

issue #130 JUL-SEP 2022

The ALUMNUS

"We deliberately show how problems can be more thoroughly understood when viewed from multiple disciplinary lenses."

PROFESSOR BERNARD TAN [SCIENCE '89], SENIOR VICE PROVOST [UNDERGRADUATE EDUCATION], NUS

CHANNELLING ADVERSITY INTO ACTION

MS ANTHEA ONG
(BUSINESS '90)

LIVING IN A DIGITAL WORLD:

THE GOOD, THE BAD & THE UGLY

IS OUR ONGOING TRYST
WITH TECHNOLOGY A
DOUBLE-EDGED SWORD?

KEEPING AN EYE ON FUTURE REALITIES

AN IDEA THAT HOLDS WATER

DR TAN WEE KEE
(SCIENCE '99) AND
AN INNOVATION THAT
COULD CHANGE HOW
PLANTS ARE GROWN

ON THE WRITE TRACK

MR MYLE YAN TAY
(YALE-NUS '19)

HOW NUS IS PREPARING ITS STUDENTS FOR THE DEMANDS
OF TOMORROW THROUGH GAME-CHANGING TECH TOOLS

KENT RIDGE
ALUMNI
FAMILY DAY

Welcome
Back!

13 AUGUST 2022
(Saturday)

⌚ 10.00am to 2.00pm
(Online)

⌚ 5.00pm to 9.30pm
(NUS University Town)



JOIN US!

Register at

alum.events/KR22

◆ Alumni & Student Performances

◆ Faculty & Hall Reunions

◆ Movie Screening

◆ Student Life Fair

◆ Lifelong Learning Webinars

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Office of
Alumni Relations

FIRST WORD

Dear alumni and friends,

Please join me in congratulating the Class of 2022 and welcoming them to our NUS Alumni family! To the Class of 2022 – our hats off to you for crossing the finishing line!



You are now ready to move to the next exciting phase of your lives. We applaud and celebrate your academic achievements – among your other accomplishments – and look forward to seeing you at some of our many alumni events.

Our cover story in this issue tackles the fundamental and significant changes that Commencement Season has gone through, as well as the many offerings available to support alumni post-graduation. As you begin your career and professional lives, amid the Great Resignation that has impacted workplaces worldwide, I believe many of you will find useful takeaways from this feature article.

Elsewhere in this issue, we invite alumni and students from different backgrounds to discuss the increasingly digitalised world we find ourselves living in. As 63% of the global population – or 5 billion of us – use digital tools and interact with one another online, we are now faced with reimagining every aspect of life in this current era. This was also strongly reflected at the recent *NUS Alumni Leaders Forum 2022*, held on 9 April, that carried the theme of *Reimagining Leadership in the New Normal*. Alumni leaders came together to share and brainstorm new ideas and best practices, discussing the needs of NUS alumni, digital transformation during and beyond COVID-19, and lifelong learning goals.

2022 heralds a fresh start as things begin to open up, and my colleagues and I are boldly conceptualising refreshing ways to double down on lessons learnt across the pandemic. As we welcome more of you back in person, our upcoming signature events, *Bukit Timah Homecoming* and *Kent Ridge Alumni Family Day*, will reflect these lessons learnt – with hybridity and agility.

I look forward to the opportunities to meet and connect with many of you in-person. Please continue to stay vigilant, keep well, and stay safe and healthy, all while we #stayconnected as #OneNUS!

Warmest wishes,

Mr Bernard Toh

(Architecture '84)

Director, Alumni Relations



**SUBMIT YOUR
STORIES TO US!**

Read *The AlumNUS* online at
nus.edu.sg/alumnet/TheAlumNUS!

If you have submissions for
the following, let us know at
alumnihelpdesk@nus.edu.sg:

- ◆ Lifelong Learners Highlight
- ◆ Book Corner



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The *AlumNUS* clinched the following award at APEX 2021:

AWARD OF EXCELLENCE
Magazines, Journals and Tabloids
– Custom Published

For more information or to read *The AlumNUS* online, please visit nus.edu.sg/alumnet/TheAlumNUS.



OFFICE OF ALUMNI RELATIONS
11 Kent Ridge Drive
#05-01 Shaw Foundation Alumni House
Singapore 119244
Tel: (65) 6516-5775

Advisor MR BERNARD TOH (Architecture '84)
Editor MR SAMUEL TAN (Business '03)
Deputy Editor MR BENJAMIN LEE
Editorial Assistant MS TAN LI HUI (Arts and Social Sciences '17)
Production Assistant MS NOREEN KWAN
Publishing Consultant MEDIACORP PTE LTD

THE ALUMNUS

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CELEBRATING TALENT AND INNOVATION AT NUS

NUS, IN PARTNERSHIP WITH CNA, HAS DEVELOPED AN INSPIRATIONAL DOCUMENTARY SERIES, *INNOVATING FOR THE FUTURE*. The series looks at how diverse talents in the university community – each a leader and luminary in his/her own area of expertise – are catalysing positive change in Singapore and beyond. Catch this ten-part series – that delves into topics like ageing, finance and food – to find out how NUS faculty, students and alumni are jointly creating a better world for the future.

Watch the series from 4 May to 29 June on CNA.

Broadcast details:

Every Wednesday at 7pm

Repeat telecasts:

Every Wednesday at 11pm, and every Thursday at 1pm

Video on demand: CNA

(Released 48 hours after broadcast)



Watch the episodes on CNA.



bit.ly/innovating-for-the-future-NUS



Ep 1: Medicine

Yong Loo Lin School of Medicine Dean, Professor Chong Yap Seng's (Medicine '88) research on mothers and children impacts policymaking in Singapore. Associate Professor Allen Yeoh and his team offer hope to kids with leukaemia. Alice Lee Centre for Nursing Studies Assistant Professor Shefaly Shorey (Nursing '13) makes lessons come alive with VR and AI.



Ep 2: Research and Innovation
11 May, 7pm

Ep 3: Entrepreneurship
18 May, 7pm

Ep 4: Environment
25 May, 7pm

Ep 5: Food
1 June, 7pm

Ep 6: Finance
8 June, 7pm

Ep 7: Ageing
15 June, 7pm

Ep 8: Public Health
22 June, 7pm

Ep 9: Education
29 June, 7pm

Special Episode on Entrepreneurship
Telecast details to be shared in Q2 2022

This article was first published on 4 May 2022 on NUS News at news.nus.edu.sg/innovating-for-the-future.

NUS FACULTY OF ARTS AND SOCIAL SCIENCES HONOURS DISTINGUISHED ALUMNI

Five eminent individuals lauded for their contributions towards nation-building, growth of the University and promotion of the arts and social sciences.

IN APRIL, THE NATIONAL UNIVERSITY OF SINGAPORE (NUS) FACULTY OF ARTS AND SOCIAL SCIENCES (FASS) celebrated the achievements of five eminent alumni at the FASS Distinguished Arts and Social Sciences Alumni Awards 2021, in recognition of their distinguished scholarship and outstanding service to the Faculty, the University and Singapore.

The Awards were established in 2015. 2021's award recipients include Singapore's Ambassador to Japan, Mr Peter Tan (Arts and Social Sciences '92); Minister for Communications and Information and Second Minister for Home Affairs, Mrs Josephine Teo (Arts and Social Sciences '91); Resident Playwright of The Necessary Stage, Mr Haresh Sharma (Arts and Social Sciences '90); Mayor of Central Singapore District, Ms Denise Phua (Arts and Social Sciences '83); and former Secretary-General of the Workers' Party, Mr Low Thia Khiang (Arts and Social Sciences '81).

These outstanding recipients have also achieved excellence in various fields locally and internationally, which has contributed to

the betterment and promotion of the arts and social sciences. Typically held annually, the 2021 awards ceremony was postponed to this year due to the COVID-19 pandemic.

NUS President Professor Tan Eng Chye (Science '85) said, "I would like to convey my heartiest congratulations to the five outstanding FASS alumni award recipients. These five individuals have contributed to Singapore in distinctive ways, and their passion, perseverance and pursuit of excellence serve as an inspiration to current and future generations of FASS students. NUS is proud to have them as our alumni, and I hope they will continue to maintain close ties with their alma mater and with FASS. There is much we can do together, to nurture and inspire the next generation of Singaporeans to realise their potential."

Professor Lionel Wee (Arts and Social Sciences '88), Dean of the Faculty of Arts and Social Sciences, added, "The recipients of the FASS Distinguished Arts and Social Sciences Alumni Award 2021 have all played pivotal roles both in Singapore and internationally. Be it through the arts, shaping

of policies, diplomatic relations or community engagement, our alumni award recipients epitomise the FASS quality of being of service to the wider community. We are extremely proud of their achievements."

RECIPIENTS OF THE FASS DISTINGUISHED ARTS AND SOCIAL SCIENCES ALUMNI AWARD 2021

MR PETER TAN

Mr Peter Tan graduated with a Bachelor of Arts (Honours) in Japanese Studies from NUS in 1992. He was appointed Singapore's Ambassador to Japan in September 2019. Prior to this, he served as Deputy Secretary for Southeast Asia and ASEAN in the Ministry of Foreign Affairs (MFA) from January 2015 to September 2019. Mr Tan was Singapore's Ambassador to the Republic of Korea (concurrently accredited to Mongolia) from February 2011 to January 2015. Since joining the MFA in 1992, he has served in various capacities on issues related to Southeast Asia, Northeast Asia, Europe, Australia, New Zealand and the Pacific, the United Nations and Technical Cooperation. Mr Tan was awarded the Public Administration Medal (Silver) in 2008.

MRS JOSEPHINE TEO

Minister Josephine Teo graduated with a Bachelor of Social Sciences (Honours) in Economics from NUS in 1991, winning several honours including the Rachel Meyer Book Prize for being the Best Woman Student. She was appointed Minister for Communications and Information and Minister-in-charge of Smart Nation and Cybersecurity on 15 May 2021. She is also a member of the National Jobs Council and the Future Economy Council, and has been concurrently the Second Minister for Home Affairs since May 2018. Formerly the Minister for Manpower from May 2018 till May 2021, Mrs Teo also previously served

in the Prime Minister's Office as well as the Finance, Transport and Foreign Affairs ministries. A Member of Parliament (MP) since 2006, she was formerly Chairman of the Government Parliamentary Committee for Education and Assistant Secretary-General of the National Trades Union Congress.

MR HARESH SHARMA

Mr Haresh Sharma graduated with a Bachelor of Arts (Honours) in English Language and English Literature from NUS in 1990. Since becoming Resident Playwright of The Necessary Stage, he has written more than 120 plays which have been staged in over 20 cities. He has also written for the National Day Parade as well as the Opening and Closing Ceremonies of the Southeast Asian Games (2015). His play, *Off Centre*, was the first Singapore play selected by the Ministry of Education as a Literature text for the GCE N- and O-Levels. Mr Sharma is the first non-American to be awarded the prestigious title

of Goldberg Master Playwright by New York University's Tisch School of the Arts in 2011. In 2014, he was conferred the Southeast Asian Writers Award (Singapore), which recognises and honours literary excellence in the ASEAN region. He was awarded the Cultural Medallion in 2015.

MS DENISE PHUA

Ms Denise Phua graduated with a Bachelor of Arts in English Language and Political Science from NUS in 1983. The Mayor of Central Singapore District and MP for Jalan Besar Group Representation Constituency (GRC), she is best known for her advocacy for those at risk of being left behind in Singapore. One of the key architects behind three 5-year Enabling Masterplans for the Disabled in Singapore, she is also the President of the Autism Resource Centre (Singapore) and Chairman of the Autism Association Singapore. She is Vice-Chairman of the Eden School board and supervises the Pathlight School – Singapore's first autism

special school which she co-founded. She is a member of the Government Parliamentary Committees for Education, and Social and Family Development.

MR LOW THIA KHIANG

Mr Low Thia Khiang graduated with a Bachelor of Arts (Honours) in Chinese Studies from NUS in 1981. He is a Singaporean former politician who served as Secretary-General of the Workers' Party between 2001 and 2018. First elected as the MP for Hougang Single Member Constituency during the 1991 General Election, he became Secretary-General of the Workers' Party on 27 May 2001. Mr Low stepped down as the MP for Aljunied GRC prior to the 2020 General Election, making him Singapore's longest-serving opposition MP with 29 years in service.

Please refer to the **Annex** for more information on the award recipients.



This article was first published on 29 April 2022 on NUS News at news.nus.edu.sg/nus-faculty-of-arts-and-social-sciences-honours-distinguished-alumni-2021.



From left to right: Professor Lionel Wee (Dean, NUS Faculty of Arts and Social Sciences), Mr Haresh Sharma, Mr Peter Tan, Professor Tan Eng Chye (NUS President), Mrs Josephine Teo, Mr Low Thia Khiang, Ms Denise Phua, Mr Bernard Toh (Director, NUS Alumni Relations).

NUS CARES

NUS Day of Service (DOS) is now a year-long movement called **NUS Cares!** Expanded from a single-day event to a year-long platform for the NUS community to champion or volunteer in meaningful initiatives, find out more about how you can reach out and give back to society at alumnet.events/DOS



Answering the Call to Action

As a leading global university based in Asia and Singapore's flagship university, NUS is committed to advancing sustainable development and contributing to the fight against climate change.

BUILDING ON ITS LONG-STANDING INVOLVEMENT IN SUSTAINABILITY AND LEVERAGING ITS VAST INTELLECTUAL RESOURCES ACROSS ACADEMIC DISCIPLINES,

NUS established the University Sustainability and Climate Action Council in 2021 to coordinate and scale up its green programmes and initiatives across its key pillars of education, research and campus operations. The Council — chaired by NUS President and composed of faculty and staff from different specialisations — guides and shapes policies and programmes on how the University equips graduates with future-ready skills, generates new knowledge and develops a climate-resilient campus.

INNOVATION-INSPIRED RESEARCH EXCELLENCE

Acknowledging the complexity of climate science and sustainability, NUS researchers conduct high-quality inter-disciplinary research to create new knowledge and develop sustainability solutions optimised for tropical, urban and Asian settings to meet the needs of increasingly urgent, yet multifaceted global challenges. The University has identified the following priority research domains:

- **Green Energy Technologies:** solar, waste-to-energy, energy efficiency, energy storage, green hydrogen fuel production, carbon capture, storage and utilisation
- **Urban Heat Resilience:** smart cooling, climate-sensitive design of the urban environment, heat stress and associated strategies
- **Coastal Engineering and Flood Prevention:** tracking sea level rise, modelling of coastal flooding, flood prevention and coastal protection
- **Nature-based Climate Solutions:** protecting and better managing natural ecosystems, informing climate policies and strategies

- **Agri-food Technology:** urban agriculture and aquaculture solutions, AI and IoT for agri-food applications, biotechnology for sustainable food production
- **Water Treatment and Purification:** catchment management, water monitoring and treatment, water reclamation, seawater desalination, energy and resource recovery

CAMPUS GROUNDS – RESPONSIBLE STEWARDSHIP & LIVING LAB

NUS is taking responsibility for its environmental footprint, and developing a climate-resilient and resource-efficient campus for the future. The Campus Sustainability Roadmap 2030 comprises three key programmes:

- **Carbon Neutral Campus:** to achieve carbon neutrality by 2030, contributing to Singapore's national target to peak emissions by 2030
- **Cool NUS:** to develop a biophilic and environmentally-sensitive campus to cool ambient temperature and mitigate the urban heat island effect
- **Zero Waste NUS:** to become a zero-waste campus and divert 90% of campus waste away from incineration plants by significantly increasing reuse and recycling

NUS is also using its campus grounds as a living laboratory to test-bed institution-led technologies and create innovative learning experiences for its students and staff.

Examples of on-campus projects include:

- **SDE4,** the first new-build net-zero energy building in Singapore that is energy-efficient and environmentally-friendly, with a suite of innovative building strategies to improve the comfort and well-being of building users

- **Keppel Infrastructure-NUS Low Carbon Living Laboratory** to jump-start smart grid, clean power, renewables and sustainable environmental technology solutions
- **ComfortDelGro-NUS Smart & Sustainable Mobility Living Lab** to research, test and analyse mobility technologies to generate insights for implementation in mass-market solutions
- **"Recycle Right" Bins** to nudge people to recycle right, currently available in the College of Design and Engineering and University Town, and will be rolled out campus-wide

SUSTAINABILITY IN EDUCATION

Sustainability is a multifaceted challenge. It involves policy, supply chain, human capital, research and development, and governance, to name a few. Given its interdisciplinary nature, NUS aims to provide quality education to both its graduate and undergraduate

students, equipping them with either a broad understanding or deep appreciation of sustainability issues.

NUS offers nine bachelor's degree programmes with a sustainability focus, including the Bachelor of Environmental Studies, 12 master's programmes, as well as over 190 undergraduate and 140 graduate modules with sustainability themes. In continuing education, NUS offers programmes with a 360° view on sustainability and climate change, from graduate certificates and executive certificates to short courses and executive education.

Integrating sustainability and climate action in all of NUS' activities is aligned with the University's guiding principles of excellence in teaching, research and innovation, and public service. Collectively, NUS will shape the future of sustainability and climate action in an impactful way.

- Visit sustainability.nus.edu.sg to find out more.



Leading Sustainability and Climate Change: Lessons from the Little Green Dot

Bringing together NUS thought leaders and notable guest speakers, this pan-NUS executive programme aims to provide participants with an appreciation of the macro issues on sustainability and climate change, and to deepen their understanding of the sustainability challenges from the perspective of doing business in Asia. Participants can expect to hear from distinguished speakers on the business of sustainability, participate in discussions with other professionals from business organisations and be exposed to sustainable innovations at NUS.

- Find out more here: nus.edu/3tgbmVh

This article was contributed by the University Sustainability and Climate Action Council Secretariat and NUS School of Continuing and Lifelong Education.



INNOVATION AND CHINA'S GLOBAL EMERGENCE

Edited by Professor Erik Baark, Visiting Research Professor at NUS East Asian Institute; Professor Bert Hofman, Director of NUS East Asian Institute and Professor of Practice at Lee Kuan Yew School of Public Policy; and Dr Qian Jiwei (Arts and Social Sciences '11), Senior Research Fellow, NUS East Asian Institute.

China is working hard to shift to an economy driven by innovation and productivity growth. The global implications of this transition will be significant, given the size of China's economy and the degree of its integration into world trade and global value chains. The degree of scrutiny on the manner and means of transition will likewise be intense, particularly given the rise of technological nationalism and a changing strategic calculus around the world. China is attempting to balance the reliance on overseas sources of technology that has served it so well, with efforts to strengthen purely domestic innovation capabilities, not least as a hedge against the risks of a US-led "decoupling".

In these circumstances, a better understanding of the many different forces of change within China — and the way it responds to outside changes — is essential. The evolution of China's innovation economy will be one of the key economic stories of the early 21st century, and the world will need China as a source of innovation in the decades ahead. The aim of this book is to help build a better framework for policymakers overseas and in China to find a new equilibrium in negotiating the terms of this engagement.

"Bringing together seasoned experts on Chinese science and technology, the book offers exceptionally lucid discussions of issues affecting China's future as a world leader in innovation."

Richard P. Suttmeier, University of Oregon

- Available at **NUS Press** and other local leading bookstores.



As part of NUS Press' efforts to put out more open access, free-of-cost content, the publication is also available at epress.nus.edu.sg/innovationandchina.

HEALTH & WELLNESS

SELF-CARE AND PREVENTIVE HEALTH -
PHARMACISTS SHARE SOME TIPS!

Ms Chung and Mr Tang, in their lab coats, posing for a photo with an alumnus and the organising team from NUS Alumni Relations and the Department of Pharmacy.

SELF-CARE IS THE NEW BUZZWORD, ESPECIALLY IN THE MIDST OF A GLOBAL PANDEMIC. What are some of the good practices one can adopt to live a healthy lifestyle? These queries were answered at the hybrid session of Health and Wellness by Ms Chung Wing Lam (Science '09) and Mr Colin Tang (Science '14), both Clinical Principal Pharmacists at Watson's Personal Care Stores Pte Ltd. Both speakers spoke enthusiastically to the 168 online and



in-person participants on effective medication management, tips on medicine storage and ways to reduce the side effects of medicines. Answering queries from the keen audience, they also shed light on the role of pharmacists in diabetes control, diet enhancements and smoking cessation. This session was organised in collaboration with the Department of Pharmacy, Faculty of Science.

NUS ALUMNI LEADERS FORUM 2022

Reimagining
Leadership
in the New
Normal

NUS ALUMNI LEADERS FORUM (ALF) BRINGS TOGETHER ALUMNI LEADERS AND VOLUNTEERS IN A BIENNIAL EVENT, to share and discuss new ideas and best practices in alumni relations and volunteer engagement. This year's forum, themed *Reimagining Leadership in the New Normal*, hosted 87 invitees, who came together both online and at the Shaw Foundation Alumni House.

These alumni leaders, along with NUS Senior Management and NUS Students' Union (NUSSU) exco members, spent the day passionately discussing and mapping out key actions going



Attendees catching up with one another at the Benefactors' Foyer, Shaw Foundation Alumni House.



A group discussion in one of the breakout rooms.



The Opening Address by NUS President Prof Tan Eng Chye.

forward. This year's ALF also utilised conNectUS – an exclusive networking platform to connect alumni and students – to facilitate networking and discussions throughout the morning. NUS President Professor Tan Eng Chye (Science '85) delivered his Opening Address, outlining the foundations of innovation that took place in the University and the steps needed to shape the future. This was followed by a quick presentation of appreciation plaques to immediate past chairpersons of Alumni Groups, in recognition of the outstanding contributions of these stalwart alumni leaders.

Three masterclasses delivered by three distinguished speakers, Professor Virginia Cha (Navigating Today's Hyper-Connected World with the "AAA Mindset") and Assistant Professor Michael Mai (How to Successfully Lead Your Groups and Teams) from NUS Business School, and Dr Leong Chan-Hoong from Kantar Public

(Neighbourhoods in Singapore: The New Frontier in Diversity Management), anchored the morning's activities. This was followed by group discussions in breakout rooms to address issues faced by alumni leaders, especially during the course of the pandemic.

After regrouping for a sharing session by Mr Samuel Tan (Business '03), Associate Director, NUS Alumni Relations, on conNectUS, participants also heard from NUS' Vice Provost of Masters' Programmes and Lifelong Education, and Dean of the School of Continuing and Lifelong Education (SCALE) Professor Susanna Leong (Law '89), who gave an in-depth overview of "Lifelong Learning and Continuing Education".

To round up the exciting morning, Mr Sonny Yuen (Business '85), Chairman of the ALF Organising Committee, and Mr Bernard Toh (Architecture '84), Director of NUS Alumni Relations,

gave the closing Plenary, summarising the key issues raised in both the masterclasses and group discussions. The participants were then shuttled off to end the morning with a delicious networking lunch at the newly-renovated Techno Edge canteen.



Rounding off the morning with a delicious networking lunch at Techno Edge.



7 September 2022 | Wednesday
7.30pm - 9.00pm



Moderator:
Dr Intan Azura Mokhtar
(Science '98)
Member of NUS Alumni Advisory Board
Founding Chairperson of WoW

Towards a Fairer and
More Inclusive Society

The first ever White Paper on Singapore Women's Development was endorsed unanimously by the Parliament on 5 April 2022. To support the continuous progress of Singapore Women and advance our nation towards a fairer and more inclusive society, the White Paper outlined 25 action plans in five key areas: Equal opportunities in the workplace, recognition and support for caregivers, protection against violence and harm, other support measures for women and mindset shifts.

Join the panel of esteemed alumni speakers and moderator, Dr Intan, for a discussion on what this means for you and I - regardless of gender - and what we can do in our homes, workplaces and community to enable the women around us to be the best that they can be.

Register at
alum.events/WoWsep22



FUTURE-READY WORKSHOPS

Stagflation: What It is; How to Overcome It



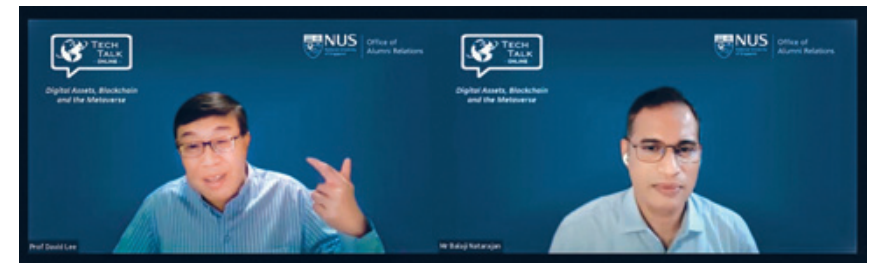
Mr Loo speaking to the international audience from Florence, Italy.

IN A LIVELY ONLINE SESSION OVER ZOOM, Mr Loo Cheng Chuan (Arts and Social Sciences '97), Founder of the 1M65 (\$1 Million By 65 Years Old) Movement, shared his thoughts on the current economic situation, his take on wise investment decisions, and other compelling points to ride out the storm and position for the next rebound. After a quick but in-depth overview, he was quickly inundated by questions from the 695 enthusiastic online audience members, who had logged in from 16 different countries. The questions ranged from those about prices rising against a backdrop of low economic activity, and cushioning the impact of stagflation, to various inquiries about 1M65, Mr Loo's CPF investment strategy.

TECH TALK

DIGITAL ASSETS, BLOCKCHAIN AND THE METAVERSE

IN PARTNERSHIP WITH NUS SCALE, PROFESSOR DAVID LEE, AN EXPERT ADVISOR AT THE ASIAN INSTITUTE OF DIGITAL FINANCE, gave participants a sneak peek into the future of how the Fourth Industrial Revolution will change society and the business world in the May session of Tech Talk. This webinar saw 682 online attendees tuning in from 27 countries to hear Prof Lee discuss trust, security,



Prof Lee (left) and Mr Balaji during the Q&A session.

stability and decentralisation, and demystify the nascent technology of Non-Fungible Tokens, Decentralised Finance and Smart Contracts. Attendees also engaged in a fast-and-furious Q&A session moderated by Mr Balaji Natarajan, Head of PCM Products, Asia, and Lead for Industry and Innovation, International, at ANZ Bank.



Catch up on all our webinars at alum.events/webinars!

The Future of Healthcare

The Ministry of Health recently announced the Healthier SG initiative, to manage the challenges of Singapore's ageing population and improve health outcomes. Join us to learn how NUS will prepare health practitioners to achieve Healthier SG goals.



26 July 2022, Tuesday
7.30pm - 9.00pm
Hybrid



Join us online at:
alum.events/FRjul22



Prof Lau Tang Ching
Senior Consultant
Division of Rheumatology
Department of Medicine
National University Hospital



Speaker:
Dr Ganesh Neelakanta Iyer
(Engineering '09)
Lecturer,
Department of Computer Science,
School of Computing, NUS
16 August 2022 (Tuesday)
7.30pm to 9.00pm



Join us at
alum.events/TSaug22



Technology and Society - Industry Outlook for 2030

The United Nation's Sustainable Development Goals (SDGs) provide a blueprint for people, planet and prosperity. With only eight years to 2030, a deeper, faster and more ambitious response is needed. This session will examine:

- Key technologies that will help accelerate digitisation and drive our efforts to deliver the UN SDGs;
- Trends in technology that will lead us towards a socially, environmentally and economically resilient future;
- The impact of UN SDGs on technology in industries such as maritime, oil and gas, power and renewables, healthcare, and food.

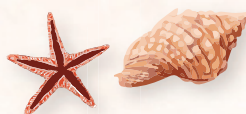
Sherman Dang Xi Heng, a Year 3 NUS School of Computing undergraduate, is one of many NUS students who have overcome various challenges in their personal lives. His family of four had only his mother as the sole breadwinner, and she unfortunately passed away in his third year of studies. Besides having to cope with this loss, he also experienced a radical change in his responsibilities as the eldest able-bodied individual in his family. Read on to learn about his inspiring story.

How has the bursary enabled you to achieve your goals?



When I started my NUS journey, I aimed to improve student life at the university, which I accomplished in my time as a faculty student union leader. The bursary I received helped ease the weight of tuition fees, and I could take part in campus activities instead of having to work part-time to maintain finances. The financial aid had helped to stabilise my family's financial situation, allowing me to stay in school and weather through this troubled time. After my mother's passing, I took time to recover, and am now looking forward to helping students and fresh graduates prepare for life after graduation.

Why do you think giving is important?



I am realistic that philanthropy cannot stamp out every inequality that exists in our system. However, for all students who receive financial aid thanks to the support of donors, philanthropy provides a transformative opportunity for them, and their lives, to beat the system where their circumstances may have failed them. A gift that arrives at the right time, means the world for those who receive it. Let me recount the story of an old man, a young girl and a shore of starfishes:

At the break of dawn, an old man walks along a beach, tides washing in and out. Along the way, he sees a girl picking up something and throwing it into the water. He gets closer and sees the starfishes that had washed up on the shore. One by one, the girl tosses them into the sea, only for the waves to carry more back onto the sand. The old man asks, "What does it matter? You can't save a whole beach of starfishes." The girl stops to consider his words, then picks up another starfish to lob back into the sea. Pointing to the ripple where the starfish landed, she said, "It mattered for that one".

To all NUS donors, thank you for enabling students like me to continue pursuing our studies, and part in enriching campus activities. Many of us do not lack in ability; we are merely held back by our circumstances. Gifts like yours truly help to level the playing field for us, and uplift not only us, but also the people who are counting on us to transform our life trajectory.

AMPLIFY THE RIPPLE EFFECT OF GIVING NOW



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Please check that the QR code leads you to a webpage with a URL that starts with "bbis.nus.edu.sg".



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2. Tap on "Scan & Pay" and scan the PayNowQR code
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Singapore tax residents are eligible for a tax deduction 2.5 times the gift value for gifts received by NUS by 31 December 2022.



BE PART OF OUR FUTURE



Did you know that with a little planning, you can include a gift to NUS within your overall estate or financial plans?

Here are three ways you can make a legacy gift:

Charitable Bequests

Since a charitable bequest can take many forms, you have considerable flexibility. You can leave a specific asset, a specific sum of money, a percentage of your estate or what remains of your estate after you have provided for other beneficiaries. You can designate how you want your bequest to be used or leave it unrestricted so that the University may direct the funds to where it is most needed at the time. Most importantly, you remain in complete control of the bequest process and can change any bequest provision during your lifetime.

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You can nominate NUS as a beneficiary of your CPF monies using a CPF nomination form. Further information and the nomination form can be obtained from the CPF Board Office or the CPF website at www.cpf.gov.sg.

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You can designate NUS as the beneficiary of your insurance policy when the policy is no longer important to you or your family's financial security. Alternatively, you can purchase an insurance policy and name NUS as both the owner and the beneficiary.

✉ If you would like to know more about making a legacy gift to the University, please email legacygift@nus.edu.sg.

INTO THE GREAT UNKNOWN

No one knows what the future holds, except that there is a vast and technology-driven world out there. NUS has done its best to prepare students for a digital, post-pandemic society — and done it well — through the introduction of game-changing tech tools and major reforms focusing on technology subjects.

TEXT BY WANDA TAN

WHAT AWAITS THE GRADUATING CLASS OF 2022 AS THEY ENTER THE WORKFORCE?

The recent easing of COVID-19 safe management measures (SMMs) and reopening of borders suggest that, on some level, a sense of normalcy is being restored. Employees used to working from home are now reacquainting themselves with office life. While some companies are mandating a full return to the office, others are opting for a hybrid work model that leverages video conferencing software and online collaboration tools to allow employees to work remotely part of the time.

This year's NUS Commencement in July — which will be held in person with SMMs such as mask-wearing indoors and verification of vaccination statuses for all graduands and guests — similarly comprises a mix of old and new. Back for the first time since the pandemic began are

ceremonial traditions such as the full academic procession, balloon drop and taking of class photos. "Commencement is one of the most significant milestones for students as it marks the completion of their studies," says Mr R. Rajaram (Affiliate Alumnus '20), NUS Registrar. "A virtual ceremony cannot offer the same experience as a physical ceremony — from wearing the graduation gown and receiving the degree scroll on stage to celebrating the occasion with fellow classmates and loved ones."

That said, the University is also taking a leaf from last year, when it held two Commencement ceremonies — a first-ever virtual one, followed by a pared-down physical event a few months later — for both the Classes of 2020 and 2021. Some online features will be retained, such as YouTube livestreaming of ceremonies and augmented-reality Instagram filters, to enable wider and deeper

participation and engagement. For instance, students can tune in to multiple Commencement sessions live on YouTube and post congratulatory messages to friends from other courses, while relatives living abroad can also watch the e-ceremonies.

No matter the situation, one cannot refute that technology is seeping into almost every aspect of our lives. At NUS, this is evident not only in the shift to an interdisciplinary curriculum — where all undergraduates are taught concepts like data literacy and computational thinking — but also in the increasing use of educational technology (edtech) to promote blended learning and give students greater control over their own learning journeys. These changes lay the groundwork for students to develop digital know-how and adaptability, which will be invaluable once they graduate into the real world.

GOING ALL IN ON EDTECH

From the lockdown during the circuit-breaker period to the pendulum swings between easing and tightening of SMMs, and now to a, hopefully permanent, lifting of COVID-19 restrictions, the Classes of 2020, 2021 and 2022 have endured all the upheavals wrought by the pandemic over the last two-and-a-half years. They had to quickly adjust to home-based learning, accessing Zoom 'live' classes and pre-recorded lectures, and sitting for online proctored exams. As the economy gradually reopened, NUS likewise took a phased approach to resuming campus operations. Students as well as staff had to initially stay within designated zones to prevent cross-infection, and

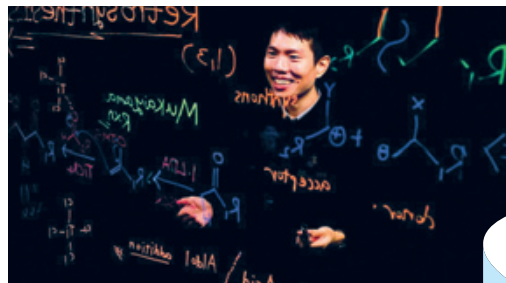


Held last October, the in-person Commencement 2021 ceremonies were livestreamed on YouTube.

hybrid teaching meant that in-person classes were capped at 50 students with the rest joining virtually from home. Only lately have group size limits — including for co-curricular activities (CCAs) — been removed, and unvaccinated individuals are now allowed on campus if their self-swab antigen rapid test (ART) result is negative.

Although these changes were unprecedented, NUS had to some extent already prepared itself for such a crisis. “After the 2003 SARS epidemic, we instituted an e-Learning Week in 2008 to test our readiness in the event of another outbreak,” says Professor Bernard Tan (Science ’89), Senior Vice Provost (Undergraduate Education). Beginning with certain schools and faculties, all classes and assessments were conducted online for one week, with NUS Information Technology (NUS IT) and the Centre for Instructional Technology (CIT) providing the necessary IT infrastructure. The initiative was subsequently extended to the entire University in later years.

As such, when COVID-19 struck in 2020, the impact on teaching and learning activities was manageable. Electronic conferencing and meeting systems as well as video management platforms were already in place. Most faculty members were utilising the campus-wide learning management system LumiNUS for their modules, be it to conduct online quizzes, post class timetables or upload web lectures. Many students were also reliant on LumiNUS to keep track of their assignments and



Top: Lightboards allow presenters to write notes while facing viewers. Above: Earthquake simulation with virtual reality.

deadlines. What the pandemic did was accelerate the adoption of these technologies among the NUS community.

NUS' e-learning needs have since stretched way beyond one week, and CIT's work has concomitantly grown manifold. While university campuses around the world stayed closed, CIT partnered Massive Open Online Course (MOOC)



Edtech is an important supplement to enhance traditional teaching and learning processes. It provides students with easy-to-access information, accelerated learning, and fun opportunities to practise what they learn. It also deepens their understanding of the subject matter being taught.

Mr Ong Chin Hwa,
Director, Centre for
Instructional Technology, NUS

providers such as Coursera and edX to give NUS students free access to MOOCs and encourage remote learning. Then, in anticipation of students' phased return to campus, CIT had to quickly scale the retrofitting and conversion of existing classrooms into hybrid-ready mode. The Centre procured webcams, speaker phones, visualisers and writing tablets for loan to teaching staff. It also set up self-recording studios and a lightboard room, equipped with digital and audio-visual technologies, for the recording of lectures. With CIT's assistance, faculty members became bolder in jazzing up presentation slides with 360° videos, animations, voice-overs and other elements to make their lectures more interesting and engaging.

Other projects spearheaded by CIT include Blended Learning 2.0 and geNiUSworld, both of which were introduced to improve student learning outcomes. Under the former, opportunities to design (or redesign) modules and courses through the flexible and meaningful integration of face-to-face and online instruction are being explored. For example, large lectures involving the one-way dissemination of knowledge (from lecturer to students) could possibly migrate online, while tutorials and labs — where small-group discussions and hands-on learning happen — would remain face-to-face. geNiUSworld is an online repository of multimedia-enhanced e-books and educational videos created by — and shared with — NUS staff and students, thus promoting professional development and peer learning.

Indeed, the University is not merely dabbling in tech-enhanced learning as a temporary solution to COVID-related challenges; it has a more ambitious goal in mind. “COVID-19 has established the fact that the hybrid model is here to stay,” says Mr Ong Chin Hwa (Computing ’91), Director of CIT. “Edtech is an important supplement to enhance traditional teaching and learning processes. It provides students with easy-to-access information, accelerated learning, and fun opportunities to practise what they learn. It also deepens their understanding of the subject matter being taught.”

Out of all the buzzy new edtech tools being piloted at NUS, extended reality might just have the most transformative potential. The Department of Geography recently began using virtual reality (VR) headsets together with a vibrating platform to simulate earthquake scenarios and let students experience what an earthquake feels like. At the Yong Loo Lin School of Medicine (NUS Medicine), those unable to complete clinical postings in 2020 due to COVID-19 restrictions were able to still immerse themselves in an operating theatre scenario through a VR game that taught patient safety and effective communication with

→ BRING IT ON!

Ms Sharlyn Ng (Nursing + Arts and Social Sciences '21) and Mr Vincent Cai (Public Health '21) certainly had an eventful period while studying at NUS. Despite the disruptions, these young alumni made the most of the opportunity in their own ways.

➤ **Ms Sharlyn Ng, 24, a registered nurse at NUH**
“I was in the third year of my Nursing degree when COVID-19 hit in early 2020. At the time, I had been preparing to minor in Economics and was taking one Economics module that semester while attached to the National University Hospital (NUH). It was very tiring to have



to constantly travel between NUS for my Economics classes and NUH for my afternoon shifts, so the move from physical to online classes made things easier for me, especially once my attachment resumed halfway through the semester.

In my final year, I decided to switch my Economics minor to a major, as I could squeeze

in more classes now that everything was online. Aside from learning to cope with Zoom fatigue and getting used to studying alone at home, I didn't have much difficulty adjusting to online classes. I appreciated the fact that I could catch up on Zoom lectures and rewatch recorded tutorials at twice the speed to facilitate my learning,

sometimes while on my way to NUH or during breaks when on shift.

I attended both the online and physical Commencement ceremonies in 2021. The latter was more meaningful, as I had not seen many of my fellow batchmates and friends in person since physical classes stopped the year before. Most of us had already started working as well. It was a rare chance for us all to be together in one place, given the restrictions on social gatherings then.”

➤ **Mr Vincent Cai, 32, a Public Health Officer at MOH**
“I started working at the Ministry of Health's (MOH) Communicable Diseases Division in late 2019, while pursuing my part-time Master of Public Health

degree. My primary job scope was the surveillance, epidemiology and response for droplet-borne diseases such as measles and rubella. But shortly after that, I was redeployed to MOH's COVID-19 Contact Tracing Task Group (now called the Contact Tracing and Epidemiology Centre).

The pandemic went through numerous phases and changes; it felt like we were dealing with a new virus

at each phase. For me, it was an eye-opening experience to witness the emergence of a new pathogen and how the world mobilised to respond to this threat. It made me realise the importance of leadership and clear objectives in balancing multiple goals in an environment that is constantly evolving. Now back in my original job scope, I have expanded into a few other diseases and still assist occasionally with COVID-related matters.

NUS exposes students to a broad worldview and encourages innovation to address future needs. I would advise new graduates to be brave, step out of your comfort zone and take on challenges that stretch your capabilities. You would be surprised by how much we often underestimate our own ability to adapt and grow.”



healthcare professionals. NUS Medicine is now going one step further with a new mixed-reality technology that merges the real and virtual worlds. Using actual tools, medical and nursing students get to practise inserting urinary catheters and intravenous tubes in patients, while being guided by 3D holograms projected from their headsets.

ACROSS THE uNivUS

The growing applications of VR, alongside other edtech tools, in NUS' curricula are a clear indication that the University is well on its way to becoming a 'Smart, Safe and Sustainable' (S3) campus. "With the pandemic, there has been a greater slant on the safety aspect," says Ms Tan Shui-Min (Computing '91 + Business '02), Chief Information Technology Officer at NUS. "We have introduced many solutions to promote safety and also ensure a good user experience." Chief among these is uNivUS — a one-stop mobile app unveiled in April 2020 that connects users to key NUS services and resources, including adherence to SMMs on campus.

Short for 'Uniting NUS Individuals', uNivUS was conceived in 2019 to integrate all the disparate NUS apps into a single platform for better convenience and efficiency. As the pandemic unfolded, NUS IT — in collaboration with the Organisational Excellence Transformation Unit (OETU), within the Office of the President — pivoted quickly and developed new features to support SMMs ahead of the app's launch. The first version of uNivUS was used primarily for daily temperature declaration and access to campus facilities. Subsequent features included (1) overseas

travel declaration, (2) visitor registration, (3) uploading a picture of ART results, with an artificial intelligence (AI) engine that suggests the test result, (4) NUSafe, which notified users if they had crossed zones on campus (until zoning restrictions were lifted in December 2020) and alerts those who have been in close proximity with infected individuals, (5) NextBus Widget, which monitors the arrival times of buses on campus, (6) Crowd Insight, which provides visibility to crowd levels at NUS canteens and libraries, (7) a calendar to keep track of upcoming classes and exams, as well as (8) links to frequently-used NUS services and informational resources.

"Timing offered uNivUS the perfect opportunity to become the de facto mobile platform for the University," says OETU's Director, Mr Roy Tan (Business '15). Another factor behind its successful roll-out is the emphasis on student engagement, he adds. "We want a successful app for students, by students. It's best to collaborate with students to design an app that is both well-received and functional. We do so through channels such as the Telegram student community, engaging student designers and consulting with interns at NUS IT."

Right from the outset, student volunteers were invited to join the project team, where they contributed ideas and gave feedback on early prototypes of uNivUS. Its new-look user interface, refreshed last year, was based largely on their design inputs. Their suggestions were also incorporated into the latest version of uNivUS, released in April 2022. Users can now choose a Dark Mode option to reduce glare and extend the

Timing offered uNivUS the perfect opportunity to become the de facto mobile platform for the University.

Mr Roy Tan, Director, Organisational Excellence Transformation Unit, NUS



APP-SOLUTELY!

To date, uNivUS has:

Onboarded more than **82,000** users

Been "Highly Commended" in the **Gartner Eye on Innovation Awards for Higher Education 2021**

Appeared as a finalist in the 'Technological or Digital Innovation of the Year' category at the **Times Higher Education Awards Asia 2021**

Received the **OpenGov Asia Recognition of Excellence Award 2022** for "being at the forefront of digital transport to improve the quality of service to staff and students"

battery life of their smartphones, or scroll through an Inbox Feed to keep up with campus happenings and bookmark their favourite news.

Ms Tan notes that plans are underway to extend the app to NUS alumni as well. "Beyond the pandemic, we envision uNivUS as a smart personal digital assistant that will serve as the single point of entry to all NUS digital services for everybody related to NUS: students, staff and alumni," she explains. "It will morph and evolve according to each individual's journey with the University. For example, it could nudge students who have omitted a video that their lecturer has asked them to watch, or recommend to alumni lifelong learning opportunities relevant to their careers."

READY FOR THE FUTURE

Notwithstanding its current focus on safety, NUS has not been lying idle in the other S3 dimensions either. The intended customisation of uNivUS to users' individual profiles is one example of smart, user-friendly technologies that the University aims to develop. In more groundbreaking news, NUS embarked on a partnership with StarHub early this year to provide outdoor WiFi on campus using 5G as the backhaul, which complements NUS' existing indoor campus wireless network.

The beauty of this solution is twofold, Ms Tan explains. Using 5G (instead of fibre optic cables) as a conduit removes the need for excavation work and laying of underground pipes, which in turn shaves years off the implementation and lowers construction costs. It is also Singapore's first 100% solar-powered campus WiFi, thus delivering on the sustainability agenda to boot.

With the increased wireless capacity and high-speed connectivity accorded by 5G, the stage is set for NUS to test all kinds of Internet of Things (IoT) applications. Various smart innovations are being tested to see whether they can improve campus facilities management. For instance, security robots and drones are patrolling the campus to detect suspicious objects or activities. Sanitary sensors have also been installed in toilets to monitor variables such as ammonia and occupancy levels, as well as water and soap consumption, to enable a quicker response for cleaning and maintenance work.

At present, 5G network coverage and IoT devices are being deployed within NUS University Town (UTown) as part of a two-year trial. The next step is to roll these out campus-wide, which will hopefully enhance productivity, efficiency and safety. On a related note, NUS' smart campus initiatives are also closely linked to sustainability. Ms Tan shares that work is ongoing to keep the NUS Data Centre a green one, for example, by



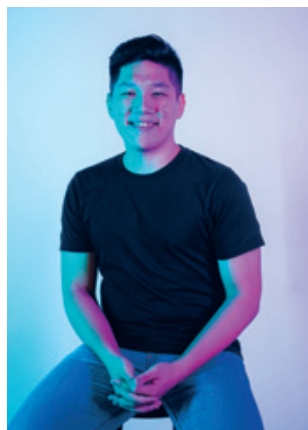
When our students graduate, their experience at NUS will help them bring that same S3 awareness into society.

Ms Tan Shui-Min, Chief Information Technology Officer, NUS

deploying energy-efficient cooling technologies. In addition, moving further into the extended-reality space and offering more virtual or immersive lessons would lead to less dependence on physical space and resources like paper. "So, when our students graduate, their experience at NUS will help them bring that same S3 awareness into society," says Ms Tan.

NUS' digital transformation is picking up steam in other areas too. A major player on the scene is the Centre for Future-ready Graduates (CFG), whose suite of tech tools and resources is designed to help students as well as alumni achieve career success. With its 24/7 virtual career assistant VMock — which utilises AI, machine learning and a sophisticated analytics engine — they can get instant and personalised feedback to improve their resumes and video interview skills. There is also NUS career+, a mobile app that builds a personalised skills profile for users and provides matching job openings. Other newer digital platforms by CFG include Internship-As-A-Service (IAAS) and conNectUS, both launched in January 2022 to prepare students for the working world.

An exclusive professional networking platform for the NUS community, conNectUS brings together



conNectUS is a safe and convenient avenue to exchange ideas, thoughts and advice. Through the platform, alumni like me can easily stay connected to our alma mater and pay it forward to juniors. I've also reached out to other NUS alumni on the forums for advice on my own career decisions.

Mr Charles Lee, Associate Product Manager, YouTrip

>11,000
users (alumni
and students)
are on
conNectUS

IAAS has
attracted
>1,500
students and
>140
companies who
have posted
>600
gigs and
flexible
internships

*Latest statistics from CFG as of 29 April 2022.

alumni and students through features such as a people directory, live feeds and forums, an event calendar and job listings. Alumni get to expand their professional networks and enhance their job search or recruitment activities, while students can plug into the wide and diverse alumni pool for mentorship. One early adopter is Mr Charles Lee (Engineering '21), now an Associate Product Manager at local fintech start-up YouTrip. Not long after signing up with conNectUS, he was contacted by final-year Geography major Mr Joel Ng (Arts and Social Sciences '22), who wanted to break into product management and sought out Mr Lee for career advice. "Given that I had only been in the industry for a year, I saw Joel as more of a peer than a mentee. Both of us had interesting insights to learn from one another. I told him about my experience at my first job as well as my considerations when it came to selecting it, while



he shared with me the interview questions that tech recruiters had asked him. It was a mutually beneficial relationship where we both wanted to help the other grow," says Mr Lee, 26. "conNectUS is a safe and convenient avenue to exchange ideas, thoughts and advice. Through the platform, alumni like me can easily stay connected to our alma mater and pay it forward to juniors. I've also reached out to other NUS alumni on the forums for advice on my own career decisions."

Similarly, IAAS is a gig marketplace that provides NUS students with the chance to land gigs and internships with a diverse range of companies – local or foreign, large or small, within or outside their degree specialisation. Students thus have a wealth of opportunities to gain hands-on work experience, unbounded by the academic calendar, while employers on their part can tap on this talent pool for skilled services.

For Mr Chen Yao (Engineering '22), who joined IAAS' pilot phase prior to its official launch, the flexibility offered by the platform was the best part. "I had previously interned

at engineering and tech companies, but using IAAS allowed me to explore other industries," says Mr Chen, 25. "What caught my interest was the opportunity to take on bite-sized projects during semester time, with flexible arrangements, while concurrently working on my final-year project." The Mechanical Engineering major secured a three-month internship at a family business in the finance industry, where he assisted colleagues in analysing and identifying fintech projects with growth potential and then generating an investor report. "Through the experience, I interacted with people from different backgrounds and broadened my spectrum," he shares. "It allowed me to develop interdisciplinary knowledge and skills, and become more adaptable in various situations and environments. This is very important in today's world."

THE CALL FOR INTERDISCIPLINARITY

Much has been said and written lately about NUS' shift to interdisciplinary education. The University made a big splash in December 2020 with its formation of the College of Humanities and Sciences (CHS), an enhanced undergraduate

experience that encourages students from the Faculty of Arts and Social Sciences and the Faculty of Science to break out of their respective silos. This was followed by the College of Design and Engineering (CDE), which merged the Faculty of Engineering and the School of Design and Environment. The newest entrant, NUS College (NUSC), incorporates best practices from Yale-NUS College and the University Scholars Programme. Open to students applying for almost all undergraduate programmes at NUS, NUSC will admit its first intake in Academic Year 2022/23.

During a radio interview with CNA938 earlier this year, NUS' Senior Vice Provost (Undergraduate Education) Professor Bernard Tan spoke about the value of these educational reforms. "In an increasingly complex and fast-changing world, our graduates working in many industries will be confronted with problems that cannot be thoroughly understood when viewed from any one discipline," he argued. An interdisciplinary education is therefore vital to prepare them for the working world. This, he stressed, means not just letting students take courses from multiple disciplines, but also emphasising the interface and interplay between them. "We deliberately show how problems can be more thoroughly understood when viewed from multiple disciplinary lenses, and how effective solutions can be conceived by combining knowledge from various disciplines," said Prof Tan.

Careful thought went into designing the curriculum structure and content of CHS, CDE and NUSC. While students are free to pursue intellectual breadth or depth based on their interests, all three colleges ensure a firm

We deliberately show how problems can be more thoroughly understood when viewed from multiple disciplinary lenses, and how effective solutions can be conceived by combining knowledge from various disciplines.


Professor Bernard Tan, Senior Vice Provost
(Undergraduate Education), NUS

→ **DID YOU KNOW?**


SkillsFuture Singapore has identified three key growth pillars with exciting career opportunities. As luck would have it, these three areas loosely mirror NUS' S3 campus strategy:



1. DIGITAL ECONOMY

 Tech-heavy roles requiring data engineering, IoT management and other digital skills will take precedence as we enter the Fourth Industrial Revolution (Industry 4.0).

2. GREEN ECONOMY



Workers familiar with green process design, carbon footprint management, and environmental frameworks and policies will be needed to combat climate change and achieve sustainability.

3. CARE ECONOMY

Driven largely by our ageing population, care professionals who demonstrate ethical conduct, effective stakeholder management and inclusive practices will be in high demand.



LIVE IT UP!

Even the hostel experience is being reimagined as part of NUS' holistic, interdisciplinary approach to learning – starting this August, the University is expanding its student housing options. Apart from the six Halls of Residence (built on rich heritage and strong CCA involvement) and four Residential Colleges (with thematic academic programmes):

- Two new **Houses**, Pioneer House and LightHouse, will open. With reduced CCA requirements and no meal plan, this concept instead emphasises peer mentoring, small-group engagement and collaborative leadership.
- The two existing **Student Residences**, which offer no-frills accommodation, will see the introduction of Masters and Residential Fellows. Students will thus benefit from enhanced on-site pastoral care and wellness support.

“Regardless of which housing model students choose, each type provides an enriching residential experience that extends the platform for holistic education,” says Associate Professor Ho Han Kiat (Science '00), NUS' Dean of Students. “Specifically, residential living widens students' appreciation of the community, helping them grow into responsible and constructive members of society, global citizens, and leaders of change for tomorrow.”

grounding in 21st-century competencies through foundational or common modules. Technology is obviously a key theme within this foundational layer, with modules centred on data literacy, digital literacy, AI and computational problem-solving, among others. “In the coming decades, every industry will be continuously transformed by advances in technology which will allow work to be carried out in new ways,” Prof Tan added in his radio interview. Reforming the curriculum along these lines will enable graduates to adapt to these changes and become what he termed “drivers of industry transformation”.

LEARNING NEVER ENDS

So, back to the central question: What awaits the graduating Class of 2022 as they enter the workforce? There is a lot of uncertainty, but one thing's for sure – graduates must possess the skills to live and operate in a technology-led world. Becoming comfortable with technology is a key takeaway from their NUS education – whether that translates into online proficiency to facilitate remote work and improve productivity, the ability to analyse and interpret data to support decisions and objectives, or a knack for synthesising tech-related and other knowledge to invent radical new ideas.

However, no matter how much learning is packed into one's undergraduate years, it is impossible to impart everything that a person would need to know over the course of their lifetime.

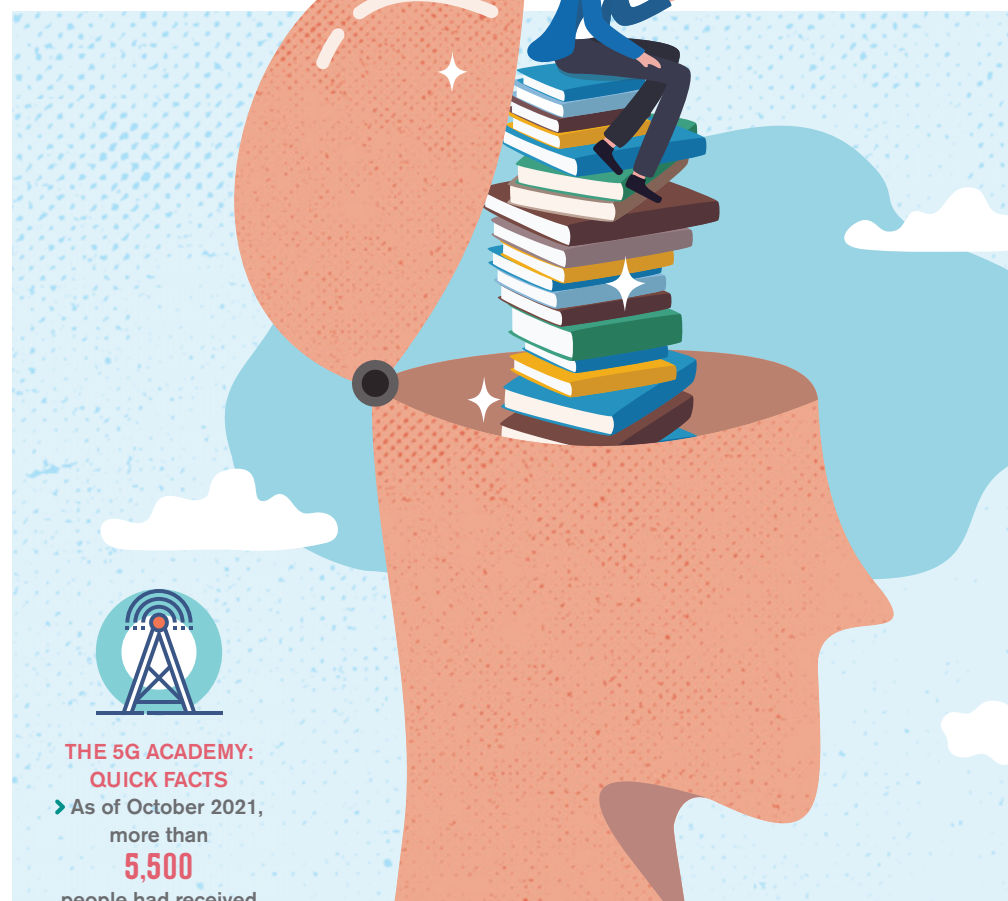
Professor Susanna Leong (Law '89), Vice Provost (Masters' Programmes & Lifelong Education) and Dean of the School of Continuing and Lifelong Education (SCALE), elaborates: “Singapore's transformation into a Smart Nation will bring greater convenience and accessibility of modern services, but we will also face more complex societal challenges. The rapid advancement in digitalisation, in combination with

other powerful global forces, is making our work and social environment more volatile, uncertain, complex and ambiguous (VUCA), shortening the half-life of knowledge. Alumni who want to thrive in the future economy need to be adaptable and agile, and embrace interdisciplinary and lifelong learning.”

At NUS, the demand for – and provision of – digital and tech courses has increased over the last three years. Existing short and modular courses such as those in Robotic Process Automation and Software Development, as well as master's programmes in Business Analytics and Industry 4.0, now offer more places. New degree programmes and courses have been rolled out for topics like Biomedical Informatics, Maritime Technology and Management, Green FinTech, and Natural Language Processing. Outside of these efforts, NUS (through SCALE) is also co-managing the Singapore 5G & Telecoms Academy (5G Academy) with Singapore Polytechnic. Established under the auspices of the Infocomm Media Development Authority (IMDA) in November 2020, the 5G Academy aims to develop 5G-ready talent and encourage upskilling in preparation for the coming 5G wave.

The rapid advancement in digitalisation, in combination with other powerful global forces, is making our work and social environment more volatile, uncertain, complex and ambiguous [VUCA], shortening the half-life of knowledge. Alumni who want to thrive in the future economy need to be adaptable and agile, and embrace interdisciplinary and lifelong learning.

Professor Susanna Leong, Vice Provost (Masters' Programmes & Lifelong Education), Dean (School of Continuing and Lifelong Education), NUS



Take 36-year-old Ms Naweera Binte Sidik (Design and Environment '10), an architect-turned-user experience (UX) designer. In March 2021, she went back to school to pursue the *NUS SGUnited Skills Programme in International Financial Technology for non-Technical Executives*, a nine-month programme offered by NUS and conducted online. “Through the course, I picked up hard tech skills that allow me to communicate better with web and app developers, and design user flows that link to back-end processes more efficiently. I'm also using what we learnt about Agile and Iterative Design in the work I do for clients,” says Ms Naweera. “On a personal note, the module on Algo-trading helped me understand the importance of investing and how to do it in a safe and balanced way.”

Even though the concept of lifelong learning had yet to take off when she was an undergraduate student, Ms Naweera is now firmly in that camp. “NUS' efforts to encourage lifelong learning among its alumni community are motivating. I had a great time as a student, and it's good to know we can always go back to extend our learning and broaden our perspectives,” she says. In that sense, technology can be considered

I had a great time as a student, and it's good to know we can always go back to extend our learning and broaden our perspectives.

Ms Naweera Binte Sidik, architect-turned-UX designer



both cause and effect. On the one hand, advancements in tech are precisely why so many workers need to upskill and reskill themselves. On the other hand, the rise of remote learning and short online courses makes it easier than ever to grab these lifelong learning opportunities.

Within this space, digital natives who grew up in the information age and started using digital devices since childhood – including the Class of 2022 – hold a distinct advantage compared to mid-career or mature professionals. As Prof Bernard Tan tells *The AlumNUS*, “Today's graduates will face disruption not once but several times throughout their careers. They will need to upskill themselves to avoid becoming unemployed or underemployed. Having been exposed to tech-enhanced education as students, especially in COVID times, they will be more accustomed to this mode of learning in the longer term and will therefore have less obstacles hindering them from engaging in lifelong learning.” **A**

➔ CHART YOUR OWN PATH

A digital native, Mr Chen Pinzhang (Engineering '21) found his feet in technopreneurship while studying at NUS, thanks to its novel Design-Your-Own-Module (DYOM) initiative. The 26-year-old is also the founding Chairperson of NUS Alumni Ventures (NAV), the first alumni-led angel investment network in Southeast Asia.



“In 2019 – when I was serving as the President of NUS Entrepreneurship Society (NES) – we designed and launched *NES Startathon* under the DYOM framework. *NES Startathon* is a year-long module that guides aspiring student-entrepreneurs to create their own start-ups, from ideation and validation to early-stage commercialisation. As part of the module's pilot batch, I formed a team with two other students and fellow gamers, and that was how our hardware gaming start-up WRAEK came about.

It was also during my tenure as NES President that I noticed how difficult it was for student-entrepreneurs to gain access to angel investors. So, together with other like-minded students and alumni, we set up NAV in 2020. We now have about 80 NUS alumni angel investors on board our network. Three start-ups have successfully obtained funding so far, and we've also matched more than 30 start-ups with mentors.

Recently, with the relaxation of SMMs, NAV held its first-ever physical Demo Day & Networking Dinner, after five online runs over the past two years. It was great for students to finally be able to meet, and pitch their start-ups to, potential angel investors in person.

What I've learned from these experiences is that being a self-motivated, independent learner will help greatly in the workplace. COVID-19 has, in a way, accelerated this pace. Due to remote learning, students were forced to be responsible for their own learning and self-study using online tools. In my case, I've taken two Coursera courses since leaving NUS – one on protecting business innovations via patents, and the other on programming IoT devices. I'm also interested in accounting and currently juggling my work at WRAEK with an online master's degree programme in accountancy.”

CALENDAR OF ALUMNI EVENTS

JUL.AUG.SEP

JULY



Disco Fiesta Bukit Timah Homecoming 2022

Organised by NUS Alumni Relations and co-hosted by the Faculty of Law and the Lee Kuan Yew School of Public Policy, join us and groove to the popular hits of Disco Fiesta and enjoy the great company of fellow alumni.

2 JUL Bukit Timah Campus
Sat, 6.00pm - 8.30pm

Register: alum.events/BT22
Contact: Ms Josephine Chng
jochng@nus.edu.sg



The Future of Healthcare Future-ready Workshops

Speaker:
Associate Professor
Lau Tang Ching
(Medicine '91)
Senior Consultant,
Division of Rheumatology,
Department of Medicine,
National University Hospital



The Ministry of Health recently announced the Healthier SG initiative to manage the challenges of Singapore's ageing population and improve health outcomes. Learn how NUS will prepare health practitioners in promoting health and preventing chronic illnesses; understanding the social determinants of health; and using technology and health informatics as enablers.

26 JUL Shaw Foundation
Alumni House and Zoom
Tue, 7.30pm - 9.00pm

Register: alum.events/FRjul22
Contact: Mr Kenneth Phang
kphang@nus.edu.sg



AUGUST



Technology and Society – Industry Outlook for 2030

Tech Talk
Speaker:
Dr Ganesh Neelakanta Iyer
(Engineering '09)
Lecturer, Department of
Computer Science,
NUS School of Computing



The United Nations' Sustainable Development Goals (SDGs) provides a blueprint for people, prosperity and the planet. Dr Ganesh will examine the key technologies that will help accelerate digitisation and drive our efforts to deliver the UN SDGs; trends in technology that will lead us towards a socially, environmentally and economically resilient future; and the impact of the UN SDGs on technology on industries such as maritime, oil and gas, power and renewables, healthcare, and food.

16 AUG Shaw Foundation
Alumni House and Zoom
Tue, 7.30pm - 9.00pm

Register: alum.events/TSaug22
Contact: Mr Kenneth Phang
kphang@nus.edu.sg



Kent Ridge Alumni Family Day 2022 WELCOME BACK!

Kent Ridge Alumni Family Day is NUS' annual homecoming to welcome the entire NUS community of alumni, students, staff and their families home on campus. Two years post-pandemic, we welcome you back to join the myriad activities online or in-person back in NUS University Town!

**13
AUG**



13 Aug (Sat)
NUS University Town and Zoom
10.00am - 2.00pm (Online)
5.00pm - 9.30pm (In-Person)
Register: alum.events/KR22
Contact: Ms Tan Li Hui
lhtan@nus.edu.sg



SEPTEMBER



Towards a Fairer and More Inclusive Society WoW: Ignite



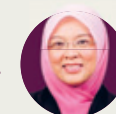
The first-ever White Paper on Singapore Women's Development was endorsed unanimously by Parliament on 5 April 2022. Join the panel of esteemed alumni speakers and moderator, Dr Intan, for a discussion on what this means

for you and I – regardless of gender – and what we can do in our homes, workplaces and community to enable the women around us to be the best that they can be.

7 SEP Shaw Foundation
Alumni House and Zoom
Wed, 7.30pm - 9.00pm

Register: alum.events/WoWsep22
Contact: Ms Gabriella Nyam
gabriella@nus.edu.sg

Moderator:
Dr Intan Azura Mokhtar
(Science '98)
Member of NUS Alumni
Advisory Board and Founding
Chairperson of WoW



IF

2021 WAS THE YEAR WE CAME TO THE REALISATION THAT COVID-19 WAS LIKELY TO BE ENDEMIC,

2022 has seen us continuing to make strides towards COVID-resilience and better adjust to this "New Normal".

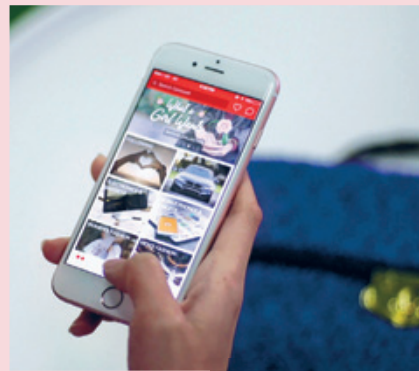
The prolonged pandemic has taught governments, organisations and individuals to function more like a start-up: to be adaptable, flexible and resilient in the face of uncertainty and constant change. For start-ups and entrepreneurs, themselves, the "New Normal" offers new opportunities. Here are just a few trends to be aware of:



1 EXPECT MORE UNICORNS

Despite fears for the economy, the growth of many start-ups has actually been fuelled by the pandemic and the attendant increase in digitalisation across numerous industries. 2021 was particularly significant for NUS Enterprise: two decades after our founding, nine start-ups from our BLOCK71 community, including NUS Overseas Colleges (NOC) alumni companies PatSnap and Carousell, became unicorns when their valuations topped US\$1 billion, a reflection not only of Southeast Asia's growth as a start-up hub, but NUS' centrality in this ecosystem. We also observed several of our successful entrepreneurs hire our students, form new start-ups, and/or invest in others, helping contribute to a virtuous cycle of talent and capital growth.

As we move into 2022, we can expect more unicorns to emerge from the region, aided by the rising middle class, a young population open to new technology adoption,



Online marketplace operator Carousell is one of the firms reported to be considering a public listing.

and increased investor activity. And as these companies mature, we also expect to see more acquisitions and public listings.

Companies to keep an eye on? NOC alumni start-ups PatSnap, Carousell, CirclesLife and SWAT Mobility have all been reported to be considering an Initial Public Offering (IPO) in the future.



2 DIFFERENTIATION THROUGH DEEP TECH

The fact that multiple COVID-19 vaccines have been developed to date is nothing short of astounding. Other innovations, including NUS-developed saliva tests, nasal swabs and protective devices, have an important part to play in meeting testing needs and minimising virus exposure. They also speak to the importance of investment in basic and applied research, as well as the transformative nature and outsized impact deep

It is our aspiration that these initiatives deepen NUS' and Singapore's connectivity to the world, while helping to produce start-ups and entrepreneurs that think globally.



tech can have in addressing complex problems facing the world.

From climate tech and cybersecurity, to biotech and blockchain, deep tech start-ups will continue to gain traction in 2022, in line with increased investor interest and government support. Typically based on years of scientific research and backed by patented technologies, these start-ups will also have a competitive edge due to their focus on high-impact issues and ability to create new markets.

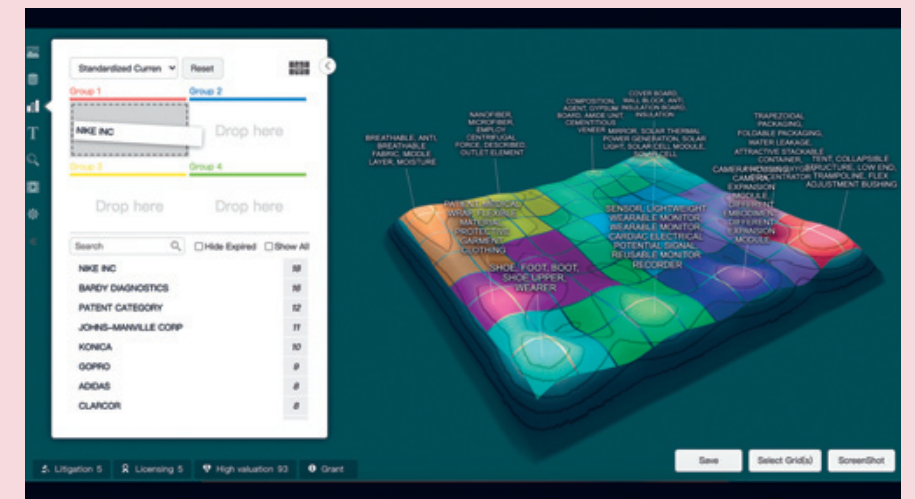
For its part, NUS is playing a key role in generating Singapore's deep tech deal flow. Our Graduate Research Innovation Programme (GRIP) has furthered more than 100 deep tech projects since 2018. Graduates of the programme have gone on to raise more than \$17 million in external grants and funding. Continuing this momentum, this year we will be launching the Technology Access Programme (TAP), specifically designed to help entrepreneurs and corporate innovators discover cutting-edge innovations and opportunities for their application. Backed by our experience in venture creation and technology commercialisation, the executive programme will guide participants on taking intellectual property from lab to market, while providing them with access to NUS technologies, resources and networks.



3 A RE-BALANCING ACT AT WORK

Headlines surrounding the Great Resignation ring true in countries around the world. For employees caught between balancing remote work, home-based learning and childcare, the pandemic has forced a reassessment of priorities and a redrawing of lines between work and home life. As a result, many job holders are opting to switch employers, become professional freelancers or entrepreneurs, or even defect from the working world entirely.

Faced with increased competition to attract and retain talent, companies are called upon to provide greater flexibility, be more empathetic, and invest in a sustainable work culture. As a result, employers may increase retraining of existing staff, while broadening their search for new tech talents internationally



Tech firm PatSnap is also reportedly considering a public listing. It provides data and analytics on intellectual property to corporate customers. PatSnap's user interface is pictured here.

as they embrace remote or hybrid work models. This shift in how work is viewed and conducted also translates into new openings for start-up solutions – from no-code/low-code technologies that replace the need for specialised hires and collaboration platforms for decentralised workforces, to corporate wellness solutions that offer better support to employees.

As one example, NOC alumni start-up MindFi pivoted during the pandemic from a consumer-facing mindfulness app to a mental wellbeing platform for the modern workplace, operating with the vision to promote positive minds and productive workplaces.



4 THE NEED TO THINK GLOBALLY

One of the harder lessons of the past two years is how a lack of global cooperation has prolonged the COVID-19 pandemic, particularly in the area of vaccine distribution and observed "vaccine nationalism".

Last September, United Nations Secretary-General António Guterres noted, "The pandemic is a clear test of international cooperation – a test we have essentially failed."

And while cooperation at the level of international institutions and between governments is vital, the importance of collaboration and global ties holds true at a smaller level as well. For researchers and businesses tackling other global

challenges, such as climate change or food security, a willingness to work with others – even competitors – can be key in paving the way for fundamental change. This is particularly true in an interconnected world where complex issues transcend borders.

NUS' orientation has always been global in nature, and one of the rationales for our NOC and BLOCK71 programmes is the opportunity they provide for our students and start-ups to gain exposure to and forge connections in overseas markets. In addition to considering new locations for these programmes, the NUS Guangzhou Research Translation and Innovation Institute (NUSGRTII) will open this year to promote technological innovation and talent development between Singapore and China. It is our aspiration that these initiatives deepen NUS' and Singapore's connectivity to the world, while helping to produce start-ups and entrepreneurs that think globally. A



Professor Freddy Boey is the Deputy President for Innovation & Enterprise at NUS. He oversees the University's initiatives and activities for innovation, as well as entrepreneurship and research translation. An academic and inventor, Prof Boey has pioneered the use of functional biomaterials for medical devices in Singapore, developed 127 patents, founded several companies, and been published in 347 top journals with 23,555 citations. An alumnus of NUS, Prof Boey previously served as the Deputy President and Provost of Nanyang Technological University (NTU) from 2011-2017.

NEW RULES FOR THE NEW NORMAL

NUS Deputy President for Innovation & Enterprise **Professor Freddy Boey (Engineering '87)** looks at key trends in the start-up scene in the post-COVID-19 era.

➡ AS A META OF FACT

You don't have to be a savvy investor in cryptocurrency and metaverse real estate to be a digital citizen. You are one, as long as you use digital tools and interact with others online — a fact that is true of some 5 billion people, or 63% of the global population. What are the perks and dangers of this new world, how do we navigate it safely, and what are our roles and responsibilities?

LIVING IN A DIGITAL WORLD: THE GOOD, THE BAD AND THE UGLY

Does it always pay to be plugged-in, logged-on and virtual-ready, or is our ongoing tryst with technology a double-edged sword? Which aspects of digital adoption work well and which need to be relooked? Our contributors weigh in.

The COVID-19 pandemic has accelerated digital transformation in almost all aspects of our lives. While it has brought many conveniences, it has also resulted in many dangers — from online scams to falling prey to fake news. What do you think are the biggest pitfalls?

SWEE KIM: I have been working in technology since the 1980s. Even in the early days, we encountered people who would abuse it for dishonest deeds — such as using expensive office equipment and facilities to access unsavoury content online. This is even more widespread in the present, given that the Internet is such a big part of our lives. This was especially evident during

the height of the pandemic last year, when many were stuck at home and turned to the computer and other digital devices for work, entertainment and socialising. This access to a vast amount of information and a wider spectrum of people increases the individual's exposure in many ways. And given that evil is always lurking around — both in real life and in the virtual space — it is necessary for people to be able to identify those with nefarious intentions.

BENEDICT: The proliferation of technology and the Internet has grown at an exponential rate. This also means that the exposure to risk of users adopting these different tools and platforms has increased. It's not about how comfortable and tech-savvy you are. Although my generation grew up with tech, I too fell prey to a phishing scam and lost about US\$500



worth of items that I traded on a gaming platform. That happened was when I was in my teens. Two or three of my friends also fell victim to phishing scams. Thankfully, I don't see people of my age falling prey to such scams anymore. But back then, as children who enjoyed playing games online, we were taught the skills to use various digital tools by either our parents or schools — but not about Internet hygiene and how to use it safely.

POLLY: Since 2015, I have been running a social enterprise that teaches seniors how to use smartphones — and I do find that they have become a lot savvier. In our initial classes, maybe only two out of 20 attendees would be using WhatsApp; now, every participant uses WhatsApp and Facebook. However, it isn't just the users who have become savvier — the crooks have also upped their game and always seem a step ahead, be it in proliferating fake news or luring people with scams. Beyond teaching (seniors) how to use the technology, we also need to educate them to not be too trusting when interacting with others online, especially when they are buying things.

BENEDICT: I recently helped to draft a response to *The Straits Times* with regards to the spread of misinformation on TikTok. There is a lot of concern about political powers weaponising social media, and I do see political propaganda being fed to me through these platforms. This is worrying, as the users of platforms such as TikTok tend to be very young and impressionable.

JOHANN: I have been running a social enterprise that provides laptops to underprivileged school-going kids. While we have done a lot of work in this area — and garnered a lot of support to give vulnerable families the infrastructure and equipment to access the Internet — there is still much to be done. One of our top priorities is to talk to these children about the risks of the Internet. As a nation, we can consider ourselves 'lucky' to have this problem, because it suggests that most people here possess some level of understanding of the online space. This is not universally true for people in other countries. The fact remains that

a lot of people still don't understand what computer literacy, or even phone literacy, is. There are whole communities out there with no access to the digital world, and the problem they face is a very different one: that of a digital divide. To me, it would be a bigger problem if we allow the divide between the 'Haves' and the 'Have-Nots' to widen. Digitalisation has become such an important part of society — from how we perform daily tasks to the kind of jobs available — that it is neither reasonable nor responsible for us as members of society to allow anybody to fall through the cracks and be cut off from it.

So building a better digital world is not just about how we conduct ourselves online, but offline as well?

BENEDICT: I find it appalling that individuals are pouring billions into the metaverse when there are people starving in real life. It shows how we, as a society, have become desensitised. As technology develops, it is our responsibility to define who we are as people and members of a community.

SWEE KIM: As members of society, we should recognise our privilege — from being able to leverage digital transformation to our personal advantage, to being able to have a university education. Our position of privilege makes it our responsibility to make the world a better place. Don't just be a spectator — get involved! While the percentage of Singaporeans who need help with access to the Internet today is probably less than 5%, there is still the issue of guidance, especially for children. There are parents who are unable to spend time navigating the digital world with their children, and one way to address this issue is through community support. For example, we are now redefining our libraries as community spaces for people to socialise and bring up the young, and these vulnerable children might be able to get guidance when they

OUR PANEL



MS LIM SWEE KIM
(COMPUTING '88),
FINANCE AND
ADMINISTRATION FOR
A SPORTS FEDERATION;
CHAIRPERSON OF RAFFLES
HALL ASSOCIATION



MR BENEDICT LOO
YEAR 2 UNDERGRADUATE,
COLLEGE OF HUMANITIES
AND SCIENCES



MR JOHANN ANNUNAR
(ENGINEERING '02),
FOUNDER OF A TECH
SOCIAL ENTERPRISE



MS POLLY LIM PEI CHING
(SYSTEMS SCIENCES '11),
TECH COMPANY MANAGER;
FOUNDER OF A TECH
SOCIAL ENTERPRISE

There is a lot of concern about political powers weaponising social media, and I do see political propaganda being fed to me through these platforms. This is worrying, as the users of platforms such as TikTok tend to be very young and impressionable. MR BENEDICT LOO

access the Internet through these public facilities. There is also the matter of balance: every individual needs to have several communities supporting and informing him or her. These can span from family members and relatives to colleagues and schoolmates, and extend to friends from interest groups.

BENEDICT: This is a very good point, especially since one big concern about the content one gets through various digital platforms is the strength of the algorithm. Everybody has their own confirmation biases, and you end up seeing more of what you want to see. That can be very dangerous, especially if one is at the receiving end of fake news. Finding communities within the digital world to have meaningful conversations with and hear other viewpoints is very important. We also need to assess how much of our interpersonal relationships are built online, versus in real life. Anecdotaly, I hear about young parents who are concerned about their children's social development and behaviour because they spend so much time online rather than interacting with their peers in real life.

POLLY: That balance is a challenge not just for young users. While some remain sceptical and hesitant to go online, certain seniors are completely glued to their handphones. While being able to stay connected with friends and family online has been a big advantage — especially at the height of the pandemic when many restrictions on gatherings were in place — being active online could also lead to physical inactivity. We've noticed many seniors who have lost some degree of mobility over the course of the last two years. My 83-year-old mum stayed home for much of that time for fear of contracting COVID-19. While she has become adept at interacting with friends and family

While so much of our lives are conducted online, there is the possibility that we could be stripped of technology one day, in times of unrest and strife. So we still need the ability to be able to do things without being totally dependent on technology.

MS LIM SWEE KIM



Global Internet Protocol traffic in 2022 – domestic and international – is expected to exceed all Internet traffic up to 2016.

Source: UNCTAD Digital Economy Report 2021

online, we now encourage her to go out for fresh air or meet friends through special interest groups.

Is balance possible to achieve, given that technology is now part and parcel of almost every aspect of our daily lives? Do you go on a digital detox?

SWEE KIM: I make sure my digital devices are three metres away from me when I go to bed. I don't want signals frying my brain!

JOHANN: Digital detoxing to me is about taking a break away from your device rather than not allowing your brain to be fried. But it can be challenging: these days, you can leave your house without your wallet, but not without your phone!

BENEDICT: A lot of people my age clock double digits of screen hours every day, and they find it difficult to be away from their phone or devices. Technology is there from the moment we wake up; we use it for work, and when we rest, we watch a show on Netflix or scroll through social media. I conscientiously go offline for an hour before sleep each day, just to detach myself from the onslaught of information from online sources, and to allow time for reflection and introspection. Studies have shown that this promotes better sleep too. However, to live life completely offline would be impossible!



An estimated 70% of new value created in the economy over the next decade will be based on digitally-enabled platform business models.

Source: World Economic Forum

[Technology] can certainly bring the world closer, but if we over-indulge in it, it could tear us apart. It goes back, once again, to the point about balance – so that our digital life does not take over everything.

MS POLLY LIM PEI CHING

SWEE KIM: While so much of our lives are conducted online, there is the possibility that we could be stripped of technology one day, in times of unrest and strife. So we still need the ability to be able to do things without being totally dependent on technology.

JOHANN: There is a stigma about how tech threatens to take over our lives and how we need to guard against it. But technology is nothing but a tool — one that's no different from pens and pencils, or even clothes that protect our modesty and say who we are! When we started Engineering Good in 2014, it was to leverage technology to provide those with disabilities with a more inclusive life, such as through speech-to-text applications, or something as simple as Google Maps to find their way around. It is up to us to decide how to use these tools — and I think all of us should spend some time disconnected from technology to ponder that question. It's not just our phones, but also step-trackers, TraceTogether tokens, smartwatches... devices that store and share a lot of information about who you are, what you do, which KTV you like the best (*Laughs*)... More people should have full awareness of what each piece of gadgetry does before running out to get it!

What to you are the biggest benefits of widespread digital transformation?

POLLY: Convenience — from buying groceries online to working from home, even for those in high-security industries such as banking.

BENEDICT: Access to information. I can now go onto an online learning platform like Coursera and explore a topic totally unrelated to my studies. It has fundamentally given us access to whatever information we want at whichever point in time. Technology can also transcend physical boundaries: for example, I continued to conduct tuition classes for my students during the circuit-breaker, thanks to video conferencing technology.

SWEE KIM: I also work with the Global Esports Federation and we have meetings with people from America, Australia, the Middle East and Europe. Despite the time difference and physical distance between us, we are able to meet and align goals. In that respect, technology has brought about invaluable benefits. Technology has also created many new career opportunities for a younger generation.

JOHANN: The Web allows us all to participate as global citizens, to care about the things that are happening around the world rather than just minding our own backyard. And communications technology also allows you to be part of a lot of conversations while fulfilling other responsibilities. To illustrate: I'm doing this forum discussion in my car, while driving to pick up my daughter from fencing, collecting a cake for a birthday celebration, and now sending my wife somewhere else! There are many things in life that you want to be present for, and technology allows us to do more with our time and with our lives.

POLLY: It can certainly bring the world closer, but if we over-indulge in it, it could tear us apart. It goes back, once again, to the point about balance — so that our digital life does not take over everything. ▲

▶ If you'd like to join our Forum panel, do write to us at alumnihelpdesk@nus.edu.sg to express your interest.

➔ **WHO SHE IS**

Ms Anthea Ong, 54, is a former Nominated Member of Parliament, leadership coach and social entrepreneur who has founded a string of initiatives such as Hush TeaBar, WorkWell Leaders and A Good Space.

DEPRESSION, BULLYING, AN ACRIMONIOUS DIVORCE — Ms Anthea Ong has weathered all these storms. But the former corporate high-flier-turned-social entrepreneur has not only risen above these setbacks, she has also been empowered by them.

Ms Ong is no stranger to adversity. An otherwise happy childhood spent climbing trees and catching grasshoppers with her brother and cousins was marred by an eye defect that caused her to squint. She developed a deep insecurity after the condition led her to be called *sambat* (“slow” in Hokkien dialect). The subject of much taunting and teasing from other kids, she was not asked out on many dates as a teenager. However, she aced her studies, read Business at the National University of Singapore, and later excelled in the fast-paced world of corporate banking and e-learning.

She went on to chart several career highs as a leader with multinational organisations including the New York Institute of Finance and Pearson/Financial Times Group, before things went downhill from 2006. Ms Ong dealt with a series of events: a venture that fell apart, marriage troubles, an educational consultancy business that became collateral damage in a bitter divorce, and a series of legal suits filed by her ex-husband. As she hit rock-bottom, she realised the only way was up. Pure grit, along with the healing benefits of ashtanga yoga and meditation, turned her life around. “My colossal collapse made me realise that even at my most broken, I still had so much,” she recalls. “Offering myself to vulnerable communities, where I could be useful, also helped me feel less broken.”

PICKING UP THE PIECES

Newly inspired, Ms Ong embarked on a journey to rediscover herself, volunteering actively at organisations such as Very Special Arts, Women’s Initiative for Ageing Successfully (WINGS) and Unifem (now UN Women). She also started

Channelling Adversity into Action

Multi-hyphenate **Ms Anthea Ong (Business ’90)** has turned her own struggles into powerful catalysts to empower members of different Singapore communities.

donning different hats: as an impact investor, a Nominated Member of Parliament (NMP) from 2018 to 2020, an author, a podcaster, a life and executive coach, and certified yoga instructor. Her acts of volunteerism have empowered others and her learnings are expressions of gratitude for having been lifted by others when she needed help at her most vulnerable. She also conceived several community-driven initiatives, such as Hush TeaBar, WorkWell Leaders, SG Mental Health Matters and A Good Space, to nurture the next generation of civic leaders. These endeavours, she adds, leveraged her C-suite and entrepreneurial experience, earmarking and approaching young leaders passionate for the cause to be part of the leadership. She ensured the right systems and structures were put in place, so she would not play an executive role.

Her book, *50 Shades of Love: Unearthing Who We Are*, was written as an ode to “five decades of an ordinary life made extraordinary by people, pain and passion”. It shifted 2,000 copies without any promotional or marketing efforts — not bad for what she calls “an audacious creative project that was part memoir, part self-help, and partly about trees and the environment”. Its net proceeds have since supported several projects for children in Singapore, and Rohingya refugees in Malaysia and Bangladesh. It also spun off a weekly podcast on Spotify featuring guests such as playwright Mr Alfian Sa’at and Executive Director of the Association of Women for Action and Research (AWARE) Ms Corinna Lim (Law ’87).



Having to navigate that deep dark hole has helped me reframe how I see life, how little I need to live on, and how joyfully and meaningfully I can give. As a result, I have gained so much freedom.

Right: Ms Ong (2nd from left) with her parents (extreme left and right) and President Halimah Yacob at the NMP appointment ceremony at The Istana in September 2018. Below: Picking up litter at the East Coast Park beach in August 2020. Below, right: Ms Ong with Prime Minister Lee Hsien Loong at a lunch he hosted for her, and NMPs Yip Pin Xiu and Irene Quay, at the Istana in March 2019.



Ms Ong adds that her time at NUS has played a role in shaping her to be the person she is today. She elaborates: “It was most instrumental in preparing me for the world. My dad lost his construction business as a casualty of the ‘Black Monday’ stock market crash of 1987. Throughout my schooling years, I gave tuition to lighten his burden. He took on odd jobs to make ends meet, including sewing factory gloves and fitting the plastic strings on plastic coffee bags — teaching me that no job is beneath us,” she says. “I think my time at NUS also shaped my relationship with work — I always show up completely and have loads of fun with it too. I can fully relate to Kahlil Gibran’s *Work is Love Made Visible*. I’ve always been like that — whether in the corporate sector and/or community work.”

WRITING A NEW CHAPTER

For Ms Ong, a typical week involves hosting and facilitating the Circle of Bliss community meditation group every Monday evening at her three-room HDB flat, (almost) daily yoga and meditation practice, beach runs and long walks, and Sundays with her parents — whom she credits as her first teachers about the power of giving. “Looking back, it amazes me how wise my parents were, and how this wisdom included compassion. They showed me from a young age that the way they are is the way they treat others.” This, in her view, was true role-modelling. “Mum would look after the neighbours’ kids, cook and distribute food to them, and sew clothes as gifts. Dad would look

after his migrant construction workers, even helping neighbours sweep floors and clean common areas.”

When not busy with coaching sessions and other commitments, you will find Ms Ong cooking vegan meals, and tending to her edible garden along the corridor. “Life, right now, (for me), is a privilege and I am so grateful,” she adds. “Having to navigate that deep, dark hole has helped me reframe how I see life, how little I need to live on, and how joyfully and meaningfully I can give. As a result, I have gained so much freedom.”

In the next five to ten years, Ms Ong hopes to learn more about herself — “the good, the bad and the ugly” — and continue giving more of herself to society. She hopes Hush TeaBar, WorkWell Leaders and A Good Space will expand in quality and quantity as communities, to achieve far-reaching, positive impact. Having just completed an upcoming book project about NMPs, she can see herself writing more books “to make better use of the ideas that keep getting downloaded into my head”. She also aspires to move to the regional and global stage for the work on mental health because “it’s time to share how mental health is in the national consciousness in Singapore, and also increase awareness of mental health issues in other parts of the world”. Also on the horizon: lobbying for a permanent Mental Health and Sustainable Development Office under the Prime Minister’s Office, which she shared in a recent Rice Media article following the announcement of Budget 2022. “In view of the intersectionality and social determinants of mental health, this is the only way to truly address this existential threat as a whole-of-government and society priority,” she emphasises.

More people can embrace the meaningful pursuit of community work, she adds, by starting simply. Ms Ong suggests picking an activity you can consistently carry out, so that the benefits to you and those you support are sustainable. “The only way to know your sense of place in this world is to know you have been useful and have made a difference to someone’s life, no matter how small that difference might be,” she ruminates. “I think the purpose of the first half of my life was to learn about my gifts and strengths through an illustrious professional career and quality relationships, while that of the second half is to give these gifts away.”

Her goal, as such, is to make the world — especially Singapore — a better place by the time she leaves it. “We are here on earth to do two things: achieve self-realisation, and serve humanity,” she explains. “I possess this deep strength because I emerged better as a human after my soul-breaking experiences. These gave me wisdom to tell the difference when I need to have courage, to change what I can and must change, and the grace to accept what cannot be changed.” **A**

WHO HE IS

Mr Preston Wong champions the use of tech to solve everyday problems. His interest in the way societies operate led him to take up a postgraduate law programme. Besides his entrepreneurial ventures, Mr Wong is also an Adjunct Faculty member at the Singapore Management University, where he teaches sustainability law. He plans to return to NUS this fall, where he will enrol in a Master of Science in Environmental Management at the College of Design and Engineering.

The Hero of 'Zero'

Mr Preston Wong (Business '13 + Law '16)
is tapping on tech to turn the tide against food waste.



The total amount of food waste generated in 2021 was **817,000 tonnes**, **23%** more than the **665,000 tonnes** generated in 2020.

Source: National Environment Agency

SINGAPOREANS CANNOT TURN DOWN A GOOD DEAL – AND FOR THE FOODIES AMONG US, NOTHING BEATS A CHANCE TO SCORE FOOD FROM A HOTEL BUFFET FOR LESS.

That's precisely what the 30,000 users of treatsure enjoy every day. The app, developed by Mr Preston Wong together with Mr Kenneth Ham (Computing '17), allows users to take food home from hotel buffet restaurants up to an hour before closing time — food that would otherwise go straight to the waste bins. treatsure fills a growing need to tackle food waste in Singapore, which, according to Mr Wong, is on the rise again after a noted decline in 2020 (over 2019) because of COVID-19-related restrictions.

RECIPE FOR SUCCESS

The spark for treatsure was ignited at home in 2016, when Mr Wong noticed older family members regularly clearing out the fridge. "Granted, the food they were throwing was usually expired but it got me thinking whether there could have been a way to salvage these items by redistributing them within the community," recalls the 33-year-old. Mr Wong was able to test this idea during 1-on-1 conversations with alumni from the F&B industry with the help of the NUS Business School Global Alumni Network Office (GANO), where he learnt that the problem did not just plague households, but the entire F&B industry. "At these engagements, major F&B players accepted there was an issue of

food waste, but because the solutions were quite limited at the time, they seemed rather apathetic." He recalls one of them using the memorable phrase "a tall order" to describe any potential fix.

These conversations stoked Mr Wong's passion to find a solution to the problem, which he realised was a perennial one. Where did this passion for problem-solving come from? He points to the afternoons and evenings spent at NUS Enterprise, the entrepreneurial arm of the University, where he attended workshops, pitches and fireside chats with founders and investors on entrepreneurship and problem-solving. Here, he would listen to other entrepreneurs who had come before him, some of them seniors from his time in school. "Start-ups like ShopBack and Carousell had just taken off and their success was a real inspiration for juniors like us."

But all the while, Mr Wong was determined to start an enterprise for a social good. Pressed to explain this conviction, he says, "I think a social enterprise is a wonderful thing: it allows you to give back to society while creating value at the same time." Guided by this ethos, he decided to focus his efforts on food sustainability, an area which had just begun to capture the public's attention at that point. "There was a gap in the market for a business that was founded on sustainability... and as they teach all entrepreneurs, where there is a gap, you try to fill it." But he knew it wasn't a gap he could fill alone. "So I spoke to Kenneth, who was the closest Computer Science person that I knew. I roped him in and started picking his brains about how we could tap on tech to cut food waste," he says. "I really knew very little about tech at that point, so his experience and inputs were invaluable. Together, we were still in school when we created a minimum viable product (MVP)."

FROM MVP TO THE MASSES

That early iteration of treatsure caught the attention of investors and the industry. The app, which uses e-commerce technology to match buyers and sellers, has attracted more than 50 partners including hotels, restaurants and grocery stores to its network. Together, they peddle their excess food, imperfect goods (in terms of appearance or

I think a social enterprise is a wonderful thing: it allows you to give back to society while creating value at the same time.



CHEW ON THIS

Fast facts about treatsure

50 PARTNERS make up treatsure's network: they include restaurants, hotels, F&B conglomerates, fresh food retailers and also grocery distributors.

treatsure boasts more than **30,000** users/sign-ups

As CEO of treatsure, Mr Wong leads a team of five, who dabble in business, tech and day-to-day operations

Its diversified nature allowed it to survive COVID-19: its grocery arm picked up pace before the pandemic, allowing treatsure to cushion its losses when the pandemic brought the hotel buffet scene to its knees.

packaging defects) — which are usually rejected by supermarkets — and soon-to-expire produce to users. Besides its early incubator NUS Enterprise, treatsure has been supported by Unilever Foundry, DBS Foundation, Quest Ventures and raiSE, and is looking to further scale its business and social impact in the days ahead.

Demand and sales for treatsure's surplus groceries have tripled from the period before the circuit-breaker was implemented in April 2020, showing Singaporeans' increasing willingness to support sustainability ventures. Users can purchase surplus groceries directly through the treatsure app. They have the option of having it delivered or collecting it at no cost at treatsure's physical store located in the heart of the Central Business District. This store is the latest evolution by treatsure, which, like other start-ups, is always on the lookout for new growth paths. Billed as Singapore's first online-to-offline surplus grocery outlet, it showcases a range of treatsure's existing surplus groceries, which users continue to purchase. "The store is one way we can expose our community to other aspects of sustainability," explains Mr Wong. "So we showcase eco-friendly alternatives to everyday products like furniture, getting people to rethink the extent of sustainability."

An example he cites is a bowl that has been upcycled from coconut. "Even though it's not a food product, we still stock it and share it with our community," he says. "It's all about advocating for sustainability in everything that we do." That principle has led to treatsure's research and development efforts. "When we started, converting food waste into more useful products like fertiliser and fuel were the standard. But tech had not really caught on in the food waste story — we were part of the digital wave and we want to be frontrunners of the next wave — the data wave." He hopes to ride on this to study food waste and consumption patterns to nip the perennial problem in the bud. Given his success in just five years, we expect Mr Wong to be at the front and centre of these efforts. **A**



Mr Wong (right) with treatsure co-founder Mr Kenneth Ham.

Main photo of Mr Preston Wong: NUS Development Office

On the Write Track

Storyteller, stage actor and scribe – **Mr Myle Yan Tay (Yale-NUS '19)** is the local arts scene's practitioner to watch.

A

PROVOCATIVE, TRAILBLAZING ROMP ABOUT HOMOSEXUAL CULTURE IN SINGAPORE, AND A BOLLYWOOD-ESQUE COMING-OF-AGE TALE OF A YOUNG BOY GROWING UP IN INDIA.

These productions proved to be metaphorical forks in the road for Mr Myle Yan Tay, showing him that an involvement in the arts was on the cards. The first, WILD RICE's 2013 production of Alfian Sa'at's *Dreamplay: Asian Boys Vol. 1*, was, in his words, "eye-opening". "[It] made me realise how diverse Singapore's artistic landscape could be, and how its theatre scene was not bound by the same rules as those of Singaporean society." The second, Checkpoint Theatre's 2015 production of Shiv Tandan's *The Good, the Bad and the Sholay*, helped him understand the work he wanted to make. "Art that is funny, poignant, energetic and culturally specific." These formative experiences have placed the 28-year-old actor, writer, director and Associate Artist at local theatre company, Checkpoint Theatre, firmly on track as one of Singapore's rising creatives.

OPENING DOORS

In search of a broad liberal arts education and an understanding of the world before pinning down a career path, Mr Tay had enrolled at Yale-NUS College to major in Global Affairs. By the time he graduated in 2019, he had already begun telling original stories and building an impressive body of work. He wrote and directed *Overtime: An Original Musical*, about a man who works at the Ministry of Competency, and



The covers of Mr Tay's comic books, each presenting a unique perspective of Singapore.



his best friend, Alex, a playwright who can't write plays; and also wrote and directed *Master Race*, a full-length play that imagines a future Singapore where people can undergo a scientific procedure to change their race. He also wrote several short plays – *Growing Up Green*, *Post-Human* and *The Bank Job* – which were performed at Yale-NUS College.

To date, Mr Tay's creative mind has also birthed reviews on online arts, culture and politics journal *F Newsmagazine*; and comic books *Putu Piring* and *Through the LongKang*, both published by Checkpoint Theatre. The former is about a man who returns to his childhood haunt with his favourite snack; the latter is a three-part horror adventure series about a teenager who unwittingly finds himself in an otherworld after climbing into a drain to retrieve his football. Both publications, created in collaboration with illustrator Shuxian Lee, have been well-received. Notably, *Putu Piring*'s first print run of 250 copies sold out quickly, leading to a second run of 500. His reviews are also hosted on his own site, myleyantay.com.

HELLO, PROVIDENCE

Mr Tay recalls how his mother took him to "a lot of plays" while he was growing up and how his parents were "big readers who also got me interested in writing". The more they went to the theatre, the more he understood what he

enjoyed and did not. Checkpoint Theatre's Joint Artistic Director Mr Huzir Sulaiman has also been a driving force since they met in 2016, when he taught an interdisciplinary performance class during Mr Tay's freshman year. Mr Huzir, whom he now counts as a colleague and friend, encouraged him to take on the challenge of putting on the assistant director's hat for Checkpoint Theatre's production of Lucas Ho's *FRAGO*. Soon after, Mr Tay auditioned to perform in Checkpoint's production of *Eat Duck* and was subsequently invited to be a full-time executive.

Currently based in the United States, where he is completing his Master's in Fine Arts in Writing at the School of the Art Institute of Chicago (SAIC), Mr Tay says his Yale-NUS College days have helped shape his artistic journey. "I can't overstate how essential [the school] was to my development as an artist and as a person. The facilities and resources allowed me to experiment with my artistic practice as a writer and director, which, in the early years, led to a lot of failures," he says. "These helped me learn how to improve on past mistakes – and importantly, understand that art is more than just its end product. It's about the process, the people you meet and the connections that deepen." He adds that the Yale-NUS College community was pivotal in helping him connect with not just splendid and talented artists but generous and kind people. It was there, he says, that he experienced a robust creative writing programme that both encouraged

I don't think it's about reconstructing the arts to make people view it as essential. It's about making it such that Singaporeans see art as enjoyable.

him to keep writing and to constantly seek improvement. His lecturers, Professor Robin Hemley and Ms Pramodini Parayitam, also led him to consider writing as a possible career path.

But it wasn't just the creative classes he took that made the biggest impact. "I've always been interested in political science, but Yale-NUS College helped me realise that I could merge my intellectual curiosity with my artistic passions," he says. "Most of my work remains about politics in some way." He is thankful for those opportunities, which he doubts he would have had elsewhere. "More than anything, I learnt at Yale-NUS College that if trying and failing is the worst thing that can happen, then it's worth a shot anyway," he adds. "I know for a fact I wouldn't have pursued this path without Yale-NUS College, and I wish that other young people could have that same experience."

AN EYE ON THE FUTURE

One of the biggest challenges he sees facing Singapore artists today is how Singaporean society views the arts. "I don't think it's about reconstructing the arts to make people view it as essential. It's about making it such that Singaporeans see art as enjoyable," he explains. "That's what I've been thinking about – how to make work that is challenging but also rewarding to experience." He cites time management as another challenge: "So many Singaporean artists have to work in two industries at once to maintain their creative practice. And when that happens, it becomes harder and harder to prioritise their artistic drive." He does not think Singaporean artists can change the country's financial landscape and make it possible to live off an artist's wage. Yet they can be "aware of which segments of the population have more difficulty with accessing the arts and make sure the gates stay open for all".

While deepening his skills and "learning how to write for new audiences and in new mediums" at SAIC, Mr Tay is collaborating with writer-activist Mr Kristian-Marc James Paul (Yale-NUS '19) and former journalist Ms Mysara Aljaru on an upcoming anthology with Ethos Books about minority race experiences in Singapore. He is also developing multiple works for Checkpoint Theatre, including a graphic novel and an upcoming play that looks at the experience of minority males in Singapore, which Checkpoint hopes to stage in 2023. Mr Tay remains unsure of his plans after he completes his master's degree. The pandemic has made him reconsider what long-term planning should look like because he knows how easily the world can change and how important it is to be flexible. "Regardless of where I am, I hope to be writing and teaching in the media and genres of plays, prose, comic books, science fiction, horror, thriller and political drama," he shares. "I can't imagine doing anything else." **A**



Cover visuals of *Through the LongKang* and *Putu Piring* courtesy of Checkpoint Theatre, illustrated by Shuxian Lee.

SOY-ING “YES” TO SUSTAINABILITY

Dr Tan Wee Kee is currently a Senior Research Fellow with the NUS Environmental Research Institute (NERI) and the co-founder/CEO of NuSoil – a deep-tech start-up supported by the NUS Graduate Research Innovation Programme (GRIP), and incorporated in 2019. Dr Tan previously worked on aquaporins (membrane channels in organisms) for water treatment. More recently, she has turned her attention to the use of soy waste for agriculture.

WITH CLEAN WATER AVAILABLE TO US AT JUST A TURN OF THE TAP, it might not be apparent to most Singaporeans that a water crisis looms over the globe.

According to the World Health Organization (WHO), half of the planet's population will live in areas with permanent water scarcity by 2025.

With 72% of Earth's finite fresh water supplies being used for agriculture, finding ways to improve the efficiency of water usage is critical to solving this issue of scarcity. This is especially so, considering how a substantial amount of irrigated water for agricultural use is lost through evaporation, leaching or percolation into soil layers too deep for plants to absorb. While irrigation technologies, such as sprinklers and drip systems, have been developed to optimise how water is dispensed, an NUS team has approached the issue from a different angle — and it is tackling the problem from the ground up, literally.

GELLING WITH THE ZERO-WASTE NARRATIVE

Enter InnoGro — a patented super-absorbent hydrogel derived from soy, developed by Dr Tan Wee Kee and Dr Zhu Jingling from the NUS Environmental Research Institute (NERI). With the ability to swell to over 150 times its size, InnoGro can absorb water hundreds of times its dry weight. This allows it to act almost like mini-reservoirs, keeping moisture within the soil, and within reach of plants for longer periods of time. Adding InnoGro to soil as a supplement has been found to reduce water wastage by up to 75%.

The positive environmental impact it makes goes beyond water usage. With better water retention in the plant's growing medium, watering frequencies can be cut down by 70%, translating to much more energy-efficient farming practices. By holding water, InnoGro also helps to retain nutrients. Studies have shown that up to 90% of phosphorus, 70% of potassium and 70% of nitrogen from fertilisers are lost to the environment, which can translate to environmental pollution. By just adding a 5% hydrogel supplement to the growing



Below: Dr Tan (right) and co-founder Dr Zhu Jingling (left) at the NuSoil booth at Suzhou Innovest 2019, showcasing the InnoGro product, in a photo with event VIP Prof Ng How Yong (centre).

An Idea that Holds Water

Dr Tan Wee Kee (Science '99) from the NUS Environmental Research Institute shares the details behind a patented innovation that can change how — and where — plants can be grown.

substrate, leaching can be cut down by about 30%.

Yet InnoGro is a game-changer in even more ways. “Hydrogels are not new,” highlights Dr Tan. “However, while most are petroleum-based, ours is developed from plant waste, making it a bio-based and sustainable product.” While there are other hydrogels derived from other ‘virgin materials’, such as cellulose, InnoGro is

one of the few products on the market to boast waste-to-resource credentials.

The humble base ingredient of InnoGro is *okara*, the Japanese term for soy pulp: the insoluble parts of a soybean that are left behind in the production of soy milk and beancurd. While one might find them incorporated into some traditional Japanese dishes, *okara* — which is generated

in considerable quantities given the amount of soy food items that are produced — is generally considered food waste; and some 10,000 tonnes of it are produced in Singapore each year. “Okara has been a pain for the food manufacturing industry,” shares Dr Tan. “But once it undergoes a conversion step into a hydrogel, its water-capturing properties will be impressive. Recognising this, Professor Ong Choon Nam (Science '72), the former Director of NERI, started discussions with Professor Li Jun (Affiliate Alumnus '19), from the Department of Biomedical Engineering, who was working on hydrogels for biomedical fields.” This was in 2016. By 2019, the team had developed a patented synthesis technology with 100% conversion of the whole waste into hydrogel — with zero residue. This process involves purging a homogenised aqueous suspension of *okara* by nitrogen gas, and heating it at a sustained temperature and constant pressure while initiating a radical polymerisation reaction. The resultant product is then dried and milled into powder. Patents for this technology to produce InnoGro have also been filed at the national level, and countries filed include Singapore, Malaysia, Indonesia, China, Japan and the United States.

POWERING PLANT GROWTH

Apart from its unique proposition as a sustainable waste-to-resource product, InnoGro also stands out as the only hydrogel soil supplement with studies that back up its effect on the growth of leafy vegetables from seedling to harvest stage. “My role has been in demonstrating and defining how this *okara*-derived hydrogel can enhance the growth of plants, and be applied in various agricultural set-ups,” says Dr Tan. The difference is especially marked for plants growing in water-scarce environments: the addition of InnoGro has been shown to result in a 113% increase in shoot weight at harvest, 57% increase in total leaf area, and 50% increase in relative growth rate in water-limited conditions. With water deficit as the factor leading to more than 40% of crop losses



A FASCINATION WITH FLORA

Dr Tan's journey into scientific research started with a love for plants. She remembers her formative childhood years in a *kampung*, taking walks and counting the blooms on the morning glory vines planted by her father.

Entering NUS to study Botany, she had planned to join the workforce upon graduation to supplement her family's income and support her younger sister's education. However, fascinated by the research on in-vitro flowering of orchids in the Department of Biological Sciences, she chanced upon an opportunity and started her journey on plant research. “It draws back to my childhood love for flowers,” she professes. Dr Tan went on to participate in other research projects, including urban farming, which led her to develop InnoGro as a solution for the agricultural and horticultural sectors.



reported worldwide, InnoGro stands to be the agricultural industry's ally in combating the food security threat that droughts bring.

At present, Dr Tan's team is taking InnoGro out to the world. “We were awarded a grant from Enterprise Singapore to do more field trials to obtain Proof of Concept. And apart from gathering data, the next stage is to send more samples for people around the world to try InnoGro. Recently, we sent samples to the Middle East,” she shares, adding that the product can be used in the agriculture and horticulture sectors, as well as in landscaping. “For example, we've explored the possibilities of using InnoGro for maintaining landscaping displays, especially in situations where it is not possible to integrate an irrigation system. We are still looking for the sweet spot in the market for the hydrogel.” In anticipation of demand, the NuSoil team is also utilising a reactor to shorten the synthesis process from 24 hours to just five hours, and upscaling the output from 200g in two weeks in a lab setting to ten kilograms per week.

While the market potential of this product could be enormous, Dr Tan is focused not just on InnoGro, but other innovations and their benefits to mankind. “I am ultimately a plant lover, always. I am always looking at ways to improve yields and how to grow food production under conditions of limited natural resources,” she enthuses, adding that she is also exploring on innovations that could benefit people living in places where food crops could not be grown previously. “And if you think about hydrogels as an alternative medium for plants to grow in, perhaps one day we might be able to bring this technology to outer space — and our astronauts might even be able to harvest food. It would probably be a very costly exercise, but one can always dream!” **A**

TAKING THE NEXT STEP FORWARD

Three experts in the field of work, jobs and skills share their insights on the value of non-stop learning and upskilling.

year, which gives fresh graduates insights on trends across sectors so they know the value of their skills and can make informed decisions about their career trajectory. We are also profiling learners to find out what skills individuals typically look to attain at different stages in their career, to provide them with solutions in a more timely and intuitive manner.

How does the government identify emerging skills required by the market?

We have a national jobs-skills repository that is dynamically updated with labour market intel. We mine this data to identify priority skills that are transferable across many job roles and sectors, and that can help graduates to prioritise their career options. We also look at job postings to see which skills are trending up or down. At the same time, we analyse the jobs and skills profiles of frontier firms, including leading firms in the Green Economy, Digital Economy, Care Economy and Industry 4.0, for new emerging jobs and skills.

What key skills are in demand?

Last year's SDFE Report highlighted priority skills in the care, digital and green economies that can be applied across sectors. Care skills, for instance, involve inclusive and collaborative practices. Green skills deal with the environment, sustainability or compliance and reporting, while digital skills such as data analytics and technology application are important in many job roles. In SDFE 2022, we'll be introducing a new pillar which is Industry 4.0, that comprises skills in areas like automation and robotics.

What would you say to graduates who feel no impetus to upskill?

First, employers are looking for these skills. If you do not invest in yourself by learning them, you lose out to peers who took the first step to do so. It is also good for individual development, because the future of work is changing and so are the needs of your next employer. So, upskilling yourself ahead of time might help you land your next dream job.

MS CHELVIN LOH

Director, SkillsFuture Singapore
Ms Loh tells us how she endeavours to create a lasting impact on the future of work and skills by making Singapore a skills-competitive economy.



Why is it important for university graduates to reskill?

The work environment, the nature of jobs and technology are constantly and rapidly changing. Therefore, it is important for graduates to layer on skills that their job function may require. This is especially so for mid-career professionals whose last formal education was some time ago. Fresh graduates may not have to reskill, but they should pick up behavioural and soft skills related to learning agility, teamwork and inclusivity.

What is the government doing to encourage graduates to upskill?

The SkillsFuture series is a curated list of short training programmes focusing on emerging skills in eight job sectors. Its aim is to encourage citizens to take ownership of their own skills development journey. SSG also rolled out the inaugural Skills Demand for the Future Economy (SDFE) Report last



DR LOU KOK YONG

[Engineering '85]

Director at DSO College.

DSO National Laboratories

Graduating from NUS in 1985 with a Mechanical Engineering degree, Dr Lou went on to achieve a Master's Degree and PhD in Aeronautics and Astronautics Engineering from Stanford University in California.

Tell us about your field of work.

As Singapore's largest defence research and development organisation, DSO has been developing game-changing technological solutions to sharpen the cutting edge of Singapore's national security for the last five decades. These would not be possible without our people. My role at the DSO College is to ensure that our staff receive all the training and development needs to succeed in their current roles and prepare for their future career aspirations.

How does DSO help its people to upskill?

People are DSO's greatest asset. To develop them to their fullest potential, we set up a college right within the organisation to offer them curated in-house courses that are relevant to their work. Beyond DSO, staff are also encouraged further their education with a second Master's or even embark on PhD programmes with sponsorships readily available to support their career aspirations. We also tap on NUS courses to learn about emerging topics and encourage learning anywhere and at any time, by subscribing to LEARN.gov.sg, a one-stop digital learning platform for public servants, which includes courses from the Civil Service College, Udemy and Harvard. From other knowledge-sharing and mentoring initiatives to comprehensive HR policies to encourage self-learning, DSO is on the path towards the vision of Nurturing a Learning Organisation.

What steps do you take to broaden your professional qualifications?

My educational background is in mechanical engineering and my previous role was mostly technical in nature. To better equip me for my job at DSO College, DSO supported my reskilling with an Advanced Certificate in Training and Assessment (ACTA), a train-the-trainer programme that gave me the competencies to function as a facilitator and a solutionist who can support the learning and development needs of the organisation. The training enables me to contextualise what I learn with my prior technical experiences so I can

4 THINGS TO KNOW ABOUT THE NUS LIFELONG LEARNING FESTIVAL 2022



Here is what to expect from the inaugural event, which will revolve around the theme "FutureWork: Thrive in the Future Workplace".

1 CHALLENGES, ACCEPTED.

Gain insights from over 30 industry leaders and NUS experts on how to tackle emerging challenges in the future of work. For example, the FutureWork Panel Discussion features Mr Frank Koo from LinkedIn; Mr Dean Tong, Managing Director and Head, Group Human Resources, United Overseas Bank Limited; and Professor Fong Kok Yong, Deputy Group Chief Executive Officer (Medical and Clinical Services), SingHealth.

2 NEW ECONOMY, NEW SKILLS.

Learn which competencies will take you higher in the new economy. Ms Chelvin Loh from SkillsFuture Singapore will reveal the skills that

individuals and companies should prioritise to stay ahead in the future economy.

3 TAKE PART IN EXCLUSIVE MASTERCLASSES.

These smaller group sessions, which will be held during the afternoon session of the festival, will focus on four areas: the care economy, the digital economy, the green economy and Industry 4.0.

Look out for new lifelong learning initiatives and benefits for alumni to be announced at the event.

NUS Lifelong Learning Festival 2022 will take place on 19 July, from 9.00am to 5.30pm, online and in-person on NUS campus.

Visit lifelonglearningfestival.nus.edu.sg for more information!

4 MEET THE WHO'S WHO FROM YOUR INDUSTRY.

Here is your chance to flex your networking muscle during this meeting of minds. Those who will be attending include top business leaders from CEOs to human resource leads, as well as professionals who want to stay relevant in this ever-changing landscape.

better perform my role at DSO College. These include developing in-house courses that are engaging with good learning experiences while producing the desired learning outcomes.

MR FRANK KOO

[Business '90]

Head of Asia, Talent and Learning Solutions, LinkedIn

Mr Koo has vast experience in organisational development and human capital management. He frequently shares his insights on topics like the future of work and employee engagement at executive conferences and webinars.



What changes have you seen in the workplace in the last five to 10 years?

The workplace is becoming more digitalised, so employees need to be digitally-savvy too. Furthermore, employers now go beyond paper qualifications to look at skills, especially digital skills, and many are spending a lot of resources to develop and prepare employees for their company's digital transformation. Employees are focusing more on wellness and flexibility at work, especially after the last two years of COVID-19. They realise the importance of work-life balance and mental wellness. Hence, organisations that provide good

support in these areas are better able to attract and retain talent.

Which skills are in demand in Singapore and across Asia?

There are three. The first are professional skills, like those of a doctor, lawyer or engineer. These need to be deepened over time. The second are digital skills, which we all have to learn in order to do our job well, operate technology, and work with others across the world. And the third are soft skills like critical thinking, leadership, communication, collaboration and creativity. These are can be carried over to different jobs.

How do we future-proof our careers?

Develop a sense of curiosity. Constantly look out for new ways to do things or improve on them so that when it comes to a bigger learning requirement, you'll naturally be eager to take it up. Develop a growth mindset and know that we can always be better if we acquire new skills and take on new responsibilities. This combination of curiosity and a growth mindset will allow us to pick up different types of learning along the way, some of which are deep learning that will enable us to take on different roles or go into different industries. When this happens, our career can be future-proof. **A**



IN

JULY, SOME OF YOU READERS WILL BECOME NUS ALUMNI. COMMENCEMENT IS A SIGNIFICANT RITE OF PASSAGE: it marks the crossing of a threshold into the wider world. You might say that your university years were meant to prepare you to go into the wider world, to prosper in it, to make your mark on it, and to find and fulfil your purpose in it. But what happens if that world you are poised to enter seems like it is, both figuratively and literally, burning up? What if the world, instead of brimming with promise, feels as like a wasteland, desolate and devoid of promise?

According to a 2021 joint report by the World Meteorological Organization and the United Nations (UN) Office for Disaster Risk Reduction, weather-related disasters increased five-fold in the last fifty years. The impact on the economy will be profound. Based on research by insurance giant, Swiss Re Institute, even if the world meets its Paris Agreement target of limiting the rise in the global temperature to under two degrees Celsius, the global GDP loss by 2050 will be 4%; 4.2% in ASEAN. If no mitigating actions are taken, the loss will be 18% globally, and 37.4% in ASEAN.

If such issues have been worrying you, it is likely you are not alone. You are joined by many young people around the world who have indicated negative emotional responses to the ecological crises. In a 2021 study by researchers from the University of Bath in the United Kingdom, an alarming three-quarters of 10,000 young people surveyed across ten countries said the future is “frightening”. Half of those surveyed said that their daily lives and functioning are affected by their climate anxiety and distress. About 40% said they hesitate to have children because of it. In a separate study on the risk perceptions of NUS students conducted by the Institute for the Public Understanding of Risk (IPUR), “climate change” and “environmental degradation” were placed second and fourth on a list of 36 issues, beating out personal-level worries such as exams, jobs and health. Indeed, a similar story is unfolding in local news stories. In interview reports by CNA and Rice Media, young people who do not want kids explain why: they do not want to contribute to a dying Earth and are put off by the uncertainty of a world affected by climate change.

Researchers and health professionals are trying to understand these trends. Terms like ‘eco-anxiety’ and ‘environmental distress’ have been coined to capture the anxiety, depression, or sense of loss people feel towards climate change. A February 2022 *New York Times* article, “Climate change enters the therapy room”, described climate psychology as a growing field in response to patient numbers; child psychiatrists with the Royal College of Psychiatrists in England said in 2020 that half of their patients had environmental distress. Professional associations are responding too. The Australian Psychological Society developed a handbook to educate people on how to support those experiencing eco-anxiety; the Climate Psychology Alliance North America created an online directory for climate-aware therapists.

WHAT TO DO WHEN IT FEELS LIKE THE END OF THE WORLD?

Is there room for optimism on a planet that is confronting a seemingly insurmountable climate crisis?

Ms Christalle Tay (Arts and Social Sciences '20) and **Dr Adrian W J Kuah** from NUS Futures Office believe it's not time to give in to 'eco-anxiety' just yet.



While Singapore has little quantitative evidence of climate-induced mental issues, there have been anecdotes. One senior counsellor told *The Straits Times* in an October 2021 article, “Climate anxiety is becoming a big mental health issue”, that she has around five clients with climate anxiety, all aged 20 to 40. Young people interviewed for the article spoke of feelings of depression (“there was nothing I could do”), nihilism (“what is the point of doing anything?”), and guilt for not doing more (feeling like a “bad eco-warrior”).

But these feelings are a natural response to climate change. An American therapist and author of the book, *Emotional Resiliency in the Era of Climate Change: a Clinician's Guide*, Leslie Davenport, said in an interview with *The Guardian* newspaper: “Eco-anxiety is a natural response to a threat. And this is a very real threat.” Psychotherapist Caroline Hickman, one of the authors of the University of Bath report and a member of the Climate Psychology Alliance, wrote a research article titled “We need to (find a way to) talk about... Eco-anxiety”. She said that while the climate crisis itself is worrying enough, attempts to denigrate and dismiss such fears, and to silence young people speaking up, may be more frightening and confusing. Her interviewees spoke about feeling belittled, judged or criticised for their worries. She raised the example of former Australian Prime Minister Scott Morrison, who said Swedish climate activist Greta Thunberg had given Australian children “needless anxieties” following her speech to the UN in 2019.

FIGHT, FLIGHT, OR RESIGN TO FATE?

In 2020, a group of Australian researchers led by Samantha Stanley identified and studied three broad emotion responses to climate change – anger (angry, frustrated), anxiety (anxious, afraid) and depression (depressed, miserable). They found that the Angry are most likely to take both individual (e.g. recycling) and collective climate action (e.g. protesting). The Anxious are most likely to engage in neither, and the Depressed will only take collective action.

Interestingly and ironically, anger was correlated to improved mental health – that is, the angrier they were, the fewer instances of symptoms of depression, anxiety and stress they had.

Meanwhile, those feeling anxious or depressed are likely to have poorer mental health. The more anxious or depressed they were, the more instances of depression, anxiety and stress they had. Though more research is needed to determine if angry people feel better because they tend to act, researchers concluded that the anger is a healthier coping mechanism than the “debilitating” effect of anxiousness and depression.

The anger that moves us to act must be a constructive one, lest we act in a manner that adds to the world's malaise.

The suggestion that the Anxious and Depressed are reluctant to take action is alarming – what becomes of a world if its young people do not take action, despite feeling for a cause? Worse, is it really the case that anger is the only way to go? I personally hope not. As it turns out, anger isn't the only “mobilising” emotion. There is also hope – the hope that acting is not useless. As a group of German and Australian researchers led by Philipp Jugert found, the perception of agency encourages pro-environmental intentions such as protesting and signing of petitions.

For many of us who are not on the frontlines of the climate fight – and it is becoming unclear where the frontlines are, or if such a notion makes sense for an existential and universal issue – our role may be in providing the structural support for voices to be heard and constructive climate action to happen. We can give hope, we can nurture it, and at a minimum, we can try to not kill what nascent hope there is.

The Bath researchers concluded that protecting against climate anxiety would come in the form of validating one's feelings and views, particularly by those in power. They have the power to create space for interest/advocacy groups, so those with purpose will not have it stamped out from lack of agency. An example of agency provided to youths is the Phoenix Sustainability Initiative (PSI), a student organisation at the University of Chicago. Sustainability efforts, such as collecting food scraps from residences to compost or organising thrift shop pop-ups, are centralised in PSI. The university gave PSI a grant, and maintained the partnership through many channels such as its sustainability office and housing and student life.

So let me end on a hopeful note. And this hope must proceed from an acknowledgement of this emerging reality. The anger that moves us to act must be a constructive one, lest we act in a manner that adds to the world's malaise. But we should be careful when it comes to anger: even a righteous anger will eventually consume you.

I prefer to look at hope, and how it manifests in actual on-the-ground initiatives as well as in changing mindsets and worldviews. How can we advocate for hope, for the planet, and ultimately for our collective survival? How can we find space and time for advocacy, to grow and to sustain it? And specific to you who are graduating soon: what have we learned in our university years – the knowledge we amassed, the skills we acquired, the sensibilities we developed – that can be applied to this burgeoning ecological and psycho-social crisis?

And for those troubled by climate change, take comfort in Caroline Hickman's suggestion: to reframe climate anxiety as eco-caring or eco-empathy. A sign that people still care enough about the planet and its species. As the poet and environmental activist, Gary Snyder, puts it, “Guilt and anger and fear are part of the problem. If you want to save the world, save it because you love it!” **A**

Dr Adrian W J Kuah is Director of NUS Futures Office; and Ms Christalle Tay is an Analyst in the same department.

 This article first appeared in Issue 8 of **FUTURITY**, published by **NUS Futures Office**.

Spring Equinox Dinner 19 March 2022



NUS Alumni Toronto Chapter Chairperson Mr Tejas Aivalli (Public Policy '11) welcoming alumni and spouses who attended the dinner.

On 19 March, over 30 alumni and their spouses met at the Lion City Restaurant in Mississauga, Ontario, a suburb of Toronto, Canada. With the gradual easing of pandemic-related restrictions, members of the NUS Alumni Toronto Chapter decided to gather on the weekend of the Spring Equinox. Lion

City Restaurant is a unique place in the Greater Toronto Area that serves amazing Singaporean food. The restaurant also held wonderful memories for the Chapter pre-pandemic, as they had held their last major event – the Chinese New Year lunch in early 2020 – at the same location.

Attendees of the dinner were treated to mouth-watering delights such as *ngoh hiang*, fish tofu cabbage soup, deep-fried fish with *chinchalok*, Nyonya chicken curry, okra and eggplant *belacan*, sambal prawns *petai*, steamed jasmine rice and *bubur cha cha*. As the scrumptious dishes filled the tables, attendees engaged in hearty conversation. Some amusingly wondered if it would be possible to finish all the food before the restaurant closed – needless to say, the challenge was dealt with decisively.

Alumni who attended the dinner were ecstatic to meet up again after the Chapter's last gathering in November 2021. As the COVID-19 situation improves, the Chapter hopes to bring back at least three events per year, with a potluck picnic in the pipeline for 2022. The Chapter will also be trying to organise a networking event, echoing the goodwill of alumni who expressed interest in mentoring and networking. Overall, the dinner was a wonderful evening filled with good food and good company.

 toronto_alumni@u.nus.edu

College of Design and Engineering –

Alumni Chat with the Dean



8 April 2022

NUS College of Design and Engineering (CDE) held its first Alumni Chat with the Dean on 8 April. About 60 alumni took time off from their busy schedules to join the panel discussion via Zoom, discussing how CDE, as a new college, could better engage with alumni. The Dean shared the aspirations of CDE: to build a new community, to unite diverse minds and talents, to foster an interdisciplinary spirit, and to innovate design and engineering – aims that resonated with attendees gathered that evening. Beyond generic one-time engagement, alumni also raised that more opportunities should be created and made known for them to connect with their alma



Left to right: Mr Tai Xu Hong (Engineering '11); Mr Muhammad Ibnur Rashad Zainal Abidin (Engineering '11); Dean Prof Aaron Thean; Vice Dean and Associate Director for Alumni Relations, Assoc Prof Kua Harn Wei (Science '96); and Ms Kelley Cheng (Design and Engineering '94). They were joined online by Dr Swati Jain (Engineering '10).

mater in more meaningful ways. They urged the College to consider more structured forms of engagement that can bring value to alumni, via collaborations or channels to support alumni businesses, or assist in their professional development. This could be done through student-alumni joint

projects where alumni tap on CDE's research talents, or even in unique ways such as sharing "passion projects". CDE hopes to continue working closely with key alumni partners, as the alumni base is an integral part of the extended CDE community.

Masterclass by LKYSPP Alumni Chapter (Singapore)



9 April 2022



Negotiation happens in every aspect of our lives – from the workplace, between businesses and even among friends and family. Often, the outcome of a negotiation can affect the relationships between people. Identifying this need from alumni to upgrade their negotiation skills, the Lee Kuan Yew School of Public Policy (LKYSPP) Alumni Chapter (Singapore) organised a Masterclass titled

Negotiating Towards Success, which was held at the Bukit Timah Campus on 9 April. Associate Professor Francesco Mancini, the School's Vice Dean (Executive Education) and Associate Professor in Practice, conducted the class, which saw

participation from 18 alumni, who relished their time back on campus. Attendees comprised eight cohorts and five nationalities – learning in a diverse environment that LKYSPP is known for.

Dinner at Yarra Botanica 23 April 2022



Dr Yeo presenting a token of appreciation to Mr Toh.

In line with the lifting of all COVID-19 restrictions in the Australian state of Victoria, NUS Alumni Melbourne Chapter organised a cosy meet-up with Mr Bernard Toh (Architecture '84), Director of NUS Alumni Relations (OAR) at the Yarra Botanica, located in the heart of Southbank. Chapter Chairperson Dr Edna Yeo (Science '93) introduced Mr Toh, welcoming him to the city after more than two years of restricted international travel.

Some 18 alumni attended the meet-up, and each shared personal stories of what could be considered the hardest lockdown in Melbourne. Mr Toh engaged in thought-provoking conversations with both new and long-standing Chapter members.

 facebook.com/groups/NUSAlumniMelbourne

He highlighted the importance of engagement, recounting his experiences in the Republic of Singapore Air Force where he first met Mr Richard Seet (Engineering '86) and Dr Edna Yeo (Science '93). He also emphasised the importance of education and literacy to engage people in active debates. Alumni like Mr Philip Chan (Computing '94) and Ms Leanne Lim (Arts and Social Sciences '13), who are also part of the Singapore Global Network, chimed in with their wishes to see positive changes in future generations.

Attendees also shared the impact of COVID-19 in the workplace and on families juggling with working from home, while home-schooling their children. Ms Pit Li Chew (Design and Engineering '89) highlighted her struggle of being unable to commute back regularly to Singapore for work due to border closures. With travel restrictions eased, many looked forward to visiting their loved ones.

As dusk fell upon the beautiful setting of the Yarra River, the conversations transited into feasting on cheese platters, wood-fired pizzas, buffalo wings and hot chips with beverages from the bar. The long-awaited gathering drew many smiles, cheers and laughter from attendees. On behalf of the Chapter, Dr Yeo presented a token of appreciation to Mr Toh and OAR for the continued support given in sponsoring this event. Lastly, Dr Yeo distributed LiNUS face masks from OAR to members, before the evening's proceedings concluded.



The AlumNUS thanks all contributors for the articles and photos in Alumni Happenings, showcasing our vibrant alumni community. For the full stories, please visit nus.edu.sg/alumnet/TheAlumNUS/issue-130/community/alumni-happenings.

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BEARING IT WITH GRACE

Caring for the River Wonders' most high-profile inhabitants has taught **Ms Trisha Tay Ting Ni (Science '05)** about parenting, passion and perseverance.



Above: Ms Tay checking on Le Le, then 78 days old, on 30 Oct 2021. Left: Outside the panda exhibit with Kai Kai in the background.

Being so close to Jia Jia and Kai Kai means that Ms Tay can easily identify the traits of each that have passed on to their cub Le Le, who was born to much fanfare last year. "He is fast in figuring things out and remembering how to climb up and down certain structures, like Jia Jia who

is quite smart. But he is also calm like his dad, Kai Kai." She adds with pride, "Le Le is growing well and getting much better at climbing in the exhibit with Jia Jia. Like all cubs, he is playful and curious, and loves exploring his environment. He seems to take after his mum a little more."

Her eyes brighten as she describes the giant panda family, revealing just how zealous she is about her job. It makes sense: after all, this been a lifelong passion for Ms Tay, who started volunteering at the Singapore Zoo as a keeper at the age of 15. "I would volunteer once a week with different animals," she says. She enjoyed it so much that she considered quitting junior college at one point. "But my mother talked me out of it and I decided to take up Life Sciences at NUS."



WHAT IT TAKES

Five traits that people working with animals need, according to Ms Tay:

- ✓ A keen sense of observation
- ✓ Patience to train the animals
- ✓ A can-do attitude to take on new challenges
- ✓ Being adaptable
- ✓ Remaining calm in various situations

YOUNG PARENTS LEARN A LOT ABOUT CARING FOR THEIR KIDS FROM THEIR LOVED ONES AND FELLOW PARENTS.

But Ms Trisha Tay picked up parenting tips from a unique source: Jia Jia and Kai Kai, the two giant pandas she has been looking after since 2012. Tasks like feeding the animals multiple times a day and settling them in for naps were like a preview of parenthood, says Ms Tay, 38.

That "glimpse into the future" came in handy when she had children of her own. "I see similarities between parenting young children and training animals," explains the mother of two children aged eight and five. "Things don't always go your way, and you always need to factor in whether the children or animals ate properly, are being moody or did not sleep well."



Ms Tay and her family.



Placing treats for her charges in their exhibit.

A WALK ON THE WILD SIDE

Upon graduation and after a short stint overseas, Ms Tay worked at a desk job but found herself uninspired. "I was unsure what to pursue next and took a while to figure this out before coming back to volunteering at the zoo — and eventually joined the animal care team," she says. In some ways, she started a second career when her peers were already established in the paths they had taken early on. Yet Ms Tay has no regrets. "This was something I wanted to pursue when I was younger, so it made sense for me to start off here again as I had the relevant volunteer experience and educational qualifications." But she admits that it is not always butterflies and rainbows. "Every career, (even one that you're passionate about), has good and bad parts, ups and downs, and it will never be smooth sailing all the way," she shares. "During stressful periods, you might wonder if this is really for you — but if you don't find yourself dreading to go to work each morning and still find joy in your job, then keep pursuing your passion. Sometimes, the rainbow comes just after the rain!" A

PHOTOS OF MS TRISHA TAY AT WORK: MANDAI WILDLIFE GROUP



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