Amgen Scholars Asia Symposium

August 3 – 5, 2023

National University of Singapore

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Amgen Scholars Asia Symposium 2023

A signature component of the summer program is the symposium where students hear first-hand from leading scientists working in industry and academia. Over the course of the symposium, scholars have the chance to share their summer research projects with their peers and deepen their understanding of various fields of science.

Each year, Amgen Scholars meet at the National University of Singapore to network with other Amgen Scholars as well as interact with leading industry and academic scientists. In early August 2022, Amgen Scholars from around the world participating in the Asia Program met in Singapore for a two-day symposium. There, they got a chance to present their summer research and to meet scientific leaders in industry and academia. The symposium is a unique feature of the program, allowing participants to gain exposure to the myriad career paths available in science.

Amgen Scholars Program Partners

NUS National University of Singapore

東京大学 THE UNIVERSITY OF TOKYO

京都大学 KYOTO UNIVERSITY

清華大學 Tsinghua University

Event Organizer

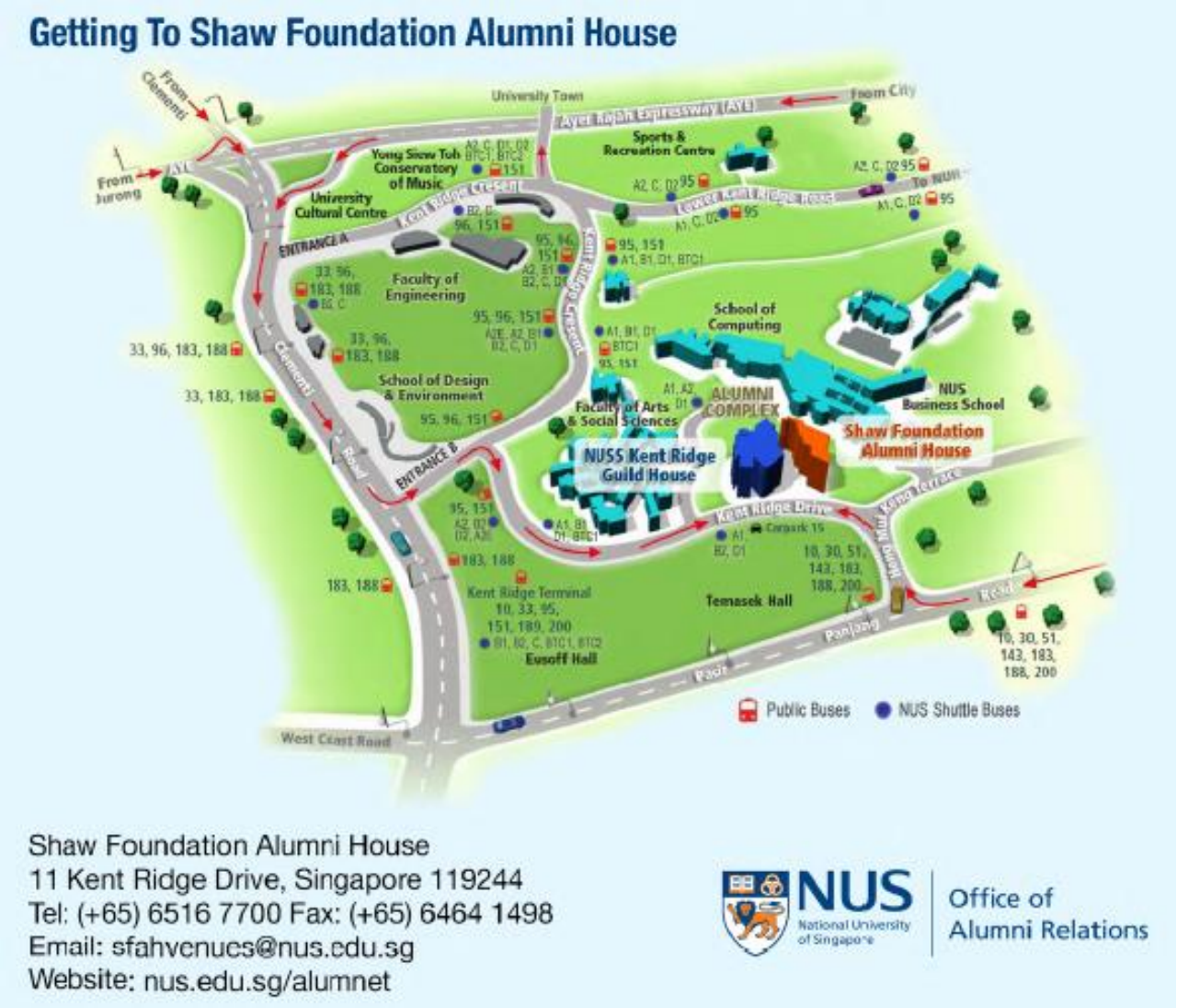
NUS National University of Singapore

AMGEN

IA-MEETINGS

On-site Venue

This year, the symposium will have its on-site event at the Shaw Foundation Alumni House, National University of Singapore.



On-site Wi-Fi

To access the on-site Wi-Fi, please follow the steps below:

1. Connect to "NUS_Guest" wireless network
2. Select "Event Login" at the login page
3. Enter the Wi-Fi PIN: **4GY6FQ**

Welcome Speech

Yu Hao

Professor

Head of Department,

Department of Biological Sciences,

National University of Singapore

Opening Address

Gregory A. Llacer

Director,

Global Program Office,

Amgen Scholars

Closing Address

Henry Mok

Associate Professor

Deputy Head of Department,

Department of Biological Sciences,

National University of Singapore

Keynote

Keynote Lecture 1

Victoria Elegant

Professor

Vice President, JAPAC (Asia Pacific) Regional Medical Head

Global Lead, Access to Healthcare for Amgen

MAKING A DIFFERENCE IN PATIENTS' LIVES

Biography

Prof Elegant is a physician who joined the pharmaceutical industry after postgraduate training in obstetrics and gynaecology in the United Kingdom. She has held positions in global drug development, Medical Affairs, Regulatory Affairs and Drug Safety in Japan, Australia, Europe and Asia Pacific. Prior to Amgen, Prof Elegant was the Vice-President, Regulatory and Medical Affairs, APAC, based in Shanghai for 10 years for Baxter, and Vice President, Medical Affairs, Asia for Shire. She has extensive experience in pharmaceuticals, biologics, and devices.

Prof Elegant is a Fellow of the Faculty of Pharmaceutical Medicine, and a Global Fellow in Medicines Development. She is on the Board of Studies for the Masters in Pharmaceutical Medicine, UNSW, and Adjunct Professor, Faculty of Medicine, University of New South Wales, Sydney, on the Advisory Board for the Masters in Pharmaceutical Medicine, University of Sydney, and Adjunct Professor, University of Sydney. She is also on the advisory committee for the Pharmaceutical Industry Practice, University of Queensland.

She has a Certificate in Sustainability from the University of Cambridge Institute for Sustainability Leadership.

She is President of the Asia Pacific chapter of the Medical Affairs Professional Society (MAPS), on the global MAPS Board, and a member of the Faculty of Pharmaceutical Medicine Global Forum. She is also on the Hong Kong Stock Exchange biotech advisory panel.

Keynote

Keynote Lecture 2

Wallace I. Torres

Vice President,

Amgen Singapore Manufacturing

DAWN OF BIOTECHNOLOGY, INNOVATION REALIZED

Biography

Wallace I. Torres is Vice President of Amgen Singapore Manufacturing, home to Amgen's first Next-Generation Biomanufacturing and Chemical Synthesis commercial manufacturing plants in Asia. Based in Singapore, Wallace leads the site operations to position Amgen as one of the world's leading biotechnology companies and in ensuring a reliable supply of high-quality drug substances to improve patients' lives.

A veteran in the biotech industry, Wallace joined Amgen in 2013 and has excelled in a variety of leadership roles throughout his tenure. In his most recent role as Vice President, Drug Products in Puerto Rico, Wallace led the Drug Product organizations to optimize its operational performance and throughput. As Executive Director, Quality Site Lead for its Singapore operations, Wallace played an instrumental role in steering the site to deliver biotech therapies of increasing sophistication with the Single Use Systems (SUS) plant. Preceding these roles, Wallace was Executive Director, Quality Systems and Director, Quality Assurance Drug Product in Puerto Rico.

Prior to Amgen, Wallace was with Hoffmann La Roche for 25 years where he held several leadership positions across the Quality Control/Quality Assurance (QC/QA), Manufacturing, Strategy, and Supply Chain organizations in Switzerland, USA, Mexico, and Brazil. These responsibilities include serving as Site Head of Manufacturing plants, Global Head of Risk Management, Global Quality Manager and QA/QC Head at Contract Manufacturing facilities.

An active diversity, inclusion and belonging (DI&B) advocate, Wallace is passionate on causes to progress gender equity, in improving female representation at leadership roles and in advancing scientific causes, particularly for girls and young women in STEM (science, technology, engineering, and mathematics) to nurture the next generation of innovators.

Wallace holds a Bachelor's degree in biology from the University of Puerto Rico, a Master in management from the University of Phoenix, a Master in Advance Management Practices from the University of South Australia, and a PhD in International Business Management from the Swiss Business School.

Guest Lectures

Lecture 1

Yukiko Matsunaga

Institute of Industrial Science

The University of Tokyo

Biography

Prof. Yukiko Matsunaga is a biomedical engineering scientist. Her research focuses on vascular tissue engineering to understand healthy and abnormal blood vessels, aiming for regenerative medicine and drug discovery. She is also interested in the impact of incorporating art and design into scientific research in the field of life sciences and healthcare. She was awarded The Young Scientists Prize from MEXT Japan in 2018.

Synergetic approach to vascular health promotion: science x design

Abstract

Vascular disorders and diseases are closely related. In recent years, approaches to treatment and prevention that target microvasculature's have been attracting attention. In this talk, two different methodological approaches for vascular health promotion incorporating "science x design" will be introduced: (i) 3D in vitro blood microvasculature models to understand the physiological phenomena of the blood vessels at cellular and tissue levels: (ii) "Attune system" that transforms the images capillaries into a musical tune.

Guest Lectures

Lecture 2

Ligong Chen

Ph.D., Director of Tsinghua Amgen Scholar Program,

Vice Dean

Tsinghua University

Biography

Dr. Ligong Chen obtained his BS from Nankai University in Chemistry in 1997. He completed his PhD from University of California at Berkeley and postdoctoral training from UCSF in 2006 and 2011, respectively.

Currently, He is a principal investigator in pharmacology and toxicology of School of Pharmaceutical Science at Tsinghua University. His research areas include transporter pharmacology and toxicology. His lab is working on various transporters 'roles in human diseases and molecular mechanism of drug toxicity.

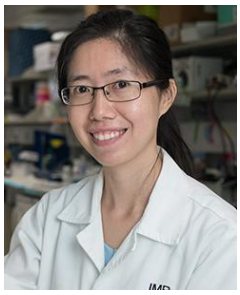
SLC Transporter Based Drug Target Discovery

Abstract

The prevalence of metabolic diseases is growing worldwide. Accumulating evidence suggests that solute carrier (SLC) transporters contribute to the etiology of various metabolic diseases. Consistent with metabolic characteristics, the top five organs in which SLC transporters are highly expressed are the kidney, brain, liver, gut, and heart. We aim to understand the molecular mechanisms of important SLC transporter-mediated physiological processes and their potentials as drug targets. SLC transporters serve as 'metabolic gate' of cells and mediate the transport of a wide range of

essential nutrients and metabolites such as glucose, amino acids, vitamins, neurotransmitters, and inorganic/metal ions. Gene-modified animal models have demonstrated that SLC transporters participate in many important physiological functions including nutrient supply, metabolic transformation, energy homeostasis, tissue development, oxidative stress, host defence, and neurological regulation. Furthermore, the human genomic studies have identified that SLC transporters are susceptible or causative genes in various diseases like cancer, metabolic disease, cardiovascular disease, immunological disorders, and neurological dysfunction. Importantly, a number of SLC transporters have been successfully targeted for drug developments.

Guest Lectures



Lecture 3

Xue Shifeng

Ph.D., Associate Professor

National University of Singapore

Biography

Shifeng Xue obtained her PhD in developmental biology from University of California, San Francisco. She did her postdoctoral training at A*STAR, Singapore in human genetics. She is currently an assistant professor at the National University of Singapore. She was awarded the Harold Weintraub Graduate Student Award in 2015 and the Young Scientist Award by the Singapore National Academy of Sciences in 2018. Her lab studies epigenetic regulation in development and disease, with a particular focus in epigenetic regulators involved in rare genetic diseases.

Insights from rare disease patients

Abstract

A rare disease is one that affects less than 1 in 2000 people. While individually rare, together they affect 3-6% of the world's population.

Rare diseases also offer a rare opportunity to understand the function of a gene in a human context. Here I will discuss our work in skeletal disorders, from gene discovery to functional characterization to implications for other diseases. In particular, I will focus on a craniofacial disorder Bosma arhinia and microphthalmia syndrome (BAMS) where patients are born without a nose.

Guest Lectures

Lecture 4

Shige H. Yoshimura

Ph.D., Associate Professor

Graduate School of Biostudies,

Kyoto University

Biography

Shige Yoshimura is a program director of the Amgen Scholars Program in Kyoto University. He has also been involved in internationalization of the university.

His research is nano-imaging of biomolecules (protein, lipid and DNA) in a living cell. He is trying to understand the molecular mechanism of how cells are taking up signalling molecules from the environment, communicating with each other and infected by viruses.

How do proteins shape, interact, and function in a living cell?

Abstract

Molecular biology and biochemistry have been established on the basis that “the specificity of protein function is affirmed by its three-dimensional structures”. Three-dimensional structure of protein enables specific enzyme-ligand and protein-protein interactions even in a crowded environment of intracellular milieu. However, many studies using proteomics and bioinformatics found that protein domains with three-dimensional structures occupy only 60% of human proteome and 40% are disordered (Intrinsically-Disordered Region, IDR). Recently, IDRs have been demonstrated to form hydrogel and/or undergo liquid-liquid phase separation, which play critical roles in structural and functional dynamics of intracellular membrane-less organelles. IDRs are now widely recognized as an essential part of cellular proteins and necessary for understanding the mechanism of life. Recent progress in this research field will be summarized and overviewed in this talk.

Program

DAY 1 (Thursday 3 August 2023)

Time (SGT)	Activity	Venue
9.00 - 9.30am	**Registration** (30min)	Foyer
Session 1: Welcome speech		
9.30 - 9.35am	**Welcome speech** (5min) **Yu Hao** *(Head of Department, Department of Biological Sciences, National University of Singapore)*	Auditorium
9:35 - 9.45am	**Opening Address** (10min) **Gregory A. Llacer** *(Director, Amgen Scholars -- Global Program Office)*	Auditorium
Session 2: Keynote		
9.45 - 10.30am	**Keynote Lecture 1** (45min) Title: Making a difference in patients' lives **Victoria Elegant** *Adjunct Professor* *Vice President, JAPAC (Asia Pacific) Regional Medical Head, and Global Lead, Access to Healthcare for Amgen*	Auditorium
10.30 - 11.00am	**Health Break** (30min)	Foyer
Session 3: The University of Tokyo		
11.00 - 11.30am	**Lecture 1** (30min) Title: Synergetic approach to vascular health promotion: science x design **Yukiko Matsunaga** *Professor* *Institute of Industrial Science*	Auditorium
11.30am – 12.30pm	**Oral Presentations (University of Tokyo)** (60min) Talk 1: Chen Zhenying Talk 2: Song Wang Richard Talk 3: Tamhane Amit Malhar	Auditorium
12.30pm - 1.30pm	**Lunch** (1hr)	Foyer

Session 4: Tsinghua University		
1.30 - 2.00pm	**Lecture 2** (30min) Title: SLC Transporter Based Drug Target Discovery **Ligong Chen** *Director of Tsinghua Amgen Scholar Program* *Vice Dean, School of Pharmaceutical Sciences*	Auditorium
2:00 - 3.00pm	**Oral Presentations (Tsinghua University)** (60mins) Talk 4: Zhang Jiayi Talk 5: Liu Xinyi Talk 6: Fomba Kahkunted Berinyu	Auditorium
3.00 - 3.30pm	**Health Break** (30min)	Foyer
Session 5: Poster presentation		
3.30 – 5.00pm	**Poster presentation 1 (1.5 hr)**	Coriander & Lavender Rooms
5.30pm	Bus pick up to dinner venue	SFAH
6.30 – 8.30pm	Dinner - Free & Easy until bus pick up - Enjoy the free Garden By The Bay Light Show at 7.45 pm by the Super tree Grove	Satay by the Bay
9.00 pm	End - Bus arranged back to RELC accommodation	Satay by the Bay

Program

DAY 2 (Friday 4 August 2023)

Time (SGT)	Activity	Venue
Session 6: Keynote 2 and Amgen Foundation		
9.00 – 9.30am	**Keynote Lecture 2** (30 mins) Title: Dawn of Biotechnology, Innovation Realized **Wallace Torres** *Vice-President, Amgen Singapore Manufacturing*	Auditorium
9.30 – 9.40am	**Welcome Address** (10 mins) **Denise Tan** *Executive Director, Amgen Singapore Manufacturing, Biologics*	Auditorium
9.40 –10.25am	**Virtual Plant Lab Tour** (45 mins) - NextGen Biomanufacturing Plant (30 mins) - Q&A (15 mins)	Auditorium – streamed live from Amgen Singapore Manufacturing
10.25 – 10:45am	**Health Break** (20 min)	Foyer
10.45– 11.30am	**Panel Sharing with Amgen Executive Leadership** (45mins) - *Moderated by **Tan Hui Fang**, Amgen Early Careers Program (AECP) Facilitator* **Amgen Executive Leaders:** - **Wallace Torres** *Vice-President, Amgen Singapore Manufacturing* - **Serene Chang** *Country Director, Amgen SEA Commercial* - **Denise Tan** *Executive Director, Amgen Singapore Manufacturing, Biologics*	Auditorium
Session 7: Poster presentation		
11.30 – 2.00pm	**Poster presentation Session 2 with Amgen Executive Leadership Team (2.5hr) with Lunch**	Coriander & Lavender Rooms
12.30 – 1.30pm	**Lunch with Amgen Executive Leadership Team**	Foyer
Session 8: National University of Singapore		
2.00 – 2.30pm	**Lecture 3** (30min) Title: Insights from rare disease patients **Xue Shifeng** *Assistant Professor, Department of Biological Sciences*	Auditorium

2.30 – 3.30pm	**Oral Presentations (National University of Singapore)** (60 min) Talk 7: Rothswell Lanting Talk 8: Jane Zhou Talk 9: Tan Wee Leng	Auditorium
3.30 - 4.00pm	Health Break (30min)	Foyer
Session 9: Kyoto University		
4.00 – 4.30pm	**Lecture 4** (30 min) Title: How do proteins shape, interact, and function in a living cell? **Shige H. Yoshimura** *Associate Professor, Graduate School of Biostudies* *Program Director of KyotoU Amgen Scholars Program*	Auditorium
4.30 – 5.30pm	**Oral Presentations (Kyoto University)** (60min) Talk 10: Emily Chang Shan-Yuan Talk 11: Ngoc Mai Le Talk 12: Tewari Kavyashree	Auditorium
Session 10: Banquet		
5.30 – 6.00pm	Proceed to Banquet venue	Kent Ridge Guild House
6.30 – 8.30pm	Banquet - Award presentation - Table networking	Kent Ridge Guild House
8.30pm	End - Bus arranged back to RELC accommodation	Kent Ridge Guild House

Program

DAY 3 (Friday 5 August 2023)		
Time (SGT)	**Activity**	**Venue**
R&R (Optional)*		
9.00am – 12.00pm	Entry to the Sensory Odyssey Exhibit - Please take note of your group number for your specific entry time in the program booklet. - Participants are dismissed from there for free and easy city exposure.	Art & Science Museum

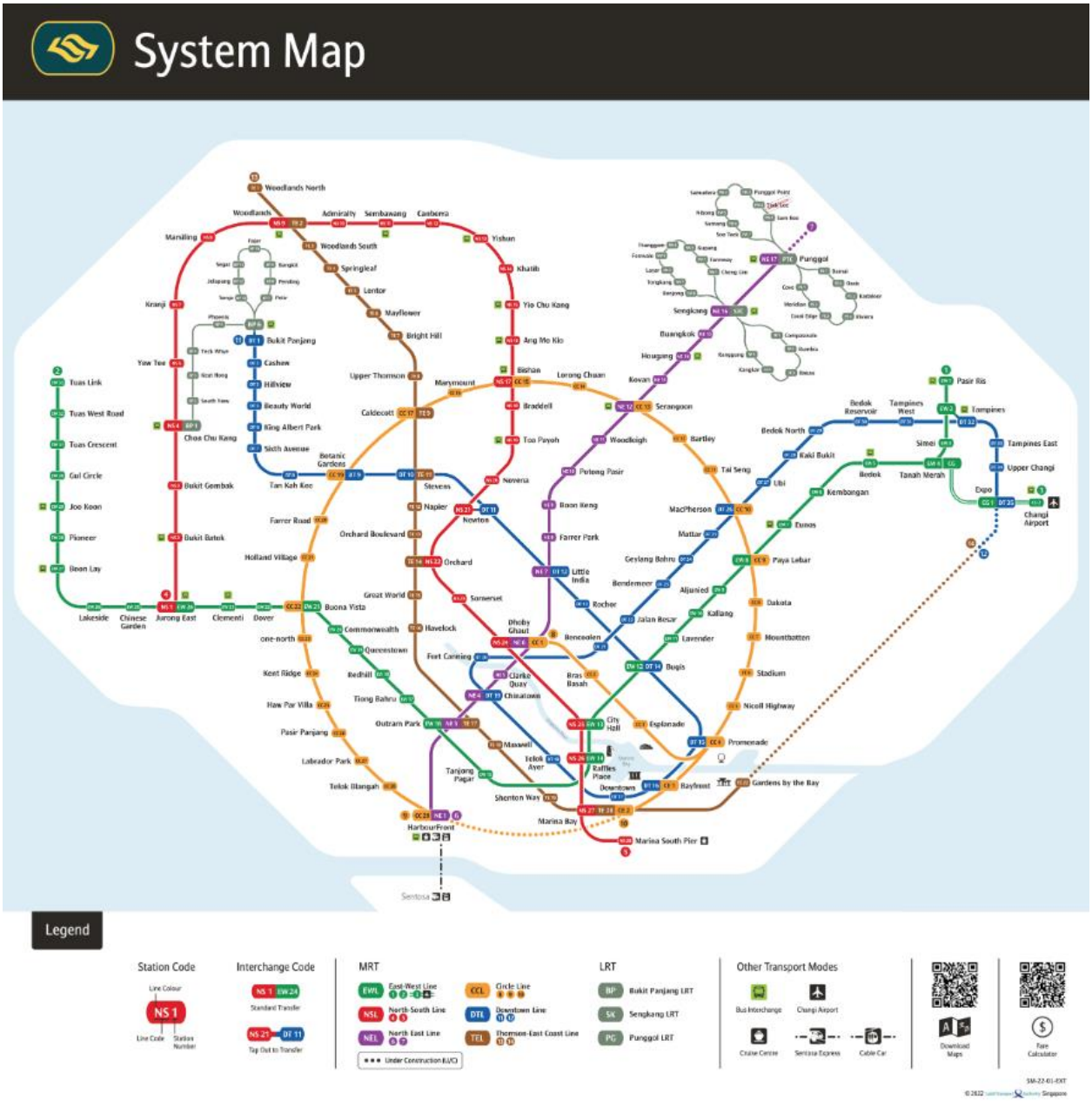
*Participants may start arranging their return flight from 5 August 2023 onwards.

Self-traveling in Singapore

Singapore's public transport system consists of three different modes, train, bus, and taxi. You will need to purchase an EZ-link card from the train station ticket offices to access the train and public bus systems.

- **Mass Rapid Transport (MRT)**: The local public train service is a quick, affordable and particularly convenient way to get around to all corners of Singapore.

  Full MRT network can be found here:
  http://journey.smrt.com.sg/journey/mrt_network_map/



- **Public Bus**: Local buses (SBS Transit) are number coded according to their respective routes. Only board the bus from the front door as the back door is designated for exit. Remember to tap in and tap out your EZ-link card (also ensure that there is sufficient funds) when boarding and exiting respectively. Fare rates depend on the distance you travel and can be estimated from the information boards located at each bus stop.

  Check the different bus route here:
  https://www.sbstransit.com.sg/Service/BusService

- **Taxi/Grab/Gojek**: You can easily get to places in Singapore by hiring a taxi (at taxi stands or flagging down along designated roads) or booking a Grab/Gojek through the App. However, this is the costliest option.

Oral Presentations

Each oral presenter will have 15 minutes of speaking time followed by 3-5 minutes of Q&A.

Talk 1

MODELING ANTIBODY NEUTRALIZATION & ENHANCING NEUTRALIZATION ASSAY FOR FLAVIVIRUS

Chen Zhenying, Amgen Scholar, The University of Tokyo

Co-Author: Kazumi Haga

Flavivirus infections, including dengue virus (DENV), Japanese encephalitis virus (JEV), and Zika virus (ZIKV), present significant global public health challenges. Given the absence of specific antiviral therapies, the development of effective vaccines assumes utmost importance. For successful vaccine design, the assessment of neutralizing antibody activity requires reliable and robust methodologies for determining antibody titers. Although the plaque reduction neutralization test (PRNT) is widely considered as the golden standard, it has limitations in terms of time and cost. To address these challenges, we introduce the micro-neutralization test (MNT) as a simplified approach. In this study, we evaluated the utility of MNT by comparing the end-point titers of MNT and PRNT using 4 monoclonal antibodies and 15 monkey serum samples. The results demonstrated a strong correlation between MNT and PRNT titers, affirming the robustness and reproducibility of MNT. This research contributes valuable insights towards the development of a cost-effective antibody titer testing approach, particularly suitable for resource-limited settings.
Our results give the following three conclusions. MOF membranes significantly outperform a pristine polymer membrane in extraction, demonstrating their efficacy. Secondly, tuning of the membrane by pore size or functional group allows for selectively targeting specific analytes. Lastly, MMMs outperform HHMs in recovery, but they perform comparably in extraction. These conclusions indicate that MMMs are more suitable to an analyte testing application, but HHMs should be explored in wastewater remediation.

Talk 2

SPARSE DECONVOLUTION AND AUTOMATED SHAPE EVALUATION OF DENDRITIC SPINES IN TWO-PHOTON MICROSCOPY IMAGES

Song Wang Richard, Amgen Scholar, The University of Tokyo

Co-Author: George Cai, Keisuke Ota, Hajime Fujii, Haruhiko Bito

Dendritic spines are structures in neurons where synapses form, meaning they play an important role in propagating signals between neurons in the brain. Various behavioral processes such as learning and memory as well as many neurological disorders are known to change dendritic spine shape features, such as volume and width. Previous studies analyzing dendritic spines in vivo have relied on two-photon microscopy, a form a fluorescent microscopy that enables imaging of deep brain layers in vivo. Unfortunately, due to the diffraction limit (which is influenced by the microscope laser excitation wavelength and objective lens), structures spanning only a few hundred nanometers, such as dendritic spines, are difficult to resolve. In this project, I resolve the structures of dendritic spines captured under two-photon microscopes using an algorithm called Sparse Deconvolution, which takes continuity and sparsity priors of ground-truth biological structures to reconstruct microscopy images. I evaluate the performance of Sparse Deconvolution using a fully automated computer vision pipeline which compares spine shapes and sizes from both the original and deconvolved two-photon microscopy images against a ground-truth image of the same region collected from a Zeiss Airyscan microscope capable of super resolution.

Talk 3

NANO-FET FOR DEEP SEA EXPLORATION AND ENVIRONMENTAL MONITORING

Malhar Tamhane, Amgen Scholar, The University of Tokyo

Co-Author: Mitsutaka Abe

Oceans cover 70% of the Earth's Surface, yet they only have a small fraction of all environmental monitoring sensors. As climate change worsens, it is imperative to have detailed, high resolution spatiotemporal data of the ocean to describe and investigate the complex processes that impact our everyday lives. To accomplish this, Nano-FETs(Field Effect Transistors) are especially promising as they are small, sensitive, and versatile. However, since direct testing on Nano-FETs with a target molecule would short the devices, an extended gate is employed by connecting the gate of a transistor to a nanolayer of gold deposited on silicon. Since the target molecule will change the voltage across the gate of the transistor through interaction with the extended gate, the IV response of the transistor will also change. Before testing directly on the transistor, cyclic voltammetry is employed to test a molecule's current response first to understand how the molecule will shift the transistor's current response.

Talk 4

Screening Small Molecules To Enhance Stem Cell Differentiation Into Pancreatic B-cells For Type 1 Diabetes Treatment

Zhang Jiayi, Amgen Scholar, Tsinghua University

Type 1 diabetes (T1D) is characterized by insufficient insulin production due to the loss of functional β-cells in the pancreas. Scientists proposed islet transplantation for Type 1 diabetes, but the need for multiple donors poses challenges. To overcome this, stem cell differentiation into beta-like cells is being explored as an alternative. Although stem cell-derived islet transplantation has shown progress, controlling cell ratios and generating large scale β-cells are pending challenges. In our study, we utilizing chemical library screening to enhance stem cell differentiation into functional pancreatic β-cells. We constructed an insulin-GFP reporter cell line using CRISPR Cas9 gene editing, confirming its β-cell identity through c-peptide production. Employing this reporter cell line, we followed a well-established differentiation protocol to generate stem cell-derived islets. Subsequent chemical library screening identified a promising candidate, "Chemical X," which double the β-cell mass. Further studies will focus on unraveling the underlying mechanisms of "Chemical X" action through single-cell RNA-Seq analysis and functional experiments. These findings may pave the way for future advancements in stem cell therapy for T1D, potentially revolutionizing diabetes treatment approaches.

Talk 5

SPRR2D UNLEASHED: IGNITING THE INNATE IMMUNE FIRE AGAINST MICROBES

Liu Xinyi, Amgen Scholar, Tsinghua University

Co-Author: Conggang Zhang, Huili Su

Antimicrobial proteins (AMPs) are naturally occurring defenders with dual roles, enhancing the host's immunity and targeting microbes. One novel class of AMPs, small proline-rich proteins (SPRRs), has been reported to exhibit bactericidal activity, but their specific roles in the context of the host's immunity have not yet been revealed. The study investigates the involvement of SPRR2D in the regulation of the host's innate immunity by focusing on its impact on two major pathways, NF-kB and cGAS-STING, both of which play crucial roles in the immune response. Through employing luciferase reporter cell lines, we collected preliminary data showing that SPRR2D activates both pathways but exhibits distinct dependencies on their canonical mediators. By using multiple genetic knock-out cells, we aim to reveal a comprehensive innate immunity activation map of SPRR2D at the molecular level.

The ultimate goal of the research is to gain insights into the antimicrobial protein's role in improving host immunity against microbes and potentially explore alternative therapeutic applications to address bacterial infections, cancer, and viral invasion.

Talk 6

THE ROLE OF SLC17A9 IN T-CELL

Fomba Kahkunted Berinyu, Amgen Scholar, Tsinghua University

Co-Author: Ligong Chen, Bolong Wu

Understanding the functional role of proteins in T-cells is essential for unraveling the intricate mechanisms governing the immune response. One such protein of interest is SLC17A9, which has been found to be expressed in T-cells. However, the precise role and function in which SLC17A9 has in T-cell remains poorly characterized. In this study,the protein of interest is found to be a vesicular ATP transporter so, we will investigate the involvement of the protein in the inflammatory response triggered by the release of ATP from dying cells in immune cells. We aim to investigate the impact of SLC17A9 on T-cell behavior in order to gain insight into its functional significance. Through a series of in vitro experiments, we will examine the expression levels of SLC17A9 in T-cells and explore its potential influence on T-cell proliferation, activation, cytokines production, migration, and other critical functions which may all contribute to new therapeutic targets for immune-relayed disorders.

Talk 7

CURVATURE SENSING OF THECA CELLS DURING OVARIAN FOLLICLE DEVELOPMENT

Rothswell Lanting, Amgen Scholar, National University of Singapore

Co-Author: Ng Boon Heng, Lee Chin Hao, Lou Yuting, Chii Jou Chan

The development of functional oocytes within ovarian follicles is crucial iin early mammalian development, providing essential genetic and cytoplasmic materials for successful reproduction. While past research has explored genes and proteins involved in ovarian follicle development, the biomechanics and mechanical signaling during folliculogenesis remain understudied. Theca cells encapsulate the follicle under different curvature as the follicles grow in size. Changes in curvature might affect the behavior of theca cells as shown by preliminary data that shows the high proliferation of the theca cells compared to other cells in within the follicle. Our research aims to investigate the effect of concave and convex curvature on theca cells behavior. Results show that theca cells exhibit higher proliferation and a greater Ki67/DAPI ratio on the convex curvature compared to the concave curvature. Particle Image Velocimetry analysis reveals that theca cells move faster on the convex than the concave curvature. Theca cells tend to align themselves perpendicular to the area of curvature in both concave and convex curvature. Under concave curvature, theca cells are significantly more dynamic on the concave compared to the convex curvature. The findings from this study may contribute to broader knowledge on understanding mechanotransduction pathways in reproductive biology.

Talk 8

THE POTENTIAL ROLE OF ODA8 IN TRYPANOSOMA BRUCEI INTRAFLAGELLAR TRANSPORT

Jane Zhou, Amgen Scholar, National University of Singapore

Co-Author: Cynthia He

In eukaryotes, flagella or cilia are well-conserved, microtubule-based organelles essential to sensory and motor functions. Disruptions in flagellum function can cause over 30 identified diseases. Often underlying these ciliopathies are defects in the important mechanism of intraflagellar transport (IFT), the system of bidirectional protein transport between cell body and ribosome-lacking flagella. One important protein complex that drives flagellar beating is the outer dynein arm (ODA). This complex needs to be preassembled in the cytoplasm, and its transport into the flagellum is a crucial yet poorly characterized process. Previously, oda16 has been identified as a protein found outside of the complex itself but that plays a crucial role in facilitating ODA transport as a cargo adapter. Because oda8 is an ODA-associated protein also not found in the actual ODA complex, it has been hypothesized to play a similar or complementary role to oda16. Here, we utilized the unicellular parasite Trypanosoma brucei as a motile cilia model to assess the potential of oda8 as another cargo adapter in ODA IFT. Through performing RNAi knockdown and immunofluorescence imaging, we discovered that while oda8 exhibits a role in maintaining flagellum function, this role is likely in flagellar assembly rather than in ODA transport.

Talk 9

LYN KINASE IN CYTOSKELETAL REARRANGEMENTS AND ITS EFFECT ON TUMOR IMMUNE ESCAPE IN BREAST CANCER

Tan Wee Leng, Amgen Scholar, National University of Singapore

Co-Author: Elena Okina, Alan Prem Kumar

Triple-negative breast cancer (TNBC) presents a significant global health challenge due to its aggressive nature and limited response to conventional therapies. The SRC-family kinase, LYN, exhibits high expression in TNBC cells and is an important signalling intermediary involved in orchestrating actin-rich structure formation during tumour metastasis. Emerging evidence suggests that actin cytoskeletal rearrangements at immunological synapses (IS) plays a pivotal role in TNBC resistance against cytotoxic natural killer (NK) cells. However, the mechanisms by which LYN modulates cytoskeletal rearrangements in the context of immune evasion remain unexplored. To elucidate LYN's roles in cytoskeletal regulation, its expression was modulated in MDA-MB-231 TNBC cells using small interfering RNA (siRNA). Immunofluorescent imaging of LYN-depleted cells revealed alterations in cell shape, focal adhesions, and actin stress fibres. Additionally, time-lapse microscopy unveiled increased IS formation and prolonged interactions between NK and LYN-depleted MDA-MB-231 cells. Gene expression analysis of LYN-depleted cells further indicated an upregulation of immune-stimulative genes, implying LYN's involvement in immunosuppression and immune evasion. Collectively, these findings propose LYN as a potential mediator linking actin cytoskeletal changes to IS formation during immune evasion. Consequently, LYN inhibitors hold great potential as promising immunotherapeutic candidates for aggressive breast cancer.

Talk 10

SYNTHESIS AND CHARACTERIZATION OF ANILINE-SUBSTITUTED DITHIENO[A,E]PENTALENE

Emily Chang Shan-Yuan, Amgen Scholar, Kyoto University

Co-Author: Shota Hasegawa, Aiko Fukazawa

Synthesis of an aniline-substituted dithieno[a,e]pentalene (DTP) was carried out via Pd-catalyzed cyclization reaction of 2-bromo-3-(aminophenylethynyl)thiophene. Different protecting groups were used in attempt to protect the amines on the ligand. The tert-butyloxycarbonyl (Boc)-protected precursor underwent the Ni-catalyzed cyclization reaction, however, deprotection of the Boc group was not successful by either acid treatment or thermal deprotection. On the other hand, the Pd-catalyzed cyclization reaction of fluorenylmethyloxycarbonyl (Fmoc) protected precursor yielded the desired compound. Unprecedently, both the cyclization and the deprotection reactions took place in one step. The synthesized DTP derivative was characterized by nuclear magnetic resonance (NMR), electrospray ionization mass spectrometry (ESI-MS), ultraviolet-visible absorption spectroscopy (UV-Vis), and single crystal X-ray diffraction (SXRD). The DTP derivative exhibited positive solvatochromism. As the polarity of the solvent increases, a bathochromic shift in absorption maxima was observed. Moreover, the DTP ligand was used in multi-component self-assembly to facilitate a tetrahedral coordination cage with Fe(II) and 2-formylpyridine. Further exploration such as host-guest study utilizing the assembled cage should be tried on due course.

Talk 11

INVESTIGATING THE ROLE OF NOVEL SCRAMBLASE MPSCR1 IN NEUROLOGICAL DISEASE PATHOGENESIS

Ngoc Mai Le, Amgen Scholar, Kyoto University

Co-Author: Risa Matsui, Jun Suzuki

Scramblases, multipass-transmembrane proteins, transport phospholipids bidirectionally and randomly responding to changes in cell state. They are hypothesized to perform various homeostatic functions. The Suzuki lab identified ATP1a1 EK, an ATPase Na/K mutant, to induce scrambling activity, which is responsible by 2 novel scramblases, mpSCR1 & 2. While mpSCR1's functions in cardiac rhythm, morphology, and Ca2+ handling have been studied extensively in model organisms, its conserved molecular role remains elusive. Notably, mpSCR1 missense variants are associated with neurological diseases e.g., recessive polymicrogyria (PMG). Hence, we aim to investigate the scrambling activity of the SCR1 mutants identified from PMG patients and establish their implications in PMG. To study this, we established a transient Tet-off system for SCR1 and selectively knocked out SCR2 using guide RNA (double knockout SCR1&2 causes cell death). Scrambling activity was subsequently measured with NBD-PC incorporation assay. Out of 6 mutants tested, majority exhibited decreased scrambling activity; L85R displayed almost no activity, suggesting loss of scrambling can be a cause of human neuronal disease. Furthermore, SCR1 may form protein complexes to perform different functions, explaining subtle scrambling activity differences between mutants and wildtype.

Talk 12

ESTABLISHMENT OF RECOMBINASE POLYMERASE AMPLIFICATION FOR DETECTION OF UREAPLASMA PARVUM

Tewari Kavyashree, Amgen Scholar, Kyoto University

Co-Author: Kevin Maafu Juma, Kenta Morimoto, Teisuke Takita, Kiyoshi Yasukawa

Recombinase polymerase amplification (RPA) is a nucleic acid amplification technique that operates at a constant temperature (37–42°C) using recombinase (Rec) from bacteriophage T4, single-stranded DNA binding protein (SSB) and strand-displacing DNA polymerase (Pol). The primary advantage of RPA over PCR is its independence from a thermal cycler, making it highly suitable for on-site detection assays. In this study, we established and evaluated an RPA assay for detection of Ureaplasma parvum. Rec (T4 uvsX and T4 uvsY) and SSB (T4 gp32) were expressed in Escherichia coli and purified from the cells. RPA reaction was carried out with the in vitro synthesized standard Urease subunit β (UreB) DNA from Ureaplasma parvum serovar 3 at 41ºC. The minimum time taken to observe amplified product on agarose gel was 20 min. The minimal initial copy numbers of standard DNA from which the amplified products were observed were 6 x 104 copies. These results suggest that RPA is suitable for on-site detection of Ureaplasma parvum and other pathogenic organisms.

Poster Presentations

Poster presenters are to check their assigned poster numbers and put up their posters on the respective boards prior to the poster session.

Poster presentation schedule for scholars will be as follows:

Day 1 (3 Aug 2023)	Odd numbered poster
Day 2 (4 Aug 2023)	Even numbered poster

There will be poster judging happening during each poster sessions. Please stand by your poster throughout your scheduled poster presentation slot.

Poster numbers

ID	Title	Presenter
1	Directed Evolution of PAL (Phenylalanine ammonia lyase)	Shadi Aldabergenov
2	Effect of Plant Lateral Root Development on Bacterial Internalization in the Roots of Arabidopsis thaliana	Alvin Alexander
3	Synthesis And Characterization Of A Novel [fe4(pph3)] Cluster	Dayona Aleyamma Varghese
4	Probing The In Vitro Phase Separation Propensity Of The Baf57 Chromatin Remodeling Protein Subunit	Hasna Aryantha
5	3d Non-equilibrium Patterning Of Supramolecular-polymer Composite Hydrogels	Ecenaz Asad
6	The Role Of SLC17A9 In T-cell	Fomba Kahkunted Berinuy
7	Comparison Of The Degree Of Pathologies In Skeletal Muscles Of Duchenne Muscular Dystrophy Rat	Oleksandra Bezsmertna
8	Transferring Exogenous Dna To Human Mitochondria	Dhruv Ripudeman Singh Bhadoriya
9	Electroactive Microwell Arrays For Cell Pair Trapping and Analysis	Blake Brown
10	Optimizing CHO-S cell line by HSPG-related gene overexpression for improve transfection efficiency.	Linda Bu
11	Sparse Deconvolution To Resolve Dendritic Spines In Vivo	George Cai
12	Exosomes Help Construct Pre-metastatic Niches.	Xu Can
13	Effects of Feature and Network Modification over Graph-based Deep Neural Network Model for Molecular Generation	Christopher Chandra
14	Synthesis and Characterization of Aniline-substituted Dithieno[a,e]pentalene	Emily Chang

15	Predicting Binding Affinity of Bitter Taste Receptors with OpenProtein.AI's PoET	Yukie Chang
16	Engineering A DNA-Launched Infectious Clone of Enterovirus A71	Danae Rin Chen
17	Modeling Antibody Neutralization & Enhancing Neutralization Assay For Flavivirus	Zhenying Chen
18	Elucidating The Therapeutic Potential Of A Novel Sirt6 Activator	Keren Chen
19	A Mitophagy Agonist to Alleviate Neurodegeneration with PINK1-Parkin Pathway	Zihua Chen
20	Estimating The Exclusion Limit Of Stress Granules	Guo Cheng
21	An Imaging-based Machine Learning Approach For Predicting Cancer Cell Confined Migration Via Nuclear Biomarkers	Maria Cheriyan
22	Development of polymeric nanoparticles loaded with mRNA for cancer treatment	Flávia De Paula Gonçalves Guimarães
23	Sirpα Cleavage Associated with *Leishmania donovani* Infection	Aniela Dexter
24	Ultrafast Imaging In Acoustic Therapy	Olga Drygala
25	The Role Of GLK On T Cell Exhaustion	Chua Enn Tng
26	The Characterization Of Sterol Transporter Osh2 In Schizosaccharomyces Pombe	Adel Fergatova
27	Construction of CRISPR-Cas3 crRNA for Nickase-Based Gene Therapies	Kensho Gendzwill
28	Intermolecular Interaction Analysis Of Human SIRT1 NTD And Polymethoxyflavonoids	Haneul Gil
29	Influence Of Tryptophan Insertion On The Fibrillation Capacity And Antimicrobial Efficacy Of B-hairpin Antimicrobial Peptides	Saloni Gole
30	Characterization of PinX1 Function in Regulating Microtubular Dynamics	Ayushi Gupta
31	Development Of A Red Fluorescent Biosensor For Intracellular L-lactate	Minyi He
32	Photocatalytic Development Of Pore-size Regulated Sio2 Nanomembrane Coating On Supported Metal Catalysts	Ko Hor Cheng
33	Human Interleukin-6 Interaction With Silica Smart Flare	Atishay Jain
34	Characterisation Of The Inhibition Of The Interaction Between Salivary Agglutinin And Streptococcus Mutans	Kitty Johnson
35	Effects Of Environmental Iron Availability On Parasite Iron Acquisition Pathway In Leishmania Donovani	May Jung
36	Production Of Genetically Engineered Viruses And Analysis Of Proteolytic Enzymes Involved In Viral Replication.	Megha K
37	Visualizing Jet Lag and Social Jet Lag with ACCEL	Kori Kelley

38	Analysis Of The Effect Of Endogenous Sparc Deficiency On The Proliferation And Differentiation Of Mesenchymal Progenitor Cells And Myoblasts In Rats	Zhia Wern Khaw
39	Quantifying seagrass colour as a measure of health using digital image analysis	Nwe Cherry Khine
40	Development and Application of Branched Ubiquitin as Chemical Probes	Ye-il Kim
41	Olive Biosensor reveals Breast Cancer BCAA metabolism at an Organelle Level	Lara Knight
42	RNA-binding Proteins As Critical Regulators Of Endogenous Retroviruses	Aleksa Krstic
43	Control of mechanical properties and porosity of mixed-metal rhodium/ruthenium metal-organic polyhedra gels	Julia Kulpa
44	Curvature Sensing Of Theca Cells During Ovarian Follicle Development	Rothswell Lanting
45	Investigating The Role Of Novel Scramblase Mpscr1 In Neurological Disease Pathogenesis	Ngoc Mai Le
46	Investigating The Co-option Of Ancient, Pleiotropic Cis-regulatory Elements Involved In Bicyclus Anynana Wing Venation And Eyespot Development	Jeriel Lee
47	Engineered Auxin Biosensor-based Functional Analyses Of Mycobiont-plant Interaction.	Wei Ting Lee
48	Mevalonate Pathway As A Potential Therapeutic Target	Jin Yi Lee
49	Investigation On The Mechanism Of Polymer-based Delivery System-induced Immune Pathway Activation	Ka Yi Lee
50	A New Avenue For Molecular Glues: Rapid Discovery Of A Sting Degrader	Chenyi Lei
51	The Role of VSF In Valine Sensing Signalling	Avery Li Caifan
52	Life History Evolution: All For Passing Down Gene	Shucheng Li
53	Develop Extracellular Nanobodies that can Activate A1a-adrenergic Receptor Based on Sps System	Xinyue LI
54	Characterising The In-vivo And Ex-vivo Effects Of A Novel Piezo2 Mutation	Zhikai Li
55	Live Cell Imaging Analysis Of Neural Polarity Regulatory Protein Trim46	Yufei Liu
56	SPRR2D Unleashed: Igniting The Innate Immune Fire Against Microbes	Xinyi Liu
57	Systematic Review Of Optimal Components For Electrolyzer At Non-extreme Ph Levels	Hsin-yun Lu
58	Nmr Investigation Of Ca2+ Dependent Rna Aptamer Protein Interaction	Colette Maya Macarios
59	Spatial And Temporal Analysis Of Synapse Adhesion Molecules By Single Molecule Tracking Technique	Tin Heng Mak

60	Elucidating The Physiological Role Of OsMRS2-8: An Ion Transporter In Rice Plants.	Juan Daniel Martin Del Campo Flores
61	The Paradoxical Role Of The TRPA1 Channel In Anemia During Pregnancy: Implications For Fetal Survival And Maternal Risk	Nichita Mitrea
62	Towards The Improvement Of Transfection Efficiency In Neural Culture	Ayana Nakada
63	Interaction of the Kringle Domains of Human Plasmin with the E-protein of Dengue Virus	Jeremy Ace Ng
64	Allergen Risk of Black Soldier Fly Larvae as Alternative Protein Source	Chelzsya Nurman
65	Understanding The Potential Of Catalyst In The Photocatalytic System	Aiisha Nurmanova
66	Vascularized And Mechanically Relevant 3d Dynamic Model Of Brain-on-a-chip	Sofia Oliviero
67	Development of a new probe for IRIS super-resolution microscopy	Gabriel Ong
68	Intracellular Association Between HIV-1 Gag NC And CCHC-type Zinc Fingers.	Heba Othman
69	Detection Of Glucose Using Extended Gate Type-ofet	Arindam Kumar Pal
70	Mitotic cGAS accumulation to micronuclei is regulated by nucleosome binding and histone modification	Muhammad Ramadhan
71	Alteration Of Microchannel Cell Sorting Chip Design For Improved Performance	Marco Rojas-Cessa
72	New Insights Of The Copper(i) Catalyzed Alkyne-Azide Cycloaddition	Leonardo Sabattini
73	Synthesis Of A Fret-based Cell Tension Sensor For Intercellular Stress Visualization	Tiara Safaei
74	A Molecular Reporter For Facioscapulohumeral Muscular Dystrophy (FSHD)	Bihan Saha
75	Effect of Drug Treatment and the Role of Mitochondria in Schizophrenia	Riya Sahai
76	Profiling Genetic Interactions in the Human Pathogen Streptococcus pneumoniae	Audrey Averina Santoso
77	Development of a Protein-based Hydrogel Formulation for Wound Healing	Clarissa Sastrawidjaya
78	Towards Asymmetric Hydrogenation Of Ezetimibe Drug Precursor Molecule In A Heterogeneous System	Sara Shanker
79	Development Of High-throughput Thermal Stability Data Acquisition Method And Its Application To Machine Learning.	Fathima Shifana Sheik Mohamed Nuzmudeen Aysha Beevi
80	Sparse Deconvolution And Automated Shape Evaluation Of Dendritic Spines In Two-photon Microscopy Images	Richard Song
81	Clinical benefits and prices of cancer biosimilars versus original drugs in China	Ziling Su

82	Construction Of Protein Based BMP Sensor	Hitesh Sugandh
83	Functional Analysis Of Plant Magnesium Ion Transporter AtMRS2-1	Bavishya Suresh Manju Bashini
84	Hyperphosphorylation Promotes Tau Liquid-Liquid Phase Separation in Alzheimer Disease	Devlin Swanson
85	Nano-fet For Deep Sea Exploration And Environmental Monitoring	Malhar Tamhane
86	Unravelling Morphological Transitions In On-chip Vasculogenesis Through Model-intrusive Counterfactual Explanations	Javen Yih Ruay Tan
87	LYN Kinase in Cytoskeletal Rearrangements and its Effect on Tumor Immune Escape in Breast Cancer	Wee Leng Tan
88	Semiconductor Materials Design Through Surface Modification Of Quantum Dots For Photoreforming Of Lignin	Pang Ho Yeung
89	Selective Synthesis Of Aromatic Hydrocarbon Macrocycles With Partially Functionalized Structures.	Hannah Thatcher
90	Erythrosine B-grafted Biodegradable Periodic Mesoporous Organosilica Nanoparticle Synthesis And Spheroid Uptake Analysis For Cancer Auger Therapy	Caitlynn Tran
91	Develop Cancer Immunotherapy Using Extracellular Vesicles	Thi Ngoc Lan Tran
92	Growth Of The Arabidopsis Mutant For Candidate Genes Responsible For Low Ca Tolerance	Linh Tran
93	Synthetic Approach To Berbanes	Thi Huyen Trinh Tran
94	Phosphorylation of DSB-1 As A Regulator of Meiotic Prophase	Emily Tu
95	Hydroxamic Acid Anchored Ru(ii) Dye For Use In H_2-evolving Photocatalyst	Erika Wangia
96	Localization Of Therapeutic Target Of Clozapine In Mk-801 Induced Schizophrenic Mice	Yixi Xue
97	Why Does Cellular Crowding Increase Photoreceptor Activation?	Kai Yamagami
98	The Biological Synergy Between Sting And Rig-i Agonists In Triggering The Anti-tumor Immune Response	Xiang Yao
99	Establishment Of Recombinase Polymerase Amplification For Detection Of Ureaplasma Parvum	Kavyashree Tewari
100	Fighting Against Human Coronavirus - Drug Discovery Targeting Plpro Of HCoV-OC43	Wenduo Yin
101	Phase Separation in DNA Repair Pathway Selection	Yuzhe Yuan
102	Role of Novel Hybrid Nanovesicle Drug Targeting Platform in Non-alcoholic Steatohepatitis (NASH) in vitro models	Jennie Zhang
103	Screening Small Molecules To Enhance Stem Cell Differentiation Into Pancreatic B-cells For Type 1 Diabetes Treatment	Jiayi Zhang
104	Ornithine Supplementation In Amino Acid Depleted Media Rescues Expression Of Downregulated Metabolic Enzymes	David Zhao

105	Potential Therapeutic Role of Trkb Agonistic Antibody in the Treatment of Alzheimer's Disease using a New APPNL-G-F Organoid Model: From Clinic to Basic Research, From Basic Research to Clinic	Weizhe Zhen
106	INPP5E: Causal Gene For An Inherited Hepatorenal Fibrocystic Disorder In Norwich Terrier Puppies	Emily Zheng
107	Probing ZIKV's Induction Of IL-1β Secretion: Some Insights Into Unconventional Protein Secretion (UPS)	Yongjing (Jing) Zheng
108	The Potential Role Of ODA8 In Trypanosoma Brucei Intraflagellar Transport	Jane Zhou

R&R grouping (for participants who have signed up)

Group 1 (10 am)			
No.	**First Name**	**Last Name**	**University**
1	Ichiro	Moritsune	Kyoto University
2	Sayaka	Seike	Kyoto University
3	Yuri	Iida	Kyoto University
4	Aleksa	Krstic	Kyoto University
5	Atishay	Jain	Kyoto University
6	Caitlynn	Tran	Kyoto University
7	Christopher	Chandra	Kyoto University
8	Dayona	Aleyamma Varghese	Kyoto University
9	Devlin	Swanson	Kyoto University
10	Ecenaz	Asad	Kyoto University
11	Emily	Chang	Kyoto University
12	Emily	Tu	Kyoto University
13	Erika	Wangia	Kyoto University
14	Gabriel	Ong	Kyoto University
15	Heba	Othman	Kyoto University
16	Hitesh	Sugandh	Kyoto University
17	Javen Yih Ruay	Tan	Kyoto University
18	Julia	Kulpa	Kyoto University
19	Kavyashree	Tewari	Kyoto University
20	Kensho	Gendzwill	Kyoto University
21	Lara	Knight	Kyoto University
22	Leonardo	Sabattini	Kyoto University
23	Muhammad	Ramadhan	Kyoto University
24	Ngoc Mai	Le	Kyoto University
25	Nichita	Mitrea	Kyoto University
26	Pang Ho	Yeung	Kyoto University

Group 2 (10.15 am)			
No.	**First Name**	**Last Name**	**University**
1	Ligong	Chen	Tsinghua University
2	Linan	Cang	Tsinghua University
3	Wenxin (Wendy)	Si	Tsinghua University
4	Xiangyu	Liu	Tsinghua University
5	Avery	Li	Tsinghua University
6	Chenyi	Lei	Tsinghua University
7	Fomba Kahkunted	Berinuy	Tsinghua University
8	Jiayi	Zhang	Tsinghua University
9	Ka Yi	Lee	Tsinghua University
10	Keren	Chen	Tsinghua University
11	Linda	Bu	Tsinghua University
12	Shadi	Aldabergenov	Tsinghua University
13	Shucheng	Li	Tsinghua University
14	Thi Huyen Trinh	Tran	Tsinghua University
15	Weizhe	Zhen	Tsinghua University
16	Wenduo	Yin	Tsinghua University
17	Xiang	Yao	Tsinghua University
18	Xinyi	Liu	Tsinghua University
19	Xinyue	LI	Tsinghua University
20	Xu	Can	Tsinghua University
21	Yixi	Xue	Tsinghua University
22	Yongjing (Jing)	Zheng	Tsinghua University
23	Yuzhe	Yuan	Tsinghua University
24	Zhikai	Li	Tsinghua University
25	Zihua	Chen	Tsinghua University
26	Ziling	Su	Tsinghua University

Group 3 (10.30 am)			
No.	**First Name**	**Last Name**	**University**
1	Midori	Arakawa	The University of Tokyo
2	Aiisha	Nurmanova	The University of Tokyo
3	Aniela	Dexter	The University of Tokyo
4	Ayana	Nakada	The University of Tokyo
5	Bavishya	Suresh Manju Bashini	The University of Tokyo
6	Blake	Brown	The University of Tokyo
7	Colette Maya	Macarios	The University of Tokyo
8	David	Zhao	The University of Tokyo
9	Emily	Zheng	The University of Tokyo
10	Fathima Shifana	Sheik Mohamed Nuzmudeen Aysha Beevi	The University of Tokyo
11	Flávia	De Paula Gonçalves Guimarães	The University of Tokyo
12	George	Cai	The University of Tokyo
13	Haneul	Gil	The University of Tokyo
14	Hannah	Thatcher	The University of Tokyo
15	Kai	Yamagami	The University of Tokyo
16	Kitty	Johnson	The University of Tokyo
17	Kori	Kelley	The University of Tokyo
18	Linh	Tran	The University of Tokyo
19	Malhar	Tamhane	The University of Tokyo
20	Marco	Rojas-Cessa	The University of Tokyo
21	Megha	K	The University of Tokyo
22	Minyi	He	The University of Tokyo
23	Oleksandra	Bezsmertna	The University of Tokyo
24	Olga	Drygala	The University of Tokyo
25	Richard	Song	The University of Tokyo
26	Sara	Shanker	The University of Tokyo
27	Tiara	Safaei	The University of Tokyo
28	Yufei	Liu	The University of Tokyo
29	Zhenying	Chen	The University of Tokyo

Group 4 (11 am)			
No.	**First Name**	**Last Name**	**University**
1	Ambert	Ang	National University of Singapore
2	Adel	Fergatova	National University of Singapore
3	Alvin	Alexander	National University of Singapore
4	Audrey Averina	Santoso	National University of Singapore
5	Ayushi	Gupta	National University of Singapore
6	Bihan	Saha	National University of Singapore
7	Chelzsya	Nurman	National University of Singapore
8	Clarissa	Sastrawidjaya	National University of Singapore
9	Dhruv Ripudeman Singh	Bhadoriya	National University of Singapore
10	Hasna	Aryantha	National University of Singapore
11	Jane	Zhou	National University of Singapore
12	Jeremy Ace	Ng	National University of Singapore
13	Jeriel	Lee	National University of Singapore
14	Kenza	Miftah	National University of Singapore
15	Maria	Cheriyan	National University of Singapore
16	Nwe Cherry	Khine	National University of Singapore
17	Rothswell	Lanting	National University of Singapore
18	Saloni	Gole	National University of Singapore
19	Thi Ngoc Lan	Tran	National University of Singapore
20	Wee Leng	Tan	National University of Singapore
21	Wei Ting	Lee	National University of Singapore
22	Yukie	Chang	National University of Singapore
23	Hiroshi	Iijima	The University of Tokyo
24	May	Jung	The University of Tokyo
25	Ye-il	Kim	The University of Tokyo
26	Juan Daniel	Martin Del Campo Flores	The University of Tokyo
27	Arindam Kumar	Pal	The University of Tokyo
28	Zhia Wern	Khaw	The University of Tokyo