of genome folding, and transcription, aging
Yang Zhang, PhD	Transmembrane signaling in reproduction and immunity
Yaoqi Zhou, PhD	AI-guided protein/RNA structure/function prediction, design and delivery

Neurobiology

Zhoufeng Chen, PhD	Molecular and circuit basis of animal behavior and brain disorder
Tingting Chu, PhD	Molecular mechanisms of innate immune pathways and their role in neurodegenerative diseases; Metabolism and tumor immunity
Yang Dan, PhD	Research on the neuronal mechanism of sleep and consciousness in both rodents and primates
Tengfei Guo, PhD	Mechanism, Diagnostic and therapeutic targets of Alzheimer's disease
Xian Jiang, PhD	Molecular and cellular mechanisms of memory and pathogenesis of Alzheimer's disease
Charles Lieber, PhD	Brain and brain diseases; Brain-computer interfaces
Wei Lu, PhD	Molecular and circuit mechanisms regulating animal behavior and brain disorder
Chenyan Ma, PhD	Deciphering the mechanisms of sleep regulation and sleep function from a neuroimmune perspective
Jing Wang, PhD	Exploring the sensory information processing methods and behavioral regulation logic of neural circuits
Yanzhuang Wang, PhD	Golgi biogenesis, function, and defects in diseases
Jian Yang, PhD	Ion channel structure, function, disease mechanisms; TCM-based drug discovery
Yuanyuan Yao, PhD	How is sleep and cardiovascular activity regulated physiologically and pathologically
Wen Yuan, PhD	The mechanisms of neurological disorders
Bo Zhang, PhD	Synapse under physiological and pathological conditions (www.bozhanglab.org)
Ke Zhang, PhD	Pathomechanism of amyotrophic lateral sclerosis, frontotemporal dementia, and neurodevelopmental disorders



Website: <http://smart.org.cn/>

Address: 17F, Tower A, Guangming Life Science Park, Xinhua Subdistrict,
Guangming, Shenzhen, Guangdong, China

Contact Emails:

SMART Funding (SMRF): smartfund@smart.org.cn

PI Recruitment: talent@smart.org.cn

Non-PI Recruitment: researcher@smart.org.cn

Graduate Program: Graduate_Admission@smart.org.cn

Staff Recruitment: recruitment@smart.org.cn

Public Relations: pr@smart.org.cn

SMART Foundation: foundation@smart.org.cn

Technology Licensing: otl@smart.org.cn



SMART WeChat



SMART Weibo



SMART Symposia



SMART Foundation
WeChat



LinkedIn



Smart.Shenzhen



Shenzhen Medical
Academy of Research
and Translation



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