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EDUCATION

Southern University of Science and Technology, Shenzhen, China **Apr 2024 – Present**
Visiting Research Fellow

- Awarded SUSTech International Fellowship

LKCMedicine, Nanyang Technological University, Singapore **Aug 2023 – Present**
PhD (Medicine), Metabolic Diseases

- Nanyang Presidential Graduate Scholar
- cGPA: 5.00/5.00
- Supervisor: Prof Andrew Tan Nguan Soon; Co-supervisor: Prof Sunny Wong

Nanyang Technological University, Singapore **Aug 2018 – May 2022**
BSc. (Hons, Highest Distinction) (Biological Sciences) with 2nd Major in Biomedical Structural Biology

- Valedictorian, Class of 2022
- Dean's List for Academic Year 2018/2019, 2020/2021, 2021/2022; cGPA: 4.84/5.00
- A*STAR Undergraduate Scholar (2019-2022)

Raffles Institution (Junior College), Singapore **Jan 2014 – Nov 2015**
GCE 'A' Levels

- Highest distinctions for H2 Biology and H2 Chemistry
- International Service Learning, in Preak Kuy Commune, Cambodia (2014)
- Performed with Sebu Gakuen Bunri School in Tokyo (2015); Taiwan (2014); with the Symphonic Band.

PUBLICATIONS

1. Cheng, H.S., **Chua, D.**, ... Tan, N.S. (2024) MegaMASLD: An interactive platform for exploring stratified transcriptomic signatures in MASLD progression. *bioRxiv* 2024-07.
2. Low, Z. S.[†], **Chua, D.**[†], Cheng, H. S. [†], Tee, R. [†],... Wahli, W. (2024). The LIDPAD Mouse Model Captures the Multisystem Interactions and Extrahepatic Complications in MASLD. *Advanced Science*, 2404326. [IF=14.3]
3. Liao, Z., **Chua, D.**, ... Tan, N. S. (2024). Attenuating Epithelial-to-Mesenchymal Transition in Cancer through Angiopoietin-Like 4 Inhibition in a 3D Tumor Microenvironment Model. *Adv Health Mat*, 13(10), 2303481. [IF=10.1]
4. Leo, W. Z., **Chua, D.**, ..., Ho, V. K. (2023). Chest compression quality and patient outcomes with the use of a CPR feedback device: A retrospective study. *Sci Rep*, 13(1), 19852. [IF=4.9]
5. Lee, J. X. T., **Chua, D.**, ... Tan, N. S. (2023). YWHAG Deficiency Disrupts the EMT-Associated Network to Induce Oxidative Cell Death and Prevent Metastasis. *Adv Sci*, 10(31), 2301714. [IF=14.3]
6. Chen, J. Y. S. [†], **Chua, D.**[†], ..., Tan, N. S. (2022). Lessons on Drug Development: A Literature Review of Challenges Faced in Nonalcoholic Fatty Liver Disease (NAFLD) Clinical Trials. *Intl J Mol Sci*, 24(1), 158.
7. **Chua, D.**, Low, Z. S., ... Tan, N. S. (2022). Utility of Human Relevant Preclinical Animal Models in Navigating NAFLD to MAFLD Paradigm. *Intl J Mol Sci*, 23(23), 14762. [IF=4.9]
8. Tan, M.W.Y., Sng, M.K., Cheng, H.S., Low, Z.S., Leong, B.J.J., **Chua, D.**, ... Tan, N.S. (2020) Deficiency in fibroblast PPAR β/δ reduces nonmelanoma skin cancers in mice. *Cell Death Differ*. [IF=13.7]
9. Liao, Z., **Chua, D.** and Tan, N.S. (2019) Reactive oxygen species: a volatile driver of field cancerization and metastasis. *Mol Cancer*. [IF=27.7]
10. Lim, M.M.K., Wee, J.W.K., Soong, J.C., **Chua, D.**,...Tan, N.S. (2018) Targeting metabolic flexibility via angiopoietin-like 4 protein sensitizes metastatic cancer cells to chemotherapy drugs. *Mol Cancer*. [IF=27.7]

[†]Share equal contribution

CONFERENCES

1. 75th American Association for the Study of Liver Diseases (AASLD) The Liver Meeting (2024). Chua, D., Cheng, H.S., Tan, N.S. (2024). Targeting the Angptl4-Eif2a Axis Improves Fibrotic MASH by Modulating T Cell Activation. *Hepatology.*, 80, S1515. (Poster) [IF = 14]
2. LKCMedicine-SUSTech Symposium (2024). Unveiling the Central Role of Angptl4 in the Triadic Gut-Immune-Liver Interplay in MASLD Progression. (Oral)
3. 3rd LKCMedicine LEARN Symposium (2024). From Diet to Disease: The Impact of Dysbiosis and Dietary Fat on Angptl4-Mediated Gut Permeability in MASLD. (Poster)
4. 33rd Asian Pacific Association for Study of Liver (APASL) Meeting (2024). **Chua, D.**, Cheng, H.S., Tan, N.S. (2024). Dietary impact on gut permeability in MASLD. *Hepatol Int* **18** (Suppl 1), 1–822 (2024). <https://doi.org/10.1007/s12072-024-10670-w> (Oral) [IF=5.9]
5. BGI 18th International Conference on Genome (ICG18) Youth Symposium. Inter-Organ Axes of Angptl4. (Poster)
6. European Association for Study of Liver (EASL) Congress (2023). **Chua, D.**, Cheng, H.S., Tan, N.S. (2023), Intestinal Angptl4 perturbs gut barrier function in NAFLD. *J Hep.*, 78, Supplement 1, S86. [https://doi.org/10.1016/S0168-8278\(23\)00564-0](https://doi.org/10.1016/S0168-8278(23)00564-0) (Oral) [IF=26.8]

HONOURS AND AWARDS

SUSTech International Fellowship 2024-2025

Nanyang Presidential Graduate Scholarship (PhD) 2022-2026

Valedictorian for Class of 2022 (NTU School of Biological Sciences)

Undergraduate Final Year Project Best Poster Award – 2nd Place

NTU School of Biological Sciences Dean's List Academic Year 2018/2019, 2020/2021, 2021/2022

NTU President Research Scholar – Research Excellence Award (Distinction) 2019/2020, 2020/2021

NTU SBS Biohackathon 2021 – 1st Prize

Agency for Science and Technology and Research (A*STAR) Undergraduate Scholarship (2018-2022)

Raffles Diploma with Merit (Community & Citizenship, Arts & Aesthetics)

International Biomedical Olympiad 2013 – Bronze

Singapore Junior Physics Olympiad 2013 – Honourable Mention

SELECTED ACADEMIC PROJECTS/ RESEARCH EXPERIENCE

LKCMedicine, NTU Singapore

Dec 2021 – May 2022

Supervisor: Associate Professor Tan Nguan Soon (Andrew)

Bachelors' Dissertation: Role of Angptl4 in NASH with fibrosis

- Implemented single cell transcriptomics pipelines to identify key cellular features associated with NASH with fibrosis
- Optimization of murine primary T cell culture for validation of single cell omics mechanism experiments

Agency for Science, Technology and Research (A*STAR)

Dec 2020 – Aug 2021

Supervisor: Dr Chen Jin Miao

Project: Batch effect correction for multi-omics integration of single-cell omics data

- Benchmarked existing multi-omics integration tools for single cell omics data
- Designing of new deep learning method for single-cell analysis and batch correction in PyTorch
- Analysed multi-omics data including clinical samples from AML patients
- Performed spatial transcriptomics experimental workflow and data analysis for immunotherapy against breast cancer in mice model.

School of Biological Sciences, NTU Singapore

Aug 2019 – Dec 2020

Supervisor: Associate Professor Sze Siu Kuan (Newman)

Project: Pulsed SILAC proteomics approach to investigate inflammatory activation of murine macrophages in aging-induced atherosclerosis and pancreatic cancer

- LC-MS/MS, co-culture, hypoxia condition, and molecular cell biology techniques, bioinformatics.
- Employed SILAC method to characterize proteomic changes in tumour cells and its TME
- Pulsed-SILAC proteomics and translomics of murine macrophages in aging-associated antibody immunotherapy

Nanyang Institute of Structural Biology, NTU Singapore

Dec 2018 – Aug 2019

Supervisor: Associate Professor Julien Lescar

Project: Designing modular scFv against metastasis-related protein for diagnostic purposes.

- Applications of protein ligases and reaction optimization protocols, molecular cloning, protein purification using FPLC for mAb, scFv and antigen protein

- Characterization of antibody-antigen binding affinities using direct ELISA, ITC.

LEADERSHIP & SOCIETIES

Nucleate Singapore

Director (Programmes & Education)

Sep 2023 – Ongoing

- Launch month issues for The Nucleate Artery to highlight critical and new research in Singapore
- Initiated the inaugural Nucleate Ignite Workshop series and engage key opinion leaders to impact researchers in Singaporean biotech community to network and elevate knowledge on biotech industry.

LKCMedicine Graduate Students' Club (NTU Singapore)

President

Aug 2023 – Aug 2024

- Facilitated transitioning and connecting student body to new Graduate Program' Office for PhD programs.
- Overall-in-charge of the running of student club and executed high-impact community initiatives to increase community engagement
- Pushed out publicity and newsletter initiatives to increase PhD students' visibility within school community.

Biological Sciences Club (NTU Singapore)

Vice President (Internal)

Oct 2019 – Oct 2020

- Overall-in-charge of operations within sports, logistics, academics & welfare, traditional chinese medicine (TCM) faculty portfolios
- Lead the overall events team for college-wide event to increase the crowd entertainment
- Initiated a new student house system to facilitate deeper student social ties as well as faculty-student interactions
- Hosted first-ever live alumni sharing to kick off a series of student-led networking programme with alumni.

Inter-School Games (NTU Singapore)

Vice Chairman

Oct 2018 – Jan 2019

- Overall-in-charge of operations within business management, publicity portfolios
- In-charge of administration of competing athletes in School of Biological Sciences

TEACHING / MENTORSHIP

BS3332 Methods in Histology

NTU School of Biological Sciences

Spring Semesters 2022, 2023, 2024

- Chief TA: coordinated a diverse team of PhD students to conduct and teach intensive University Advanced Experimental Biology in Histology. Prepared an engaging course narrative and relevant research materials for students to have experiential learning and research experience.

Mentor (Final Year Thesis Project, Medical Scholarly Project)

NTU School of Biological Sciences, LKCMedicine

Aug 2022 – Ongoing

- Mentored 5 BSc (Biological Sci) students and 4 MBBS students involved in several research projects.

RELEVANT CERTIFICATIONS

Responsible Care and Use of Laboratory Animals Course

- Conferred by Biomedical Research Centre (BRC), A*STAR Singapore