

2025 NUS YOUNG FELLOWSHIP PROGRAMME



PARTICIPANTS' HANDBOOK

23 June - 25 July 2025 National University of Singapore



Please note that the information provided in the handbook is subject to change. We strive to ensure that the content remains accurate and up-to-date, but there may be instances where updates or modifications are necessary. We appreciate your understanding and flexibility as we continue to enhance and refine the programme to provide the best experience for all participants. Rest assured, any changes will be communicated to you promptly to ensure you have the most current and relevant information throughout your journey with us.



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WELCOME NOTE

We welcome you to the 2025 NUS Young Fellowship Programme. You represent exceptional talent from 22 countries, and we look forward to an enriching journey, both in person and online, where you will explore AI research, connect with likeminded peers, and discover what NUS has to offer.

Artificial intelligence (AI) takes centre stage this year, reflecting how rapidly this revolutionary technology is transforming our world. You will engage with faculty from across the university—Computing, Engineering, Science, Medicine, Business, Arts, and Music—each sharing how AI is revolutionising their field. From large language models to psychological insights, from cancer treatment breakthroughs to sustainable energy solutions, from architectural innovation to music creation, you will witness the breadth of possibilities when technology meets human creativity and ingenuity.

This week is as much about people as it is about research. You will work alongside talented students from diverse backgrounds, sharing ideas, cultures, and hopefully forming lasting friendships. Beyond the lecture halls, you will visit our research centres and laboratories, explore Gardens by the Bay, and have the unique opportunity to engage directly with our faculty and even join a fireside chat with the NUS President. We encourage you to be curious, ask bold questions, and make the most of these invaluable interactions.

For those contemplating postgraduate study, this programme provides insight into what life as a graduate student at NUS entails. You will discover how we promote interdisciplinary collaboration, cutting-edge research, and even entrepreneurial ventures. Our doors are open for discussions about your academic future, and we are here to assist you in navigating the possibilities.

May this fellowship expand your horizons and inspire new directions for your studies and career. Once again, welcome to NUS—we're thrilled to have you here.

CHALLENGES

Besides the many workshops and talks, there are 3 Challenges that you will be part of.



TIKTOK CHALLENGE:

MY JOURNEY THROUGH THE NUS YOUNG FELLOWSHIP PROGRAMME 2025

HOW TO JOIN

- 1. Create an original TikTok video (from 30 seconds to 2 minutes) about your NUS experience.
- 2. Upload the video to your personal TikTok account using the hashtags: #2025NUSYFP #NUS #NUSYoungFellowshipProgramme.
- 3. Ensure your TikTok account is set to public.
- 4. Submission deadline: 22 July 2025, 12.00 pm

COMPETITION GUIDELINES

- The competition is open to all participants from the NUS Young Fellowship Programme 2025.
- Participants can enter as individuals or in teams (maximum of three members per team). Please note that group entries will only be awarded one prize for the group, not for each individual member.
- Each participant may submit only one video. Submissions received after the deadline will not be considered.
- Videos may be presented in English or your native language. However, videos not in English must include English subtitles.
- Acceptable video formats include Documentary, Cinematography, Vlog, Storybased, Montage, and Freestyle.
- Participants must use suitable sounds and/or music and ensure their skit, dance, or appearance is appropriate. Entries must not contain endorsements of products or services, or any obscene, violent, racist, or defamatory content.

PRIZES

Winners will each receive a \$100 SGD Amazon gift card!

TIKTOK CHALLENGE:

MY JOURNEY THROUGH THE NUS YOUNG FELLOWSHIP PROGRAMME 2025

WINNER SELECTION

The judging criteria is:

- 60%: Number of likes on the videos
- 40%: Internal review by NUS Young Fellowship Programme 2025 Committee (selected members)

The organisers and judges reserve the right to request participants to remove the contest video from their TikTok account that they believe may violate any competition rules, terms and conditions, or could bring the competition into disrepute.



View 2024 NYFP TikTok Challenge Champion Videos

COPYRIGHT AND PERMISSIONS

The copyright of the materials submitted for this competition remains with the respective participants. By entering this competition, participants grant the National University of Singapore a licence to use the submitted materials for educational and/or marketing purposes across web-based platforms and other digital/print mediums for a period of three years.

In cases where submitted materials include work from third-party individuals or organizations, participants are responsible for securing the necessary permissions and/or licences. The University will not be held liable for any failure by individuals to obtain copyright clearance before submitting their entries to the competition.

IMPORTANT NOTES

ACCOMMODATION

Where you'll stay: NUS Residential College 4 (RC4)



SESSION LOCATIONS

- 23-24 June 2025: Ngee Ann Kongsi Auditorium, Level 2 Education Resource Centre, NUS Utown
- 25-27 June 2025: U-Hall Auditorium, Level 2, NUS University Hall Lee Kong Chian Wing

ARRIVAL & TIMING

- Arrive at the auditorium at least 15 minutes before the scheduled talks/workshops. This will allow for everyone to settle down and for the session to start on time.
- Example: If a session begins at 9am, arrive by 8:45am



MEALS

- Lunch will not be provided every day; please refer to the programme for specific days. This is to let everyone explore the many dining options within NUS and for you to experience the different food culture.
- Dinner will not be provided as well.
- Look to the Student Facilitators for recommendations, or visit the <u>NUS Food and Beverage Directory</u> to explore more options.

STAYING CONNECTED

 Log in to NUS Canvas (<u>https://www.nus.edu.sg /canvas/login/</u>) for updates and announcements, and to connect with fellow participants. You will receive an email with the log in credentials.

PROGRAMME OVERVIEW 23 – 27 June 2025

Note that the programme is subject to changes, and NUS reserves the right to make changes without prior notice.

23 JUN 2025 Monday	24 JUN 2025 Tuesday	25 JUN 2025 Wednesday	26 Jun 2025 Thursday	27 Jun 2025 Friday
8.00 am Breakfast at Education Resource Centre (ERC)		8.00 am Breakfast at the Linkbridge at University Hall		
9.00 am – 9.30 am Opening & Welcome Professor Jessica Pan Group Photo Taking 9:30 am – 11:00 am What is GenAl? Dr Amirhassan Monajemi	9.00 am – 10.30 am Synthetic Enzymology for Human and Planetary Health: Biomanufacturing in an Impending BioEconomy Assoc Professor Yew Wen Shan	9.00 am – 10.30 am Al and Robots in Our Uniquely Human World: A Psychological Perspective Professor Sam, Yam Kai Chi	9.00 am – 10:30 am 3 Minutes Thesis Dr Rafi Rashid	9.00 am – 10.30 am Solar Technologies for Sustainable Energy-Water- Electronics Nexus Professor Ho Ghim Wei
11.00 am – 11.30 am Break (with Refreshment)	10.30 am – 11:00 am Break	10.30 am – 11.00 am Break	10.30 am – 11.00 am Break	10.30 am – 11.00 am Break
11.30 am – 12.30 pm Data-Centric AI for Large Language Foundation Models Assoc Professor Bryan Low	11.00 am – 12.30 pm Problem-solving "Rough Rapid Right" Assoc Professor Chai Kah Hin	11.00 am – 12.15 am The Medicinal Chemistry of Platinum- based Anticancer Complexes Professor Ang Wee Han	11.00 am – 12:30 pm Discover Musical Worlds Through Al Music Creation Mr Francis Tan	11.00 am – 12.30 pm Designing with Asst Professor Kim Frederick Chando
12.30 pm – 1.30 pm Lunch at ERC	12.30 pm – 1.30 pm Lunch – Explore NUS to Get Your Own Food	12.15 pm – 1.15 pm Lunch – Explore NUS to Get Your Own Food	12.30 pm – 1.30 pm Lunch – Explore NUS to Get Your Own Food	12.30 pm – 2.00 pm Lunch at U-Hall + Project Preparation
1.30 pm - 2.30 pm Thinking Outside the 'Computer' Box: Assistive Augmentations Assoc Professor Suranga Nanayakkara	1.30 pm - 3.00 pm Innovating Learning and Research at NUS Libraries Assoc Professor Natalie Pang	1.15 pm - 4.00 pm Visit Gardens by the Bay	1.30 pm - 3.00 pm Developing the Best Nanopasta Medicine Recipe to Eliminate Cancer Asst Professor Tay Kah Ping, Andy	2.00 pm - 3.00 pm Poster Competition
2:30 pm – 4:00 pm Explore Graduate Study Opportunities at NUS 4.00 pm- 5.00 pm Guided Campus Tour	 3.30 pm - 5.00 pm Lab Visit STDCT (Sustainable Tropical Data Centre Testbed) Library Material Lab Augmented Human Lab Block 71 	4.00 pm onwards Free and Easy Return to NUS on Your Own.	3.30 pm - 5.00 pm Visit • National Centre for Engineering Biology • SHINE • SDE4 • Advanced Robotics Centre • Sustainable Smart Systems (S ³) Laboratory	3.00 pm - 4.00 pm Group Presentation for Selected Posters Award Ceremony 4:00 pm - 5:00 pm Group Photo Taking Fireside Chat with NUS President 5 pm Closing Remarks

End of day

23 June 2025 MON

8.00 am	Breakfast <pre> Education Resource Centre (ERC) </pre>
9.00 am Opening	Opening & Welcome Professor Jessica Pan, NUS Graduate SchoolGroup Photo Taking ♀ Ngee Ann Kongsi Auditorium, Level 2, ERC
9.30 am Seminar	What is Generative AI? Dr Amirhassan Monajemi, Department of Computer Science, School of Computing ♀ Ngee Ann Kongsi Auditorium, ERC
11.00 am Break	Break (with Refreshment) P ERC
11.30 am Seminar	Data-Centric Al for Large Language Foundation Models Assoc Professor Bryan Low, Department of Computer Science, School of Computing ♀ Ngee Ann Kongsi Auditorium, ERC
12.30 pm	Lunch ♀ ERC
1.30 pm Seminar	Thinking Outside the 'Computer' Box: Assistive AugmentationsAssoc Professor Suranga Nanayakkara, Department of Information Systems & Analytics, School of Computing
2.30 pm Seminar	Explore Graduate Study Opportunities at NUS Ngee Ann Kongsi Auditorium, ERC
4.00 pm Campus Tour	Guided Campus Tour Guided by student facilitators ♀ NUS Kent Ridge Campus

DAY1

24 June 2025

8.00 am	Breakfast Education Resource Centre (ERC)
9.00 am <mark>Seminar</mark>	Synthetic Enzymology for Human and Planetary Health: Biomanufacturing in an Impending BioEconomyImage: Construction Assoc Professor Yew Wen Shan Department of Biochemistry, Yong Loo Lin School of MedicineImage: Construction Yew Wen Shan
10.30 am Break	Break
11.00 am Seminar	 Problem-solving "Rough Rapid Right" Assoc Professor Chai Kah Hin, Department of Industrial Systems Engineering & Management, College of Design and Engineering № Ngee Ann Kongsi Auditorium, ERC
12.30 pm	Lunch – Explore NUS and Get Your Own Food P NUS Canteens
1.30 pm Seminar	 Innovating Learning and Research at NUS Libraries Assoc Professor Natalie Pang, Department of Communications and New Media, Faculty of Arts & Social Sciences
3.30 pm Visits	 Lab visit Block 71 STDCT (Sustainable Tropical Data Centre Testbed) Library Material Lab Augmented Human Lab Students will be arranged in groups, with each group led by NYFP facilitators for guided laboratory tours.

DAY 2

25 June 2025 WED

	8.00 am	Breakfast P The Linkbridge at University Hall
SAMME	9.00 am Seminar	Al and Robots in Our Uniquely Human World: A Psychological Perspective Professor Sam, Yam Kai Chi, Department of Management and Organisation, Business School V University Hall Auditorium
	10.30 am Break	Break
	11.00 am Seminar	The Medicinal Chemistry of Platinum- based Anticancer ComplexesProfessor Ang Wee Han, Department of Chemistry, Faculty of Science♀ University Hall Auditorium
	12.15 pm	Lunch – Explore NUS and Get Your Own Food P NUS Canteens
	1.15 pm Visit	 Visit Gardens by the Bay ✓ 1.15pm - 1.30pm: Board Bus @UHall pick-up point, depart for Gardens by the Bay ✓ Entry to the Flower Dome and Cloud Forest is not included. If you wish to enter, tickets can be purchased online: www.gardensbythebay.com.sg. ♀ Gardens by the Bay
	4.00 pm Free and Easy	Explore Singapore at Your Own Pace Return to UTown on your own time and transport
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26 June 2025 THU

8.00 am	Breakfast P The Linkbridge at University Hall
9.00 am Workshop	 3 Minutes Thesis Dr Rafi Rashid, Senior Lecturer, NUS Graduate School (NUSGS) & the Centre for English Language Communication (CELC) ♀ University Hall Auditorium
10.30 am Break	Break
11.00 am Workshop	 Discover Musical Worlds Through Al Music Creation Mr Francis Tan, NUS Wind Symphony, Yong Siew Toh Conservatory of Music ✓ Please bring: Laptops/tablets and earphones/headphones ✓ University Hall Auditorium
12.30 pm	Lunch – Explore NUS and Get Your Own Food P NUS Canteens
1.30 pm Seminar	Developing the Best Nanopasta Medicine Recipe to Eliminate Cancer Asst Professor Tay Kah Ping, Andy, Department of Biomedical Engineering, College of Design and Engineering ♀ University Hall Auditorium
3.30 pm Visits	 Lab visit National Centre for Engineering Biology Singapore Hybrid-Integrated Next-Generation µ- Electronics (SHINE) Centre SDE 4 (the first net-zero energy building in Singapore) Advanced Robotics Centre Sustainable Smart Systems (S3) Laboratory

DAY 4

27 June 2025 FRI

8.00 am	Breakfast P The Linkbridge at University Hall
9.00 am <mark>Seminar</mark>	Solar Technologies for Sustainable Energy-Water-Electronics Nexus Professor Ho Ghim Wei, Departments of Electrical and Computer Engineering/ Materials Science and Engineering, College of Design and Engineering
10.30 am Break	Break
11.00 am Seminar	 Design with Asst Prof Kim Frederick Chando, Department of Architecture, College of Design and Engineering ♀ University Hall Auditorium
12.30 pm	Lunch & Project Preparation P The Linkbridge at University Hall
2.00 pm Competition	Poster Competition Provide at University Hall
3.00 pm Presentation	Group Presentation for Selected Posters 15 minutes each ? University Hall Auditorium
4.00 pm Talk	 Fireside Chat with NUS President Professor Tan Eng Chye, President of the National University of Singapore Group Photo Taking ♀ University Hall Auditorium
5.00 pm Closing	Award Ceremony and Closing Ceremony Photo booth and light refreshments will be provide <i>Q</i> University Hall Auditorium

DAY 5



SPEAKERS' PROFILES

Professor Tan Eng Chye

President, National University of Singapore (NUS)

Professor Tan Eng Chye is the University's 5th president, and the 23rd leader to head Singapore's oldest higher education institution.

Prof Tan obtained his Bachelor in Mathematics (First Class Honours, 1985) at NUS and his PhD (1989) at Yale University. He joined NUS as a faculty member in the Department of Mathematics in 1985, as a Senior Tutor, and has held visiting positions at various leading universities such as the University, **Rutgers** University of Washington at Seattle, University of California at Berkeley and University of Maryland, USA; Universities of Tokyo and Kyoto, Japan; as well as the Hong Kong University of Science and Technology.

Prof Tan's research interests are in the Representation Theory of Lie Groups and Lie Algebras; and Invariant Theory and Algebraic Combinatorics. He has been invited to speak in numerous top global conferences, and has published more than 20 articles in top internationally-refereed journals and conference proceedings. He co-authored books has three on mathematics, includina а well-known graduate text on non-Abelian harmonic analysis.



Prof Tan is a passionate and award-winning educator. As a pioneer architect of the current academic system and interdisciplinary educational approach in NUS, he has seeded many initiatives such as the Special Programme in Science, University Scholars Programme, University Town Residential College Programme, Grade-free Year, and Technology-enhanced Education.

Professor Ang Wee Han

Associate Provost (NUS Multidisciplinary and Interdisciplinary Masters' Programmes), NUS; Vice Dean (Special Duties), Faculty of Science; Department of Chemistry, FOS

Professor Ang graduated from Imperial College, UK in 1995 with BSc (Hons) First Class under the Singapore Armed Forces Merit Scholarship to serve in the navy. He retired from service in 2003 and returned to academia to pursue his PhD studies at EPFL, Switzerland under the supervision of Paul Dyson. He then moved to MIT, US as a postdoctoral research fellow in the laboratory of Stephen Lippard, where he studied the effects of Pt-DNA adducts RNA on transcription. He joined NUS in 2009 to embark on his independent academic career and has been there since. Prof Ang is currently the Associate Provost as well as the Vice Dean in the Faculty of Science. He is also a faculty member in the NUS Integrated Science and Engineering programme. Prof Ang has authored and co-authored over 100 research articles, 5 reviews and book chapters.



Professor Ho Ghim Wei

Associate Provost (Academic Affairs); Departments of Electrical and Computer Engineering/ Materials Science and Engineering, College of Design and Engineering

Professor Ho Ghim Wei is currently the Associate Provost of Academic Affairs and a Provost's Chair professor of the National University of Singapore (NUS). She leads the Sustainable Smart Solar Systems research group, which focuses on fundamental and applied research in nanosystems, involving emerging low dimensional nanomaterials, interfacial interactions and hybridized functionalities for environment, energy, electronics and healthcare.

She has co-authored more than 200 papers in the international refereed journals. She was recognized as a Clarivate Highly Cited Researcher in 2023 in the Cross Field category. She was an elected Scholar at Selwyn College, University of Cambridge and has been a Cambridge Commonwealth Society Fellow since 2006. She is also a Fellow of the Royal Society of Chemistry (FRSC). Her accolades include the L'OREAL UNESCO for Women in Science Fellowship in 2014, the JCI's Ten Outstanding Young Persons (TOYP) Award in the Science and/or Technological Development category in 2015, the Great Women of Our Time in Science & Technology in 2016, and the ASEAN-US Science Prize for Women in 2016.



Additionally, she serves as an Associate Editor for journals such as Journal of Materials Chemistry Advances Α. Materials and and EcoEnergy is on the EditorialAdvisory Boards of Advanced SustainableSystems, ChemPlusChem, Advanced Technologies, Materials ChemNanoMat, Next Energy and Nano Trends.

Professor Yam Kai Chi, Sam

Head of Department; Department of Management and Organisation, Business School

Sam Yam is the Jardine Cycle & Carriage Chair Professor at the National University of Singapore (NUS) Business School where he also serves as Head for the Department of Management and Organization. Sam's research focuses primarily on the future on work, examining how employees and consumers react to new technologies such as robots, AI, algorithms, and autonomous vehicles. He received his Ph.D. in Organizational Behavior from the University of Washington.



Assoc Professor Chai Kah Hin

Associate Provost (master's programmes and lifelong education), NUS; Vice Dean (Graduate Programmes), College of Design and Engineering; Department of Industrial Systems Engineering & Management, CDE

Prof. Chai Kah Hin is currently an Associate Professor at the National University of Singapore (NUS) Department of Industrial Systems Engineering and Management. His research and teaching interests centre on new product management and innovation, new services development and innovation, knowledge management, and energy efficiency.

He has authored multiple journal articles, including his paper on "Organizational Adoption of New Service Development Tools", which won the much-coveted Highly Commended Paper Award. His work has appeared in journals, such as the Journal of Product Innovation Management, IEEE Transactions on Engineering Management, Technovation, and Journal of Service Research. Prior to joining NUS, he worked in the semiconductor manufacturing and management consulting industries.



Prof Chai obtained his Ph.D. in International Manufacturing in 2000 from the University of Cambridge. He likewise holds an MSc degree in Manufacturing Management from the University of South Australia and a BEng Electrical Engineering degree from the University of Technology Malaysia.

Assoc Professor Low Kian Hsiang

Associate Vice President (Artificial Intelligence), NUS; Department of Computer Science, School of Computing

Dr. Bryan Low is an Associate Professor of Computer Science at the National University of Singapore, the Director of AI Research at Al Singapore, and the Deputy Director of NUS AI Institute. He obtained the B.Sc. (Hons.) and M.Sc. degrees in Computer Science from National University of Singapore, Singapore, in 2001 and 2002, respectively, and the Ph.D. Electrical degree in and Computer Engineering from Carnegie Mellon University, Pittsburgh, Pennsylvania, in 2009. His research interests include probabilistic & automated machine learning, planning under uncertainty, and multi-agent/robot systems.

Dr. Low is the recipient of the (1) Andrew P. Sage Best Transactions Paper Award for the best paper published in all 3 of the IEEE Transactions on Systems, Man, and Cybernetics - Parts A, B, and C in 2006; (2) National University of Singapore Overseas Graduate Scholarship for Ph.D. studies in Carnegie Mellon University (CMU) in 2004-2009; (3) Singapore Computer Society Prize for Best M.Sc. Thesis in School of Computing, National University of Singapore in 2003; and (4) Faculty Teaching Excellence Award in School of Computing, National University of Singapore in 2017-2018.



Dr. Low was the top 5% reviewer for ICML 2019, top 33% reviewer for ICML 2020, and an expert reviewer for ICML 2021.

Assoc Professor Suranga Nanayakkara

Director, Centre for Holistic Inquiry into Lifelong Learning (CHILL) Department of Information Systems & Analytics, School of Computing

Suranga Nanayakkara is an Associate Professor at the Department of Information Systems & Analytics, School of Computing, National University of Singapore (NUS). Before joining NUS, Suranga worked as an Associate Professor at Auckland Bioengineering Institute, University of Auckland. Prior to that, he was with the Singapore University of Technology and Design (SUTD) as an Assistant Professor and was also a Postdoctoral Associate at the MIT Media Lab.

He received his PhD in 2010 and BEng in 2005 from the National University of Singapore. In 2011, he founded the "Augmented Human Lab" to explore ways of designing intelligent human-computer interfaces that extend the limits of our perceptual and cognitive capabilities.

Suranga is a Senior Member of ACM and has taken on a number of roles, including General Chair of the Augmented Human Conference in 2015. He has also served on many review and program committees, including SIGCHI, TEI, and UIST. With publications in prestigious conferences, demonstrations, patents, media coverage, and real-world deployments,



Suranga has demonstrated the potential of advancing state-ofthe-art technology in assistive human-computer interfaces. For the totality and breadth of his achievements, he has won many awards, including MIT Tech Review's Young Inventor Under 35 Award (TR35) in the Asia Pacific region, the Outstanding Young Persons of Sri Lanka (TOYP) Award, and the INK Fellowship 2016.

Assoc Professor Natalie Pang

Head of Department; Department of Communications and New Media, Faculty of Arts & Social Sciences

Natalie Pang (PhD) is Head and Associate Professor in the Department of Communications and New Media, and concurrently University Librarian at NUS Libraries at the National University of Singapore. Her research lies at the intersection of technology and society, and her research projects are organised under the themes of digital citizenship, inclusion and well-being. Prior to joining academia, she worked on research projects as a consultant in The Gallup Organisation. Her mix of industry and academic backgrounds informs her translational research and advisory work with government and intergovernmental agencies, tech companies and non-profits. She serves as a member of the Media Literacy Council and the Heritage Advisory Panel in Singapore and internationally, she serves as an expert member of the UNESCO Inclusive Policy Lab, a member of the Safety Advisory Council at TikTok, and a member of the Cambridge Library Advisory Board.



Assoc Professor Yew Wen Shan

Head of Department; Department of Biochemistry, Yong Loo Lin School of Medicine

Associate Professor Yew Wen Shan is the Head of Department of Biochemistry at the National University of Singapore Yong Loo Lin School of Medicine. His other academic appointments include Assistant Dean (Graduate Studies), Deputy Director of the NUS Synthetic Biology for Clinical and Technological Innovation (SynCTI), Deputy Director and Research Director of the Svnthetic Biology Translational Research Programme, and Director of the HH@NUS SINERGY Laboratory. He is the current President of the Singapore Society for Biochemistry and Molecular Biology, and a Council Member of the Singapore National Academy of Science. He trained as а mechanistic enzymologist with Professor John A. Gerlt from the University of Illinois at Urbana-Champaign, laying the foundation for his career as a biochemistry professor and synthetic biology researcher.

His current and future research is centred on expanding the multi-faceted interface between enzymology, biological chemistry and synthetic biology, in an area he terms "synthetic enzymology". In particular, his



research is focused on the use of structural and mechanistic enzymological knowledge for protein engineering (exploring, defining and modulating substrate specificities), biotransformation, biocatalysis, therapeutic development metabolic diseases. (against infectious diseases, cancer and bioremediation ageing), (towards urban sustainability) and impactful maintenance of planetary health.

Asst Professor Kim Frederick Chando

Department of Architecture, College of Design and Engineering

Frederick Chando Kim is an architect. researcher, and educator based in Singapore, servina as an Assistant Professor in Computational Design at the Department of Architecture in the College of Design and Engineering, National University of Singapore. His research focuses on the generative and analytical possibilities of machine learning in architectural form. Frederick pursued his doctorate at the Media x Design Lab at EPFL, where his thesis was nominated for the EPFL Research and City of Lausanne prizes. He previously taught at the School of Architecture and Computer Science at EPFL and was a Junior Faculty member at ETH Zürich. He has conducted workshops at ETH Singapore, SUPSI in Mendrisio, and D-lab at Kyoto Institute of Technology.

Frederick holds a Master of Architecture from Harvard GSD and a Bachelor of Science in Art and Design from MIT. He co-leads Creative Data Critical Design with Mikhael Johanes, exploring innovative ways of using data for architectural and urban design approaches. His professional experience includes work with Convergeo in Lausanne, AGPS Architecture in Zürich/Los Angeles, Safdie Architects in Cambridge, Massachusetts, SOM San Francisco, and Gensler Los Angeles. He co-"Artificial curated the Architecture" exhibition and symposium at EPFL Pavilions.



His work on Artificial Swissness "Design Brain," was featured at the Seoul Biennale of Architecture and Urbanism. His project collaborative "Alpine Shelter Skuta" in the Slovenian Alps earned an AIA New England Design Honor Award and a nomination for the EU Mies Award. He co-authored the journal paper "On GANs, NLPs and Architecture," which won the ACSA Best Article Award. He was also a recipient of the Young CAADRIA Award.

Asst Professor Tay Kah Ping, Andy

Department of Biomedical Engineering, College of Design and Engineering

Andy Tay graduated in 2014 from NUS with a First-Class Honours in Biomedical Engineering. He later headed to the University of California, Los Angeles for his PhD studies and graduated in 2017 as the recipient of the Harry M Showman Commencement Award. Andy next received his postdoctoral training at Stanford University before heading to Imperial College London as an 1851 Royal Commission Brunel Research Fellow. He is currently a Presidential Young Professor in NUS.

Andy is a recipient of international awards including the Interstellar Initiative Early-Career Faculty Award, Christopher Hewitt Outstanding Young Investigator Award, Terasaki Young Innovator Award. He is listed as a 2019 Forbes 30 Under 30 (US/Canada, Science), 2020 World Economic Forum Young Scientist, 2020 The Straits Times '30 and Under' Young Singaporeans to Watch and 2022 Top 2% Scientist in the World by Stanford University.



Dr Amirhassan Monajemi

Senior Lecturer, Department of Computer Science, School of Computing

Dr Amirhassan Monajemi is a Senior Lecturer with the School of Computing, National University of Singapore (NUS). Before joining the NUS, he was with the Faculty of Computer Engineering, University of Isfahan, Iran, where he was serving as a professor of AI, Machine Learning, and Data Science. He was born in 1968 in Isfahan, Iran. He studied towards BSc and MSc in Computer Engineering at Isfahan University of Technology (IUT), and Shiraz University, both in Iran, respectively. He got his PhD in computer engineering, pattern recognition and image processing, from the University of Bristol, Bristol, England, in 2005. His research interests include AI, Machine Learning, Machine Vision, IoT, Data Science, and their applications.

He has taught artificial intelligence courses, including AI, Advanced AI, Expert Systems, Decision Support Systems, Neural Networks, and Cognitive Science since 2005 at both undergraduate and postgraduate levels. He was awarded the best university teacher of the province in 2012. He also has studied Learning Management Systems, E-Learning, and E-Learning for workplaces since 2007. Dr. Monajemi has registered a few patents in the fields of AI, Machine Vision, and Signal Processing applications, including an AI and vision-based driver machine drowsiness detection system and a low power consuming spherical robot.



He also has published more than a hundred research papers in peerreviewed, indexed journals and international conferences (IEEE, Elsevier, Springer, and so on), and supervised several Data Science, IoT, and AI industrial projects in various scales, including Isfahan intelligent traffic system delivery and testing, and red light runners detection.

Dr Rafi Rashid

Senior Lecturer, NUS Graduate School Associate Director of Studies, Tembusu College

Dr Rafi Rashid is a Senior Lecturer in the NUS Graduate School. He holds a PhD in Biophysics & Bioengineering and a BSc (Hons) in Life Sciences. He has two broad areas of research: mechanisms of antimicrobial resistance (AMR) in bacteria and strategies for enhancing PhD education.

He has published papers on the role of lipids in mediating AMR in Enterococcus faecalis, rethinking PhD education in the 21st century, and desiderata for interdisciplinary graduate teaching.

He has forthcoming book and encyclopaedia chapters titled "Blended Learning and Interdisciplinarity" and "Interdisciplinary Doctoral Education", respectively. He is Coordinator of the NUS Three Minute Thesis (3MT) programme, a collaboration between NUS Graduate School and the Centre for English Language Communication dedicated to preparing PhD students for the annual 3MT competition at the NUS, Singapore, and international levels.



Mr Francis Tan

Music Director, NUS Wind Symphony Resident Conductor, NUS Centre for the Arts

Francis Tan is a conductor and educator dedicated to shaping the next generation of musicians through meaningful artistic and leadership experiences. He is Music Director of the NUS Wind Symphony and Resident Conductor at the NUS Centre for the Arts, where he also teaches conducting, collaborative music-making, and the practice of performing arts.

Francis is passionate about connecting diverse communities through music. Working with ensembles like Orchestra of the Music Makers and Westwinds, he designs performances that invite audiences, especially those outside traditional concert halls, into meaningful experiences with classical music. His commitment to youth development led him to co-found the Youth Arts Leaders Conference—now in its eighth year—which brings together young people from diverse backgrounds to develop leadership through collaborative music-making and creative expression. He has presented internationally on ways to achieve ensemble flow collaboratively (Oxford Conducting Institute) and on technology's role in expanding access to the arts (ASEAN University Network).



PRE-DEPARTURE PREPARATIONS

For participants in the NUS Young Fellowship Programme traveling to Singapore, here are some pre-departure preparation items to consider:



Travel Insurance

It is highly recommended to have travel insurance that provides coverage for medical emergencies, trip cancellation or interruption, and loss or theft of belongings. Ensure that the insurance policy covers the duration of your stay in Singapore.



Visa

Check if you need a visa to enter Singapore. The visa requirements vary depending on your nationality and the purpose of your visit. Visit the website of the Immigration & Checkpoints Authority of Singapore to determine if you require a visa and the application process.



Language

The official languages in Singapore are English, Malay, Mandarin, and Tamil. English is widely spoken and used for official communication.



Currency

The currency in Singapore is the Singapore Dollar (SGD). It is advisable to exchange some currency before your departure or upon arrival in Singapore. You can also use credit cards, which are widely accepted in most establishments.



Weather

Singapore has a tropical climate with high humidity and warm temperatures year-round. Pack lightweight, breathable clothing and bring an umbrella for frequent rainfall.



Electricity and Voltage

Singapore uses the Type G electrical plug, which has three rectangular prongs. The standard voltage is 230V, and the frequency is 50Hz. If your electronic devices use a different plug type or voltage, you may need a travel adaptor or voltage converter.



PRE-DEPARTURE PREPARATIONS



Phone Call

If you plan to use your mobile phone for local calls within Singapore, check with your mobile service provider to ensure that your phone is compatible with international roaming. Be aware that international roaming charges can be costly. Alternatively, you may consider purchasing a local SIM card upon arrival in Singapore, which can provide you with a local phone number and affordable rates for calls within the country.



Mobile Data

If you require internet access outside of the NUS campuses or when you are exploring Singapore, you can choose to activate a local mobile data plan. Singapore has excellent network coverage, and major telecommunication providers offer prepaid SIM cards with data plans that cater to various needs and durations. These SIM cards can be purchased at convenience stores, electronics shops, or at the airport upon arrival.



Internet Connectivity

WiFi is available on the NUS campuses, which can be convenient for accessing the internet on your personal devices. You can connect to the WiFi network using the provided login details or credentials. However, it is a good idea to have a backup plan in case of any connectivity issues or when you are off-campus.



Laptop & Earphones

Bring along your laptop and earphones, as they would be valuable tools to aid you in conducting research on the workshop topics and facilitating project discussions. It will enable you to access online resources, collaborate with fellow participants, and engage in hands-on activities.



Attire

Please ensure that you come prepared with suitable clothing for outdoor activities such as lab visits and visits to Gardens by the Bay. Comfortable and smart casual attire is recommended for these activities. Additionally, we advise participants to bring a jacket as the auditoriums may be cool, especially if you will be staying there for long hours. This will help ensure your comfort during indoor sessions and presentations.

TRANSPORT TO ACCOMMODATION & CHECK-IN DETAILS

CHECK-IN/OUT DETAILS

Check-in Date & Duration:22 June 2025, 2.00 pm - 23 June 2025, 8.30 amCheck-out Date & Duration:27 June 2025, 5.30 pm - 28 June 2025, 12.00 pm

ACCOMMODATION ADDRESS

NUS Residential College 4 (RC4) 6 College Avenue East, #01-01, University Town, National University of Singapore, 138614

TRANSPORT TO NUS KENT RIDGE CAMPUS

Participants will need to make their own arrangements to travel to the NUS Kent Ridge Campus, as airport pick-up service will not be provided by NUS.



TRANSPORT TO ACCOMMODATION & CHECK-IN DETAILS

SINGAPORE MRT NETWORK MAP



For more details, please visit

https://www.lta.gov.sg/content/ltagov/en/getting_around/public_transport/rail_network.html

ACCOMMODATION AT THE NUS KENT RIDGE CAMPUS

As part of the programme, we are happy to provide all participants with accommodation on campus. This will help to provide you with convivence and an optimal environment for learning and networking with fellow participants.

You will be staying at Residential College 4, located in the University Town section of our Kent Ridge Campus. Access to RC4 is controlled via key card, which is only available for residents and authorized staff.

Standard Room (Air-conditioned)

Our student hostels offer a variety of amenities, including a bath towel, basic toiletries, shared bathroom facilities, water dispensers, and free Wi-Fi. For guests staying for more than a week, there will be weekly housekeeping services which include basic room cleaning and change of linen. Additionally, please note that our hostels have a strict no-smoking and no-alcohol policy.

For more information you may visit <u>https://uci.nus.edu.sg/ceu/student-hostel/</u>. We also recommend you watch this <u>video</u> to understand more about short-term campus housing.



Shared Bathrooms (Single Gender)



Water Dispenser



Pay-per-use Laundry (bring your own detergent) There is a laundry room on every third floor.

NUS CAMPUS GUIDE

HOW TO ACCESS THE NUS WI-FI

- 1.Connect to the "NUS_Guest" wireless network
- 2.Select Event Login
- 3.Enter Wi-Fi Pin: UARR7S or E1L86Q

Sign in to NUS_Guest : https://nusguest.nus.edu.sg	Sign in to NUS_Guest : https://nusguest.nus.edu.sg
NUS Guest Wi-Fi Registration	Be our GUEST. Be connected.
A complimentary service for all NUS guests	Enter your Wi-Fi PIN and access NUS Guest Wi-Fi
SMS Login 5 days Free Wi-Fi access with the SMS OTP	Enter Wi-Fi PIN 5620 Type the code shown on the left
Singapore (65) * Mobile	Refresh Code
1653 Type the code shown on the left Refresh Code	I agree to the terms of use and proceed Back
I agree to the terms of use and proceed	
A One-Time PIN (OTP) will be sent to the provided mobile number via SMS OR	
Event Login	

NUS CAMPUS GUIDE

NUS CAMPUS MAP

Discover and explore our Kent Ridge Campus on your own. Our campus is well-linked by the efficient NUS Internal Shuttle Bus Service (ISBS). You have the freedom to visit various parts of our campus, such as our faculties and museums. UTown can be reached from other parts of the campus using bus services D1, D2, E or BTC.



NUS CAMPUS GUIDE

NUS INTERNAL SHUTTLE BUS

NETWORK MAP



For more details, please visit https://uci.nus.edu.sg/oca/mobilityservices/getting-around-nus/

EVENT PHOTOGRAPHY/ 3MT VIDEO DISCLAIMER

During the NUS Young Fellowship Programme, National University of Singapore (NUS) may take photographs and videos to document and promote the event. Participants may also have the opportunity to create a 3 Minute Thesis video as part of the programme activities. By participating in the programme and its related activities, you agree to the following:

1. Consent: NUS will make reasonable efforts to obtain consent from participants before taking their photographs, videos, or using their 3 Minute Thesis videos. However, by participating in the programme, you grant NUS the right to use your image, voice, likeness, and the 3 Minute Thesis video you create for promotional and educational purposes, both online and offline.

2.Usage: NUS may use the photographs, videos, and 3 Minute Thesis videos taken or created during the NUS Young Fellowship Programme for various purposes, including but not limited to, publicity, marketing, social media, websites, publications, and presentations. NUS retains the right to edit, modify, or crop the photographs, videos, and 3 Minute Thesis videos as deemed necessary.

3. Ownership: The photographs, videos, and 3 Minute Thesis videos taken or created during the NUS Young Fellowship Programme are the property of NUS and are protected by copyright laws. You may not reproduce, distribute, modify, or use any of these materials without obtaining prior written permission from NUS.

4.Privacy: NUS will handle the collected photographs, videos, and 3 Minute Thesis videos in accordance with the NUS Personal Data Protection Policy. Your personal information will be kept confidential and will not be shared with third parties without your consent, except where required by law.

5. Attribution: When using the photographs, videos, and 3 Minute Thesis videos, NUS will make reasonable efforts to attribute them to the respective participants. However, NUS retains the right to edit, modify, or crop the materials as deemed necessary.

6.Exclusion: If you do not wish for your image, voice, likeness, or your 3 Minute Thesis video to be used by NUS, please inform the event organisers in advance. While NUS will make efforts to respect your request, please note that it may not always be feasible to exclude your materials from promotional or educational materials related to the programme.

7. Release of Liability: By participating in the NUS Young Fellowship Programme and allowing NUS to capture your image in photographs and videos, or create a 3 Minute Thesis video, you release NUS, its employees, agents, and representatives from any liability arising from the use of the materials in accordance with this disclaimer.

If you have any concerns or questions regarding the usage of photographs, videos, or 3 Minute Thesis videos during the NUS Young Fellowship Programme, please contact the event organisers for clarification and assistance.





The National University of Singapore (NUS) is a leading global university located in Singapore. Established in 1905, NUS is Singapore's oldest and largest university, with a rich history of academic excellence and a strong reputation for research and innovation.

NUS offers a wide range of undergraduate and postgraduate programs across various disciplines, including arts and social sciences, business, computing, dentistry, engineering, law, medicine, science, and more. The university is known for its multidisciplinary approach to education, encouraging students to explore different fields and collaborate across disciplines.

With a diverse and vibrant campus community, NUS provides a conducive learning environment that fosters intellectual growth and personal development. Students have access to state-of-the-art facilities, world-class faculty, and a wide range of extracurricular activities, clubs, and societies that cater to their interests and passions.

NUS is committed to nurturing future leaders and contributing to society through cutting-edge research, impactful innovation, and community engagement. The university's research output spans various fields, including biomedical sciences, engineering, sustainability, social sciences, and more, making significant contributions to advancements and discoveries that benefit society.

As a global institution, NUS has established partnerships and collaborations with leading universities and institutions worldwide, offering students opportunities for international exposure and exchange programmes. This global perspective enhances the educational experience and prepares students to thrive in an interconnected world.



CONTACT US

Reach out to us and follow us on our social media to get the latest updates and news on graduate studies in NUS.

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