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[Prof John Chambers](#)

My group co-ordinates large scale programmes of epidemiological research aimed at understanding the aetiology of chronic disease in Asian populations, as well as advancing population and personalized approaches to health promotion. Our work focuses on the multiethnic Asian populations of Singapore, though a population cohort of 100,000 people, as well as Asian populations in Global Health settings, notably India, Pakistan, Bangladesh and Sri Lanka. The programme is extensive in scope, and we have opportunities for PhD students with a range of interests, including genetics and genomics, molecular epidemiology, nutrition and behavioural epidemiology, biostatistics, bioinformatics, population and public health, and global health

[Prof Jennifer Cleland](#)

Research on education is crucial to increase our understanding about how to best educate doctors in order to prepare them for the delivery of high-quality care within the dynamic context of the healthcare setting. I am interested in Learning Environments in Medical Education. My specific research themes are:

1. The human-technology-space assemblage,
2. Performance, Progression and Careers Decision Making and
3. Learning in the Clinical Workplace.

[Prof Helen Smith](#)

My research interests are the evaluation of new “technologies” (relating to medications, screening, IT, psychological interventions, service organisation etc) to improve care for patients being cared for by their family physician. I have clinical expertise in Allergy and Respiratory disorders, Health Literacy and Pharmacogenomics.

[Prof Wang Yulan](#)

Interaction between host and gut microbiota.

Holistic approach to studying the interaction between gut microbiota and host and subsequent influence of co-metabolites on health and diseases status will be the focus of research.

[Assoc Prof Yusuf Ali](#)

My laboratory is interested in understanding the molecular basis of pancreatic endocrine cell alterations in pre-diabetes as well as full blown type-2 diabetes. Using a combination of molecular and imaging tools, we dissect, characterize and intervene (in) diabetes pathogenesis with the overarching goal of stemming diabetes.

[Assoc Prof Suresh Jesuthasan](#)

We investigate how emotional responses are regulated so that they are appropriate to the context. The inability to do so characterises conditions such as depression and anxiety. Our experiments use techniques such as brain-wide activity imaging with two photon microscopy, optogenetics, electrophysiology, behavioural assays and mutant analysis, and focus on neural circuits controlling the release of neuromodulators.

[Associate Professor Luo Dahai](#)

My lab seeks to understand the molecular events involved in the battle between host and pathogens, in particular between RNA viruses and humankind. Using various methods ranging from biochemistry, structural biology, virology and cell biology, we want to answer interesting and demanding questions in the fields of viral replication and host defense systems. The primary research focuses are: 1) RNA virus transcription, replication, and the generation of pathogenic RNA species; 2) Host defense mechanisms at the innate immunity areas. We would also like to exercise molecular engineering targeting the macromolecular complexes to develop new tools and biological agents for research and therapies.

[Assoc Prof Tan Nguan Soon Andrew](#)

We have developed a physiologically-relevant mouse model that shows the sequelae of human NAFLD. We want to understand the impact of fermentable fibre on gut microbe in the development of NAFLD.

[Asst Prof Sanjay Chotirmall](#)

My lab is focused on the bedside to bench translational approaches to clinical respiratory medicine that utilizes novel approaches, model systems and molecular microbiology to address precision medicine for chronic respiratory diseases affecting Asian populations. A key focus is pulmonary infection and we study this using state of the art metagenomics, lung organoids, microbiome analyses and other interdisciplinary approaches utilizing patient derived specimens obtained through our multiple national and international collaborations.

[Nanyang Asst Prof Guan Xueli](#)

1. Elucidation of the link between metabolism and bacterial infections and antimicrobial resistance
2. Identification of metabolism-based networks for potentiation of antimicrobials
3. Development of next generation lipidomics approaches for systems biology and personalized health

[Asst Prof Tsukasa Kamigaki](#)

My research aims to understand the brain mechanisms that implement executive functions. We are also interested in how those mechanisms are disrupted in association with ageing and psychiatric disorders.

[Asst Prof Marie Loh Chiew Shia](#)

Analysis and integration of high-throughput omics data (genetics, epigenetics, transcriptomics, metabolomics) across different platforms (array- and NGS- based), with the endpoint of development of new strategies for prediction, prevention and treatment of chronic diseases; Disease risk and outcome between different ethnicities; Specific interest in dermatological and cardiometabolic diseases.

[Nanyang Asst Prof Hiroshi Makino](#)

We study both artificial and biological intelligence 1) to better understand the brain in health and disease under the framework of deep reinforcement learning and 2) to build machines that can behave like humans and other animals by implementing neuroscience-inspired algorithms. To these ends, we utilise state-of-the-art neuroscience technologies to record and manipulate neural activity in animals and contemporary deep reinforcement learning methods.