

NUS IN 2022

Professor Tan Eng Chye, NUS President

15 December 2022

In 2022, I had the opportunity to hold town halls and engagement sessions with staff and stakeholders on the **Shaping the Future** strategy that was endorsed by the Board of Trustees in January. The NUS senior leadership undertook a deep dive into how we can position NUS well for a post-Covid world. We developed refreshed goals for each of the four core domains of education, research, innovation and enterprise, and administration. In our next stage of advancement, NUS will integrate domains and concertedly develop platforms and partnerships as they enable us to create powerful synergies. In addition, we will build strong foundations in **Talent, Leadership and Governance**, and **Mindset Alignment** that will steer the organization unitedly towards our vision of becoming a leading global university, shaping the future.

As the year draws to a close, I am delighted to share my reflections across 15 areas of the University's growth and progress in 2022, and let me begin the roundup on a very happy and upbeat note:

1. Campus Life Returns in Full Swing!

Campus life has revived, and with renewed gusto! From AY2022, students could participate fully in university life and come back for face-to-face classes. Leading off the charge was the 80 face-to-face orientation camps held, including inaugural ones for NUS College and College of Design and Engineering. Student exchange programmes have resumed with nearly 1,100 NUS students going abroad for exchange this semester, while we welcome nearly 1,200 exchange students to our campus.

The [NUS Open House](#) was held from 26 February to 5 March 2022. Visitors thronged our websites, livestreams, webinars and social media sessions hosted by the University's colleges, faculties and schools. This culminated in a physical Open House on 5 March 2022 which showcased NUS' wide-ranging academic options and vibrant student life, sample classes and talks, and campus tours, to nearly 15,000 visitors.



This year's [NUS Commencement](#) honoured the Class of 2022 for their resilience and tenacity, having spent much of their NUS education in the throes of the pandemic. From 6 to 17 July 2022, some 13,975 graduates were celebrated for their achievements through 28 in-person ceremonies. Two illustrious NUS alumni were also conferred Honorary Degrees — lawyer and diplomat Emeritus Professor Tommy Koh, and historian University Professor Wang Gungwu.



NUS Commencement 2022

Other notable events hosted on our campus include the 10th anniversary of the **Temasek Foundation – NUS Programme for Leadership in University Management**, and the first-ever **THE Campus Live Southeast Asia**, organised by Times Higher Education in partnership with NUS, where 250 delegates comprising presidents, vice-chancellors and senior academic leaders from universities across the region, and industry leaders from the education and tech sectors, gathered to exchange ideas on the theme of “Innovation, inclusion, growth: The role of universities in a 21st century Asia”.

2. Strong Reputation as a Leading Global University

In 2022, NUS' international stature continues to grow. NUS broke into the list of top 20 universities, rising two places to emerge 19th in the Times Higher Education World University Rankings 2023. This has been the best showing by NUS since the rankings started in 2010. In the Quacquarelli Symonds (QS) 2023 World's Top University Rankings, NUS maintained 11th in the world and was placed 2nd in the Asian Ranking. Additionally, NUS was ranked within the top 20 for 29 subjects, 16 of which were placed among the top 10.

NUS' faculty have also scaled new peaks of excellence and set new benchmarks in research. 34 NUS researchers are among the world's most highly cited, based on the Highly Cited Researchers 2022 List published by data analytics firm Clarivate.

NUS graduates were ranked 8th most employable in the world in the Global Employability University Ranking and Survey 2022-2023, up one spot from the year before.

3. Attracting and Developing Academic Talent

NUS is pleased to have appointed 57 assistant professors under the **Presidential Young Professorship (PYP)** scheme. The NUS Society of Fellows initiative was renamed as the **Presidential Fellowship** in February 2021. This initiative aims to attract promising academics at an early stage of their careers, and to support them to pursue impactful scholarship as independent researchers. In August 2022, the University welcomed **Dr Kohei Takeda** as our inaugural Presidential Fellow.

We are delighted that distinguished faculty have joined the NUS family recently. **Professor Peter Tornquist**, who is an influential voice in the development of higher music education, has joined NUS as the Dean of the Yong Siew Toh Conservatory of Music. Other outstanding new faculty include **Professors Andrea Britta Maier, David Leslie Paterson, Jose Maria Valderas Martinez, Julian Savulescu, Lin Zhi Qun, Paul Simon Kench, Zhang Yang** and **Associate Professor Sacha Epskamp**.

4. NUS College of Design and Engineering (CDE)

The official start of CDE, formed from a merger of the School of Design & Environment and the Faculty of Engineering in January 2022, signalled an exciting new era of opportunities from the convergence between disciplines in engineering, architecture, and design. It is heartening to see that the spirit of collaboration, innovation, and drive for excellence is thriving and multiplying in CDE, a community united around its mission of forging new frontiers of interdisciplinary learning and innovations.

CDE students are making an impact on both national and international stages. Two recent alums from the CDE Division of Industrial Design were named national winner and national runner-up in the James Dyson Award. Singapore's first electric race car, the **R22e**, was designed by CDE students. **NUS Team Bumblebee**, also based in CDE, won first prize at Robosub 22 – an international competition held at the University of Maryland where student teams design and build robotic submarines.

We can look forward to CDE continuing its track record of innovation and excellence in new frontiers arising from the exciting juxtapositions across its diverse fields. The **Museum Alive Studio** for example, will harness the creativity, skills and perspectives of students from Architecture, Industrial Design and Engineering to propose technology solutions to increase museums' accessibility and engagement with the public. On the research front, the recent opening of CDE's **Architectural Conservation Laboratory (ArClab)** in a conservation building donated to NUS, will bring together expertise in engineering, design and architecture, in efforts to preserve

Singapore's history and build skills that can help address our nation's unique urban sustainability concerns.



ArClab will serve as a site to conduct teaching and research activities on sustainable development of the built environment



Nobel laureate Kailash Satyarthi at his guest lecture hosted by NUS College on 14 Sep 2022

5. NUS College

NUS College is a new undergraduate honours college, featuring a unique educational experience comprising an innovative curriculum, global exposure and residential learning, with a dynamic teaching faculty building on colleagues from the University Scholars Programme and Yale-NUS College. The College welcomed its first cohort of around 400 students in 2022. I look forward to the official launch of NUS College on 24 February 2023, when the College will also unveil its vision and mission statements, and share about special programmes that the College will pioneer.

6. Redefining Education with Technology-Enhanced and Experiential Learning

We began 2022 by implementing an array of technology-enhanced learning services to support the transformation of 753 modules into blended learning format by 2025. To-date, there are 162 modules that have been blended or are currently in the process of being designed into a blended learning module.

With modules being transformed to support instructor-led blended learning, we moved to adopt **Canvas** as a Learning Management System. Canvas' strong systems integration will allow faculty and students to engage one another more intuitively, inside and outside the classroom, and foster pedagogical innovations on and off campus. We are also developing **Learning Analytics Dashboards** based on student performance on lecture videos, quizzes, files, forums and feedback channels.

7. Continuing and Lifelong Learning

In fulfilment of our commitment to lifelong learning for our students, alumni and staff, NUS has significantly advanced Continuing and Education Training (CET) over the last five years. The School of Continuing and Lifelong Education (SCALE), in partnership with our Faculties, has developed new channels and collaborations that have enabled NUS to increase our CET offerings and enrolment capacity. In 2022, we welcomed over **12,000 learners** into our deep-skilling graduate coursework programmes, and received more than **30,000 registrations** for short courses that broaden or upgrade skill sets.

Our CET offerings now include a variety of micro-credentials and certificates for learners who want bite-size opportunities to learn new skills. Our innovative and flexible offerings attract a diverse group of learners to our campus, including mid-careerists pivoting into new professions through our 2022 SkillsFuture Career Transition Programmes in Digital Transformation and Data Analytics.

For advanced learning, NUS now offers **92 state-of-the-art Master's degree programmes**, which have been made more flexible through stackable learning pathways and blended delivery. For instance, the highly popular Master of Computing now offers a General Track for those without a computing background to pivot into this sector. New programmes in areas such as computer engineering, biomedical informatics, green finance, and arts and cultural entrepreneurship have been added. NUS has also introduced two new multidisciplinary master's that bring together expertise in i4.0 and Venture Creation. A newly-revamped Master of Science in Environmental Management will be launched in AY2023, joining this group of flagship multidisciplinary programmes.

NUS held our inaugural **NUS Lifelong Learning Festival** on 19 July 2022, where I announced that from AY2023/24, all alumni and Singapore residents enrolled in our master's programmes will enjoy a tuition rebate. And to encourage NUS staff to embrace a spirit of lifelong learning, NUS has introduced the NUS Master's Sponsorship, which provides bond-free sponsorship of tuition fees for staff interested in pursuing an NUS master's.

8. An Enriching Student Life at NUS

NUS is excited to roll out the next phase of Student Life, with outside classroom activities reimaged as an essential part of an NUS education and the entire campus as our classroom. **Community service** is now part of the NUS curriculum, **financial aid has more than doubled** to allow everyone access to a rich student life, and in the coming years, **more new hostel rooms** will be added to give more students the opportunity to experience residential living and learning. Starting from AY 2022, and a first in Singapore, full-time Singaporean undergraduates enrolled in NUS will have their tuition fees fully covered if they are from households with Per Capita Income (PCI) of up to S\$1,000. In addition, the **NUS Enhanced Financial Aid Scheme** will also

provide full-time Singaporean undergraduates at NUS who are from households whose PCI does not exceed S\$690 with additional financial support for living expenses, on-campus stay and overseas exposure.

In the coming year, NUS will be introducing a Community Impact scholarship to recognize and support students' achievements in community leadership and service, as well as expand on the Sports scholarships. In support of the pursuit of Arts, the Centre for the Arts will become part of the Office of Student Affairs from January 2023 to create greater engagement and inclusiveness across all the arts groups on campus.

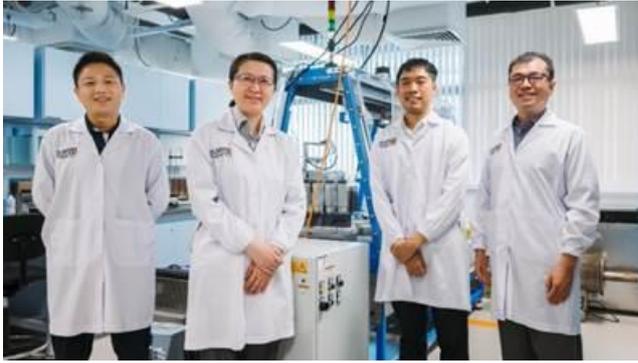
With all these, NUS pledges to build a culture of care for all, as well as opportunities for growth and personal flourishing - in the fields of arts, sports and service beyond self.

9. Impactful Research

This year, we continued to conduct research in areas of high intellectual value and high translational value, with an emphasis on 'problem-driven' research. In particular, our research focuses on interdisciplinary domains that are both globally relevant, and of strategic importance to Singapore, in the areas of Health Innovation, Materials Research, Smart Nation and Sustainability and Urban Solutions.

Collectively, our researchers produced over **12,000** publications across journals, conference proceedings and books in 2021. These studies were conducted together with researchers from more than 3,700 institutes and universities in 175 countries. Our research endeavours are on a strong footing, having secured more than ***\$950 million in external research funding*** from local and international grants in FY2021.

We also continued to establish strategic initiatives and synergistic tie-ups to drive knowledge generation and innovation within the four interdisciplinary research areas. For example, within the sustainability domain, we launched the **Centre for Hydrogen Innovations** to advance hydrogen-related research and enable the use of green hydrogen as a fuel, and the **RWS-NUS Living Laboratory** to advance biodiversity conservation and decarbonisation. Likewise, our Smart Nation research will get a major boost following the launch of major initiatives including the **SIA-NUS Corporate Laboratory** and the **Singapore Hybrid-Integrated Next-Generation μ -Electronics (SHINE) Centre**.



Centre for Hydrogen Innovations



RWS-NUS Living Laboratory

NUS Research seeks to create real-world translational impact, and to generate knowledge that pushes the boundaries of traditional fields. Materials Research at NUS for example, is leading to developments in sustainable energy solutions. The lab of Presidential Young Professor **Assistant Professor Hou Yi** set a new energy efficiency record for tandem solar cell technology that uses perovskite and organic materials. Their design approached the power conversion efficiency of silicon solar cells, which are used extensively in current solar energy technology.

10. Double Anniversary Celebrations for NOC and BLOCK71

NUS celebrated a significant milestone on 26 October 2022 to commemorate **20 years of the NUS Overseas Colleges (NOC) programme** that has nurtured Singapore’s biggest start-up founders, and **10 years** of developing Asia’s most dynamic entrepreneurial ecosystem, **BLOCK71**. The NOC programme has grown to over 15 locations. The NOC alumni is now 3,800 strong, and they have founded more than 1,000 start-ups which have raised more than \$3.5 billion in funding. BLOCK71, an ecosystem builder and global connector for entrepreneurs and enterprises, has nurtured more than 1,600 start-ups, including 10 unicorns, since 2011. NUS will continue to build on these two distinctive programmes; new NOC locations in Southeast Asia are in the pipeline.



Guest-of-Honour, University Professor and NOC founder Shih Choon Fong (third from left) cuts the themed cake



The new NOC mascot, named “Whallycorn”, created by NOC alumna Khor Ke Xin

In addition to nurturing entrepreneurs and building a start-up ecosystem, NUS also seeks to incubate many successful deep-tech start-ups and to become a key node in the global innovation and enterprise ecosystem. Since its introduction in October 2018, the **Graduate Research Innovation Programme** has significantly increased the number of spin-offs emerging from the university, with a target to cultivate up to 250 new ventures over five years. To date, almost 130 teams have graduated from the programme, from which more than 90 start-ups have been incorporated, and have together raised close to \$36 million in external funding. GRIP start-ups continue to blaze the trail. For example, **FathomX**, a digital Health AI Company for breast cancer, raised \$2.24 million in pre-seed funding and won a grant from Centre for Healthcare Innovation in September 2022. It also obtained approval from the Health Sciences Authority for its digital AI imaging solution for diagnosing breast cancer.

11. Sustainability and Resilience

The **University Sustainability and Climate Action Council** continues its work to further integrate and scale NUS' work in research, education, operations and engagement for greater impact. Prof Low Teck Seng has been appointed as Senior Vice President (Sustainability and Resilience) and he will lead the NUS Sustainability and Resilience Unit.

Augmenting NUS' **sustainability education** offerings are the Second Major in Sustainable Urban Development by CDE and Minor in Meteorology and Climate Science by the College of Humanities and Sciences, as well as new Master's programmes in Sustainable and Green Finance (NUS Business School) and Energy Systems (Chemical and Biomedical Engineering, CDE).

NUS Sustainability Research relating to decarbonisation received a boost with NUS receiving funding for eight projects under the Singapore government's inaugural Low Carbon Energy Research Funding Initiative and the subsequent opening of the **Centre For Hydrogen Innovations**. These research initiatives are closely aligned with the recently announced National Hydrogen Strategy, and global climate mitigation trends. Dovetailing with Singapore's ambition to be a carbon trading hub, the **NUS Centre for Nature-based Climate Solutions (CNCS)** was recently awarded funding from the National Research Foundation for the Carbon Market Integrity Research and Development Programme, to establish carbon estimation models for various habitats such as mangroves, peatlands and forests.

Singapore's first ocean basin facility - the **Technology Centre for Offshore and Marine, Singapore (TCOMS)** supported by NUS, the Agency for Science, Technology and Research, Singapore Economic Development Board and Maritime and Port Authority of Singapore officially opened in August. The ocean basin allows simulations of real-world operating environments and supplements NUS' research endeavours in coastal adaptation to climate change and resilience. NUS also announced a new

Research Centre on Sustainable Urban Farming to develop novel science and technology-based solutions for urban farming in Singapore, in partnership with the Singapore Food Agency.



Key partners of Technology Centre for Offshore and Marine, Singapore (TCOMS) at the opening of the ocean basin facility



Solar panels on the rooftop of SDE 4 and surrounding buildings, as part of the Carbon Neutral Campus programme

12. A Greener Campus

We are also transforming our physical campus to become a green and sustainable campus. The **Campus Sustainability Roadmap 2030** comprising key programmes: **Carbon Neutral Campus**, **Cool NUS**, **Zero-Waste NUS** and **Campus in a Tropical Rainforest** has made good progress. These include the SDE 4 building attaining the Building and Construction Authority's [Green Mark Positive Energy Award](#) and generating 150% more energy than it consumes, the [electrification of the campus bus fleet](#), the roll-out of the [Recycle Right Bins](#) expanded to the rest of the campus, and the planting of a cumulative 29,900 trees, amongst others. Under the Cool NUS programme, CDE researchers and UCI are working to establish a comprehensive campus sensor network to determine the Kent Ridge campus' baseline micro-climate conditions to simulate and implement mitigation measures such as cool paint and greenery to improve the outdoor thermal comfort.

Our campus grounds also serve as a testbed for sustainability projects by industry and academia. For example, the **RWS-NUS Living Laboratory** focuses on biodiversity conservation and education as well as decarbonisation and nature-based solutions, and the **Keppel Infrastructure-NUS Low Carbon Living Laboratory** is working on smart grid solutions, renewables and clean energy technologies.

13. Five Years of Organisational Excellence

The Organisational Excellence (OE) initiative reached its five-year milestone this year. Since 2018, OE has restructured our administration, launched 11 enterprise systems and kicked off more than 400 projects and initiatives to review and streamline work processes. In 2022, we implemented **NUService Hub** and **Finance System 2.0** which

replaces the previous SAP ECC. Our collective efforts have generated more than \$57 million in hard and soft savings.

In the next phase, the Organisational Excellence Transformation Unit (OETU) will be repositioned as the **NUS Agility Office (AO)**, to take on an expanded role. Under the purview of the Office of the President, the NUS Agility Office will focus on addressing complex challenges facing higher education and the transformative changes required. It will coordinate the implementation of the University's strategies to align mindsets, institute strong governance, embed innovation and emphasise deep, cross-cutting impactful changes. It will also seed the capabilities and reflexes needed for NUS to be an agile organisation.

Many staff have participated in the university-wide dialogues organized by the NUS Agility Office on **Co-Creating the Future of Work**, and I look forward to your ideas and support as we seek to improve our NUS work community, our systems and processes, to create a future-oriented and future-ready organisation. I am also glad that NUS had won the **Global Healthy Workplace Awards 2022**, where NUS was ranked amongst large, global organisations for best-in-class employee care and well-being practices.

14. Serving the Community

All through 2022, the NUS community has remained steadfast in serving the wider community, from [student-led initiatives](#) to university-wide programmes that engage our community at scale.

[NUSSU Rag & Flag Day](#), which returned in-person to the University Town Green this year, exemplified the passion and dedication of our students – through their combined efforts in canvassing for donations and putting up dazzling performances, a total of S\$230,000 was raised for 21 charity programmes. In the last decade, NUS students have raised more than S\$3.3 million in donations for Singapore beneficiaries through the annual NUSSU Flag and Rag events. It was heartening to see this year's event registering unprecedented numbers for both performers and spectators participation!



Rag & Flag 2022



NUS Giving Run BIG 2022

Our annual fundraising run, [NUS Giving Run BIG](#), also marked a welcome return to being held in-person. 2,300 participants jointly covered an impressive total distance of 53,000 km, raising funds for the NUS Annual Giving Bursaries to benefit students in need.

[Teach SG](#), a flagship university-wide community outreach programme, was officially launched on 16 April 2022 by Education Minister Mr Chan Chun Sing. The programme equips our students with the resources, funding and support needed to mentor and tutor disadvantaged children and youth. Funded through a generous donation of S\$10 million from Ho Bee Land through its philanthropic arm Ho Bee Foundation, this programme has drawn 700 student mentors and 1,200 beneficiaries to date.



Launch of Teach SG



NUS Teach SG mentor on a learning journey trip to the SEA Aquarium with mentees from Naval Base Primary School

[NUS Cares](#), the University's year-round initiative to engage and serve the community, made an impact in diverse fields this year. From promoting environmental sustainability by planting trees to befriending seniors and disadvantaged children, close to 400 students, staff and alumni proudly upheld NUS' tradition of service to society.



Planting of 60 trees to establish a coastal forest at Kranji Coastal Nature Park



The NUS Alumni Sing-Along entertained nursing home residents at All Saints' Home

15. Flying the NUS Flag High!

We are very proud of our faculty who are recognized for their contributions to the advancement of research and knowledge. Among our outstanding faculty are

- **Provost's Chair Professor Atreyi Kankanhalli**, who won the Association for Information Systems (AIS) Fellow Award 2021;
- **Professor Bao Weizhu**, who was conferred the Society for Industrial and Applied Mathematics (SIAM) Fellowship 2022;
- **Professor James D. Sidaway** has been awarded the prestigious Royal Geographical Society (with the Institute of British Geographers [IBG]) 2022 Busk Medal;
- **Associate Professor Sam Yam** has won two of the most prestigious international awards for his early-career contributions, the 2022 Janet Taylor Spence Award for Transformative Early Career Contributions by the Association for Psychological Science (APS), and 2022 Distinguished Early Career Contributions – Science Award from the Society for Industrial and Organizational Psychology (SIOP);
- **Professor Liu Bin** has been elected an international member of the US National Academy of Engineering (NAE). She is among 22 international members elected to the body in 2022; and
- Distinguished **Professor Henry Yeung** has been awarded the prestigious 2022 Sir Peter Hall Award for Lifetime Contribution to the Field by the influential Regional Studies Association.

We also congratulate Assistant Professors **Hou Yi, Liu Yuxin, Lum Yanwei** and **Steven Touzard**, who have been lauded in the 2022 edition of MIT Technology Review's "Innovators under 35" list for making game-changing advances in Science and Technology. Also, 7 NUS faculty have been awarded prestigious Singapore National Academy of Science (SNAS) fellowships.

Among our administrators, **Ms Tan Shui-Min**, NUS Chief Information Technology Officer has been conferred the Singapore Computer Society (SCS) Fellowship at the 55th SCS Annual General Meeting. Shui-Min was also an honouree in SCS' 2021 Singapore 100 Women in Tech List. **Ms Diane Fletcher**, Chief Legal Officer and General Counsel, won the Singapore Corporate Counsel Association's Chief Legal Officers Award 2022 – Public Sector Category.

All in all, 2022 has been an exciting and eventful year, and I thank everyone for your hard work and dedication. This is a season of festivities, and I hope everyone will have the opportunity to unwind and to recharge for the year ahead. I look forward to us all returning in 2023 with renewed vigour, as we strive together on this journey to be a leading global university, shaping the future.