Institute of Molecular and Cell Biology
IMCB

SEMINAR ANNOUNCEMENT

We would like to invite you to attend this seminar hosted by the Institute of Molecular and Cell Biology:

Date: **Tuesday, 26 July 2022**
Time: **2.00PM – 3.00PM**
Venue: **IMCB Boardroom 3-18 (Hybrid)**

Join Zoom Meeting
https://zoom.us/j/95277865259?pwd=NXJjSis1V1BvdUpvZTdhM01FQkVUdz09

Meeting ID: 952 7786 5259
Passcode: 547296

From Molecules to Systems: Dissecting the Mechanism of Cardiometabolic Diseases



Dr. Yibin Wang
Professor and Program Director, Duke-NUS Medical School

Senior PI, National Heart Center of Singapore

Professor of Medicine, Duke University School of Medicine, Durham USA

Abstract

The pathogenesis of heart failure and metabolic disorder is highly heterogenous and complex, involving many genetic and environmental factors. These complexities post real challenge for us to establish disease mechanisms and to develop more effective and personalized therapies. In the past decade, we have developed a novel approach by integrating comprehensive phenotype and omics studies with systems analysis across a hybrid mouse diversity panel (HMDP) under well-defined pathological stressors. These studies leverage the power of genetics with unbiased omics based analysis to uncover novel genes and gene modules associated with specific clinical features of cardiometabolic diseases. In particular, we discovered several novel mechanisms contributing to the onset of cardiometabolic diseases, including RNA processing, long non-coding RNA mediated epigenetic modulation and branched-chain amino acid catabolism in the onset and progression of heart failure, diabetes and obesity. These findings highlight the power of genetics combined with systems approach in studying complex human diseases.

Biography

Dr. Yibin Wang is currently a Professor and Program Director at DukeNUS Medical School, Singapore, Senior PI at National Heart Center of Singapore, Professor of Medicine at Duke University School of Medicine, Durham USA. Prior to his current appointment, Dr. Wang is a full Professor of Molecular Medicine in the Departments of Anesthesiology and Perioperative Medicine, Physiology and Medicine at David Geffen School of Medicine, UCLA. Dr. Wang received his Ph.D. in molecular genetics and cell biology from Baylor College of Medicine and post-doctoral training in neurobiology and molecular cardiology at The Scripps Research Institute and University of California at San Diego. Dr. Wang's research mainly focuses on genetic and molecular mechanisms of heart failure and metabolic disorders, with more than 250 peer-reviewed publications in many leading journals in the field. Dr. Wang received an Established Investigator Award from American Heart Association and was the Thomas Smith Memorial Lecture at 2016 American Heart Association Scientific Session. He currently serves as an Associate Editor for Journal of Molecular and Cellular Cardiology, and Journal of Cardiovascular Aging, a guest Associate Editor for Circulation, and guest Editor for JACC, Asia, and a member of the editorial board for Circulation Research and Journal of Biological Chemistry. He served as Vice-Chair for research in the Department of Anesthesiology and Chair of Cardiovascular Theme at UCLA until 2019. Dr. Wang supervised more than 20 Ph.D. students and served as the course director and Vice Chair of the Molecular, Cellular and Integrated Physiology Ph.D. program at UCLA. Dr. Wang is the recipient of 2021 Excellence in Educational Innovation Award from UCLA College of Life Science. Dr. Wang holds 4 patents including three licensed, and he is the scientific founder and member of the scientific advisory board of a start-up biotech company.

ALL ARE WELCOME *(No registration required)*

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Thank you.