

# Molecular Engineering Lab

*Lab Manager*

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I have been with A\*STAR for more than 2 decades, having vast technical experiences not limited to next generation sequencing, molecular work, tissue culture, mice and zebrafish work, comparative genomics and currently a lab manager involved in the day to day running of the lab, liaising with other departments such as Finance, Procurement, Safety, Admin manager, etc. Point of contact for MEL. Currently on the route to becoming a project manager.

**Sumanty Tohari**

[toharis@imcb.a-star.edu.sg](mailto:toharis@imcb.a-star.edu.sg)

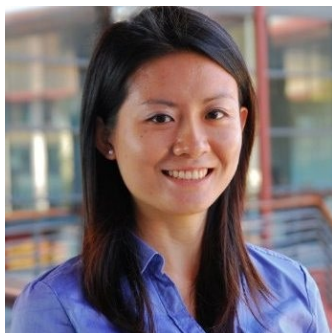
Office No.: 6586 9852

*Publications*

# Molecular Engineering Lab

## Synthetic Biology

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### Joy Xiang (PhD)

Senior Research Fellow

[joy\\_xiang@imcb.a-star.edu.sg](mailto:joy_xiang@imcb.a-star.edu.sg)

Office No.: 6586 9866

*Publications*

RNA Synthetic biologist and bioinformatician with interests in high-throughput assay development, lab automation, virology and cellular medicine.



### Beverly Mok (PhD)

Research Fellow

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Office No.: 6586 9849

*Publications*

I studied Chemistry as an undergraduate at the University of Cambridge as part of the A\*STAR NSS (BS-PhD) scholarship. I subsequently enrolled in the Chemistry and Chemical Biology PhD program at Harvard University with Dr. David Liu. As a graduate student in the Liu lab, I developed the first mitochondrial base editor that enables precise installation and correction of point mutations in organelle DNA. Following my PhD, I joined MEL as a Research Fellow in 2022. I am interested in multidisciplinary projects that involve engineering and evolving proteins for gene editing, and possibly for agriculture and biomanufacturing.



### Lokanand Koduru (PhD)

Research Fellow

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Office No.: 6586 9849

*Publications*

I received my PhD from Department of Chemical and Biomolecular Engineering, National University of Singapore (NUS), in the year 2018. At NUS, I developed computational biology tools, genome-scale models and omics-integrated approaches to study and evaluate lactic acid bacteria (LAB) for their probiotic capabilities. I later joined Molecular Engineering Laboratory (MEL) at A\*STAR as a research fellow and integrated genome assembly and natural product mining pipelines involving 1000s of Actinobacterial strains into my workflow. Being part of Institute of Molecular and Cell biology (IMCB), I also serve as a Principal Investigator for the Data Science and Analytics programme (SIBER), engaging in Singapore's synthetic biology goals. My long-term focus remains using metabolism-centric computational approaches to study cell-cell interactions in the contexts of human-gut microbiome and cancer.



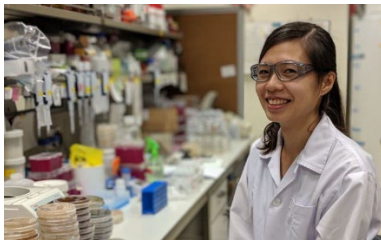
I studied Biochemistry in University of Wisconsin-Madison and received my PhD in Chemical and Systems Biology at Stanford University. I did my post-doctoral work in Molecular Engineering Laboratory, A\*STAR, a research lab started by the late Nobel Laureate Dr. Sydney Brenner. My work focuses on understanding the functional roles of the human microbiome by finding the link between microbial genes and their relevant enzymatic activities. I enjoy reading medical non-fiction, traveling around the world and listening to music compositions by Howard Shore, Christopher Tin and Joe Hisaishi.

**Li Hao, Amy (PhD)**

Research Scientist

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*Publications*



I have been in MEL since 2015. Our team focus on gene editing, mainly CRISPR, in Actinomyces, to activate silent gene clusters that produce bioactive compounds. Apart from molecular cloning & bacterial conjugation, I am also tasked to do Nanopore sequencing or anything that involves sequencing.

**Elena Heng**

Senior Research Officer

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*Publications*



I did my honours degree in biochemistry where I dipped my fingers into peptide synthesis and protein purification. Since joining MEL, I have acquired skills such as molecular cloning, protein expression and purification both in e. coli and lactic acid bacteria. I am currently working in gene editing in Streptomyces towards the production of bioactive compounds.

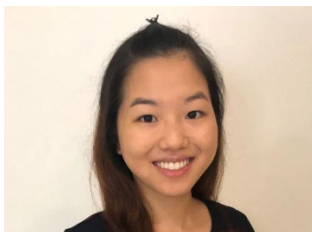
**Tan Lee Ling**

Senior Research Officer

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*Publications*



Graduated with a BSc in Life Science from the National University of Singapore. I was previously under the mentorship of Prof. Chris Sham, before joining MEL as a Research Officer in 2021. I am currently part of the team working on synthetic biology research at MEL.

**Elaine Tiong**

Research Officer

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**Wisely Chua**

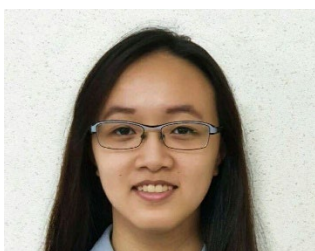
Research Officer

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Office No.: 6586 9852

*Publications*

Graduated from National University of Singapore in 2019 with a B.Sc in Pharmacy. My research interests include the pathogenesis and pathophysiology of skin diseases, such as eczema and psoriasis. I enjoy listening to music, making music, analyzing music, and exploring new genres of music.



**Wong Jia Hui**

Research Officer

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*Publications*

Graduated from NTU Materials Science and Engineering. My interests lie in solving real-world problems by implementing solutions related to computer science. Currently working on developing methods to integrate metabolic models, machine learning and omics datasets to analyze and improve microbial cell factories.



**Bryan Chua**

Research Officer

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Office No.: 6586 9867

I started doing research as an Honours student, then as a Research Assistant at the Cancer Science Institute of Singapore, National University of Singapore. Subsequently, I joined the Molecular Engineering Lab (MEL) at A\*STAR as a Research Officer. I am currently studying the use of protein engineering techniques to enhance the sweetness of a sweet-tasting protein. I am also one of the Safety Officers for the lab.



**Bi Jiawu**

A\*GA PhD student

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Office No.: 6586 9867

An aspiring young scientist that hopes to find solutions for sustainable food production and novel food stuffs



A trained medicinal chemist who is currently pursuing a PhD in synthetic biology to harness the biosynthetic pathways in bacteria to discover novel antimicrobial compounds and sustainable biocatalysts.

**Gregory Adrian Gunawan**

PhD Candidate under the A\*STAR Graduate Scholarship

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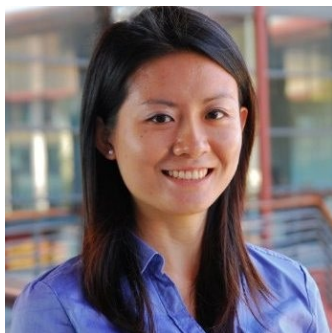
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# Molecular Engineering Lab

## Therapeutics

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### **Joy Xiang (PhD)**

Senior Research Fellow

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Office No.: 6586 9866

*Publications*

RNA Synthetic biologist and bioinformatician with interests in high-throughput assay development, lab automation, virology and cellular medicine.



### **Beverly Mok (PhD)**

Research Fellow

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Office No.: 6586 9849

*Publications*

I studied Chemistry as an undergraduate at the University of Cambridge as part of the A\*STAR NSS (BS-PhD) scholarship. I subsequently enrolled in the Chemistry and Chemical Biology PhD program at Harvard University with Dr. David Liu. As a graduate student in the Liu lab, I developed the first mitochondrial base editor that enables precise installation and correction of point mutations in organelle DNA. Following my PhD, I joined MEL as a Research Fellow in 2022. I am interested in multidisciplinary projects that involve engineering and evolving proteins for gene editing, and possibly for agriculture and biomanufacturing.



### **Ankita Pan (PhD)**

Senior Research Fellow

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Office No.: 6586 9857

*Publications*

Research fellow with expertise in protein biochemistry and structural biology. Through my doctoral and postdoctoral training, I have gained experience in molecular cloning, protein expression and purification, and structural biology techniques such as SAXS, cryo-EM and X-ray crystallography. I am invested in applying my skill set and experience to gain insights into protein function, protein-protein interactions and their role in biology.





**Emily Xin-Zi Tang, PhD**

Research Fellow

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*Publications*

Highly motivated immunologist with more than 10 years of experience analyzing T cell functions, antibody responses and tissue macrophage characterization, developing in vitro assays using primary human and mouse samples as well as in vivo animal modelling. Excited to apply immunological skillsets to achieve translational goals. Flexibility to drive projects independently or collaborate in teams.



**Lau Ming Li, Lalita**

Senior Research Officer

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Office No.: 6586 9853

Studied biological science at the Nanyang Technical University. Upon graduation, I am introduced to stem cell research in the private sector for a couple of years. Thereafter, went for an opening at Raffles Hospital as Laboratory Technologist. Following that moved on to be a research officer at Molecular Engineering Laboratory (MEL). I am presently still with MEL at the Institute of Molecular and Cell Biology (IMCB) with diverse backgrounds spanning immunology, microbiology, cell culture, molecular biology, single cell biology, gene editing, genomics and stem cells come together to work on multi-disciplinary projects.



**Poh Si En**

Senior Research Officer

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Office No.: 6586 9853

*Publications*

Graduated from Nanyang Technological University (NTU) with a Bachelor's degree in Biological Sciences. Currently working on projects involving detection of circulating plasma transcripts.



**Han Cheng En**

Research Officer

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I am a Research Officer of one year currently involved in a project working on the directed evolution of biosensors against drug targets in an automated liquid handling system. I have also previously studied the effects of macrophage depletion in meningeal lymphatics development in murine models.



**Kong Kiat Whye,**

Senior Research Officer

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Office No.: 6586 9866

*Publications*

I have been working in Molecular Engineering Lab (MEL) - Institute of Molecular and Cell Biology (IMCB) - Agency for Science, Technology and Research (A\*Star) since it started in 2009. I have worked on various research projects, have experience in next-generation sequencing. I have also been a first aider and safety committee member for a minimum of 5 years. I have obtained certificates for A-PBA Biosafety Management, A-PBA Singapore Legislation (BATA & WHSA), Advanced and Specialist Diploma in Workplace Safety and Health, and Managing Work-At-Height.

I am a highly motivated, self-driven and eager to learn person who is systematic and well-organized. As independent of a worker I am who can work under pressure with minimum supervision, you can count on me being a team player as well. I possess excellent communication skills, strong work ethics and consider myself to be diligent, creative, focused and highly adaptable.



**Molly Watling**

PhD student (ARAP)

[molly\\_watling\\_from.tp@imcb.a-star.edu.sg](mailto:molly_watling_from.tp@imcb.a-star.edu.sg)

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I am currently a PhD student, whose research is focused on in vitro RNA labelling methods using light-up aptamers. I also aim to define the precise locations and components of viral replication sites in cells and understand how and where virus assembly takes place, information that is vital to combating viral disease. I also am interested in RNA aptamer based therapeutics.



# Molecular Engineering Lab

## Bioengineering

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**Jinfen Chai (PhD)**

Senior Research Fellow

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Office No.: 6586 9863

*Publications*

12 years of research experience in the biomedical research field, in key topics of ageing, heart treatment and muscle regeneration. A driven, goal oriented and highly motivated problem solving scientific researcher working on heart failure for the past 5 years. I developed a treatment for heart failure and filed a technology disclosure for the discovery. Successfully coordinated and organized collaborative projects from five research laboratories locally and overseas. Lived in Australia for 6 years and worked at multicultural institutes, interact well with others, communicate efficiently in English and Mandarin languages. Involved in organizing the social lab gatherings.



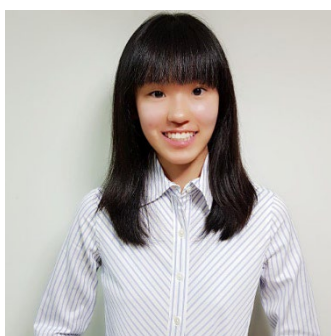
**Wong Wan Ling**

Research Officer

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Office No.: 6586 9863

I am working on the Additive Manufacturing of Biological Materials (AMBM) Project in which our team is developing a bioink for formation of in situ epidermis. We also design and prototype a skin bioprinter for application of the bioink.



**Dionis Yew**

Senior Research Officer

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*Publications*

Graduated from NTU with a degree in Materials Science and Engineering specializing in biomedical engineering. Currently working as a Research assistant where we work on fabricating immunomodulatory interface layers for medical implants through Additive Manufacturing.