Safer Rides In Yellow Cabs
Yale-NUS College Gets New President

Prominent historian Professor Tan Tai Yong will become President of Yale-NUS College (Yale-NUS) from 1 July 2017. Prof Tan has served as Executive Vice President (Academic Affairs) at Yale-NUS since 2014.

Prof Tan was appointed President of the College by the Yale-NUS Governing Board after an extensive global search. The Yale-NUS Presidential Search Committee was co-chaired by Professor Richard C. Levin, President Emeritus of Yale University, and Professor Tan Chorh Chuan, President of NUS.

Other members of the search committee included senior Yale-NUS faculty Professor Terry Nardin and Associate Professor Khoo Hoon Eng; Yale-NUS Governing Board members Ms Linda Lionmer, former Vice President at Yale University; and Ms Chong Siak Ching, CEO of the National Gallery Singapore.

The search process commenced when Professor Pericles Lewis, the Founding President of Yale-NUS and Professor of Humanities, indicated that he would be stepping down at the end of his term of appointment in May 2017. He returns to Yale University (Yale) as the inaugural Vice President for Global Strategy and Deputy Provost for International Affairs.

Prof Tan was Dean of NUS Arts and Social Sciences for six years, and later Provost (Student Life) at NUS from 2010 to 2014. During those years, he was one of the key architects of the common curriculum. He was later approached by Professor Ben Polak, said Prof Salovey in the same note, “I am delighted that Tai Yong will become the College’s next President. He is respected by the leadership of Yale and by many faculty colleagues with whom he has worked over the years.”

“Even though the start-up scene in Singapore hardly existed six to seven years ago, it is totally transformed today, said Dr Lily Chan, CEO of NUS Enterprise.”

Dr Chan recounted that when the NUS Overseas Colleges (NOC) programme began 15 years ago, students went abroad to intern and study at entrepreneurial hubs such as Silicon Valley but they did not have a similar ecosystem in Singapore upon their return.

Under her leadership, the University began developing an entrepreneurial ecosystem by creating incubation spaces on and around the campus, and providing support in the form of mentorship, funding and seed grants.

“It is not just about driving the [talent] pipeline. You need to look at providing the vehicle too,” she added, emphasizing that talent development needs to move in tandem with a supporting ecosystem.

Dr Chan also highlighted the power of “word of mouth” in getting the NOC programme off the ground while so far away from home.

The diverse panel’s sharing of best practices clearly showed how universities across Asia are gradually shifting their focus to help students not only attain mastery of skills and knowledge, but also become innovators and entrepreneurs.

Building Talent,
Ecosystem in Tandem

For NUS students Sre Vinod Seenivasan, Ron Teo De Zhao, Rafikah bte Mohamed Halim and Andre Tan, 2016 stood out as a time immersed in an experience like no other at the NUS Overseas Colleges (NOC) programme in Silicon Valley, US.

The four were among 95 students who went to the programme last year for a one-year stint, where they interned with technology start-ups as software engineers, marketing executives and in other roles, as well as earned credits studying at the university there in the evenings.

During his internship role as a software quality assurance engineer in a California start-up, Year 4 NUS Mechanical Engineering student Vinod was highly encouraged by his contribution to the firm. “It triggered my curiosity for learning and knowledge. When I returned to Singapore and NUS more motivated to continue learning,” he said.

Year 3 NUS Business student Rafikah took up the NOC programme to explore entrepreneurship and participate in start-up activities like hackathons in Silicon Valley.

More than 2,200 alumni have returned from the NOC programme since it started in 2002, and set up over 270 companies to date.
**Flexible Combinations for Freshmen**

NUS undergraduates matriculating in the new academic year can apply for direct admission to some 70 new combinations of courses where they have the flexibility to go for a single-degree major paired with a second major — a Double Major; or paired with a minor — Major-Minor.

The combinations cover 16 subject areas in Business, Humanities and Social Sciences, as well as Science and Technology.

Incoming students in Academic Year 2017/18 will benefit from some 30 new Double Major combinations and about 40 Major-Minor combinations. Interesting combinations include Double Major in Business Administration with Communications & New Media; and Engineering with a minor in Economics.

**New Specialisations for Computing**

Undergraduates entering the NUS Computing Information Systems (IS) degree programme this academic year can expect an expanded curriculum that will prepare them for careers in the growing Financial Technology (FinTech) and Enterprise IT sectors.

The revamped curriculum, seeking to train students in the development of technological solutions for large organisations amid rapidly changing industry needs, offers two distinct specialisations in the fields of FinTech and Digital Innovation.

The industry has seen a shift towards digital business ecosystems and platforms. A rapid growth in digital technologies occurring in tandem fuels a global demand for technology professionals able to manage such enterprise systems.

Professor Mohan Kankanhalli, Dean of NUS Computing, noted that the greatly transformed IT industry landscape and manpower requirements have high demands for innovation, design thinking, ecosystem development, platform architectural design and IT governance; thus the IS degree programme enhancement is timely.

Interesting combinations include Double Major in Business Administration with Communications & New Media; and Engineering with a minor in Economics.

**Students Offered Work-study Option**

Starting this August, for Academic Year 2017/18, NUS will be introducing a cooperative education programme which allows students to work in a company during their third and fourth years, and apply what they have learnt to real-world issues.

NUS Deputy President (Academic Affairs) and Provost Professor Tan Eng Chye said the programme will be piloted with 10 to 20 students in each of three emerging areas — Information Security, Business Analytics, and Data Science and Analytics. The University hopes to roll out this programme to all students majoring in the three subject areas in future.

The cooperative education programme builds on the NUS Overseas Colleges concept, where students interface with degrees at NUS with internship at a company for a year. The cooperative education programme will prolong the attachment to about 18 months, inclusive of vacation periods, without delaying graduation. Students will be on an internship for their entire third year while having online and blended learning at NUS. About 20 per cent of their fourth year will be spent at the same company.

**Co-creating Singapore’s Future**

NUS, together with five other public universities in Singapore, have developed a new module titled “Singapore: Imagining the Next 50 Years”, a common course for tertiary students.

It is an initiative by the six university Presidents, who form one of the working groups of the Educational Institutions Council under the Advisory Council on Community Relations in Defence.

NUS offers the course as part of the General Education curriculum. Lessons started in January 2017 with an initial intake of 60 students.

The course aims to provide university students with a good grasp of socio-economic issues that Singapore faces, such as a rapidly ageing society, security threats and increasing global competition. It will nurture students to develop new outlooks and strategies pertinent to these issues and contemplate the Singapore they would like to co-create for the future.

The 12-week course covers six topics — Singapore in the World; Population; Economy; Security and Threats; Social Integration; as well as Aspirations and Identity — each created by one university. Classes are conducted as a Massive Open Online Course, complemented by face-to-face discussions in small groups.

The pilot course was oversubscribed by students, shared Professor Ashraf Kassim, NUS Vice Provost (Special Duties). He said, “The new initiative is a timely one as Singapore embarks on building the nation over the next 50 years and our students will play a critical role in shaping the future of Singapore.”

Syafiq bin Mohd Abdul Muhiaini Ong, second-year NUS Global Studies undergraduate, found the course to be highly relevant after having participated in the SG100 Think Future Forum organised by the Lee Kuan Yew School of Public Policy last year. “This module covers a range of themes, and I thought it was one way for me to apply my skills and interest, and also to delve deeper and broader into this idea of thinking about the Singapore we want for the future,” he said.
Civil Service Learns Data Science

The public sector is set to get a boost in its capabilities and innovation with a recent collaboration between NUS and the Government Technology Agency of Singapore (GovTech).

The University will conduct data science training for 2,000 civil service officers annually, as well as work with GovTech to co-develop solutions in areas such as cybersecurity, artificial intelligence and data science.

Professor Tan Eng Chye, NUS Deputy President (Academic Affairs) and Provost, said that the University’s strong expertise in cybersecurity, artificial intelligence and data science will help to realise the acceleration of Singapore’s Smart Nation vision. “This new partnership will deepen the technological capabilities of public sector agencies, and be the springboard for co-created innovative solutions to pressing issues of national concern,” he added.

Ms Jacqueline Poh, Chief Executive of GovTech, said the team-up “will help us put this tool into the hands of 10,000 public officers over the next five years, and educate them to use it effectively”.2

The joint venture will also spur mutual exchange of knowledge and expertise between the two institutions. A GovTech-NUS Exchange Programme will be established to allow staff attachment with each other’s organisation. Both will also embark on a data science project, and develop methods and processes to strengthen cybersecurity for public agencies.

NUS students could also gain skills for the future workplace as the two partners explore various tie-ups such as internships, final year projects and hackathons.

New Partnerships with France

To boost its international collaboration in education and research, NUS has formalised agreements with four French institutions — Paris Descartes University, IFP School, Pickcell, and the International Public Policy Association. This tie-up further warms the close relations between Singapore and France.

NUS and its partners signed four Memoranda of Understanding on 27 March at the inaugural Singapore-France Innovation Forum organised by the Agency for Science, Technology and Research and the French Embassy.

The signing ceremony was witnessed by Ms Sim Ann, Senior Minister of State, Ministry of Culture, Community and Youth, and Ministry of Trade and Industry in Singapore; and Mr Christophe Sirugue, Minister of State for Industry, Digital Economy and Innovation in France. Freeway president François Hollande, who was in Singapore on a state visit, also graced the event as the Guest-of-Honour.

NUS Yong Loo Lin School of Medicine (NUS Medicine) will cooperate with Paris Descartes Medical School in areas of mutual interest, including student and staff exchange programmes, research and teaching initiatives and knowledge-sharing through research programmes, as well as participation in international conferences, workshops and joint seminars.

NUS Engineering joins hands with IFP School — the education division of French public sector research, innovation and training centre IFP Energies nouvelles — to jointly strengthen and develop skills and talents for the energy sector, particularly in oil and gas. Both institutions will explore collaborations in the energy sector, such as the development of a joint Master’s programme with a strong applied and industrial focus.

The Mechanobiology Institute (MBI) at NUS is linking up with Pickcell, a Singapore-based company with a combination of Singapore and French capital, to convert laboratory scale devices developed at the MBI lab into commercial products, customising them for next-generation cancer diagnostics and organoid cultures, as well as advanced cellular imaging.

The Lee Kuan Yew School of Public Policy at NUS also reaffirmed its earlier agreement with the International Public Policy Association, a Paris-based non-profit organisation, to co-organise the 3rd International Conference on Public Policy, to be held in June 2017 at NUS.

Insightful Experience at Open Day 2017

Some 24,000 enthusiastic visitors descended on NUS Kent Ridge and Bukit Timah campuses during NUS Open Day on 11 March.

The fully packed event at University Town featured 112 speakers, 126 talks, 34 programme booths and 30 student activity booths, giving an exciting insight into the University’s transformative education experience, which included academic programmes, overseas opportunities and residential life.

The School of Continuing and Lifelong Education (SCALE) made its debut at Open Day, showcasing final year student projects, a robot built by a student team and talks covering programmes offered by SCALE.

Three vehicles designed and built by students — The Delta, the world’s lightest electric paraglider trike; Solarcopter, a solar-powered helicopter; and Bumblebee, an autonomous underwater vehicle — made a lasting impression on the crowd.

Defence against Cyber Attacks

NUS, supported by the National Cybersecurity R&D Programme at the National Research Foundation, has launched the National Cybersecurity R&D Laboratory (NCL), a national shared facility featuring a realistic environment for cybersecurity research and test-bedding of innovative solutions against cyber threats.

NCL was officially launched on 21 February by Guest-of-Honour Mr Gabriel Lim, Permanent Secretary for Ministry of Communications and Information.

Professor Tan Eng Chye, NUS Deputy President (Academic Affairs) and Provost spoke of the benefits of NCL. “Researchers, businesses and educators can embark on experiments and achieve results more quickly, as this lab will help to save time, effort and costs associated with setting up one’s operating environment,” he said.

He added that the concentration of cybersecurity R&D activities at NUS would create positive network effects and excellent opportunities for manpower training and entrepreneurship.

Hosted at NUS Computing, the $8.4 million NCL is jointly led by Associate Professor Chang Ee-Chien, Associate Professor Liang Zhenkai and Dr Guo Chiang Rang from NUS Computer Science.

The Lab will foster the development of cybersecurity solutions in research involving large-scale experimentation and validation, investigations requiring vulnerable environments and joint projects among multiple researchers.

The facilities at NCL include a test-bed of 100 machines, a library of ready-to-use environments and a large collection of malware, which will also be used for education and hands-on training for students and industry experts on system vulnerabilities.

Some 20 research projects are underway at NCL, such as cloud data storage, software security improvements and security of urban transport systems.

From left: Prof Tan, Mr Lim and Mr Quek Gim Pew, Chairman of NCL Governing Board
Singapore’s Changing Demographics

Singapore is experiencing falling economic and total employment growths. Furthermore, its workforce of approximately 3.3 million — two thirds of this made up of citizens and permanent residents — sees slowing expansion and could experience zero growth in eight years. Minister for Manpower Lim Swee Say presented this sobering trend at the 21st Tembusu Forum held on 28 February. The forum titled “Singapore’s Changing Demographics – Maintaining a Thriving Economy with a Diversified Workforce” was organised by the NUS Students’ Political Association (NUSPA) and was moderated by NUSPA’s Creative Director Richard Kuo.

Senator for Manpower Lim Swee Say, the forum’s keynote speaker and moderator, echoed the need for the government to break the manpower and productivity bottlenecks. This would entail striving towards a more manpower-lean economy with a reduced growth of 1 per cent, while aiming for a 2 per cent gain in productivity, which together would result in a 3 per cent domestic product growth.

To realise this, all sectors of the economy must transform by embracing technology to create high-value jobs, together with innovation, creativity and skills upgrading of the local workforce, he said.

The Minister also announced that the government will be introducing a one-stop online marketplace later this year to match seekers with suitable employers.

In an interactive Question and Answer session moderated by NUSPA’s Creative Director Richard Kuo, Mr Lim emphasised the need of being prepared for multiple careers and to remain employable.

He also discussed the skills required for the future and industries with good prospects, noting that it would be wise to be adept in high-technology or high-touch sectors, or to serve as a link between the two.

Ending on a positive note, Mr Lim said, “I can assure you we will make sure that there are enough good career opportunities for everyone, that’s our job...but who will end up in which career, I think a lot depends on you.” – Minister for Manpower

Deconstructing Populism

Populism — a political view that claims to speak for the common people, sometimes against the establishment — has been gaining support and making headlines lately.

It is thus timely that the 21st Tembusu Forum held on 28 February served up a stimulating discussion on the rise of populism, with perspectives from Britain, the US and Singapore.

Moderated by Professor Tommy Koh, Rector of Tembusu College and Ambassador-at-Large at the Ministry of Foreign Affairs, the forum featured three speakers: Mr Jonathan Darby, Acting Deputy High Commissioner and Political Counsellor at the British High Commission in Singapore; Mr Frank Lavin, who was US Ambassador to Singapore between 2001 and 2005; and Associate Professor Tan Ern Ser from NUS Arts and Social Sciences and the Institute of Policy Studies.

The three speakers examined populism from the perspectives of their respective countries, from the UK’s Brexit vote to the 2016 US Presidential elections, and closer to home, the 2011 General Election in Singapore.

Mr Darby felt that describing Britain’s referendum vote to leave the European Union purely as a populist decision would be an act of populist analysis. Many people who voted against it may not have been for it since the beginning, and still others might have made a balanced decision.

As for Mr Lavin, he challenged the audience to put aside their personal opinion of US President Donald Trump and look at the phenomenon through the lens of a political scientist. He highlighted one characteristic of populism, which is the necessity for emotional connectivity, and how the shift towards grievance politics and increased globalisation has fed into a sense of alienation among a segment of the public, propelling populism to the fore. “If elites cannot maintain that connectivity, they give an opening to populists,” he said.

For Assoc Prof Tan, the 2011 General Election could be considered Singapore’s “populist moment”. He noted the anger against the government, which was attributed to economic turbulence, population increase and immigration, and a disruption of upward mobility. The subsequent efforts by the government to fix hot button issues, along with an increased level of public consultation and communication between 2011 and the 2015 General Elections, might have prevented further discontent.

“I think the future lies with creating a good synergy within Singaporeans and the foreigners in our midst.” – Associate Professor Tan Ern Ser, NUS Arts and Social Sciences

During a dialogue session, the panelists discussed issues such as the role of the media in populism, where the solutions may lie, as well as how this particular wave of populism is distinctive.

In closing, Prof Koh said, “If we don’t look after our people well, if growth is not inclusive, if we don’t educate our people well, then there’s going to be a backlash; but if we do a good job, then we can put the fear of populism at bay.”

From left: Mr Darby, Mr Lavin, Prof Koh and Assoc Prof Tan discussed populism from the perspectives of political events in the UK, US and Singapore.
Safer Rides in Yellow Cabs

The higher visibility of yellow taxis reduces their accident rate.

It is safer to take a yellow taxi than a blue one, found NUS researchers who established a link between a taxi's colour and its accident rate.

The study was led by Professor Ho Teck Hua, NUS Deputy President (Research & Technology) and Tan Chin Tuan Centennial Professor, in collaboration with Associate Professor Chong Jun Kuan from NUS Business and Assistant Professor Xia Xiaoyu from The Chinese University of Hong Kong Business School. The findings were published in Proceedings of the National Academy of Sciences in March 2017.

The team reviewed three years of detailed taxi driver and accident data, comprising millions of data points, of a company's fleet of 4,175 yellow taxis and 12,525 blue taxis in Singapore. The analysis showed that yellow taxis were 9 per cent less likely to have an accident because they have higher visibility, making it easier for drivers to avoid hitting them.

Data collected by satellite-tracking devices in the taxis confirmed identical driving patterns for drivers of both yellow and blue taxis. Furthermore, all taxis were of the same model and underwent the same maintenance schedules. By ruling out these variables, any differences in safety between the two groups could be attributed to their colours.

The researchers calculated that switching the colour of all taxis in the company's fleet to yellow could result in 917 fewer accidents per year and generate annual savings of $2 million.

"Although there is anecdotal evidence on higher accident rates for dark coloured vehicles, few studies have empirically established a strong causal link between colour and accident risk. The findings of our study suggest that colour visibility should play a major role in determining the colours used for public transport vehicles.

"A commercial decision to change all taxis to yellow may save lives and potentially reduce economic losses by millions of dollars," said Prof Ho.

Hope for HFMD Patients

A viable treatment for Hand, Foot and Mouth Disease (HFMD) may be in the offing thanks to scientists from NUS and the Agency for Science, Technology and Research (A*STAR). They have completed the most comprehensive mapping of the susceptibility and resistance genes in the human genome, which are essential for the replication processes of the Enterovirus 71 (EV71), one of the main virus strains that causes the disease.

No specific treatment exists for HFMD, an infectious disease which affects mainly young children. Medications can only relieve the pain and fever symptoms.

Associate Professor Justin Chu from NUS Yong Loo Lin School of Medicine headed the study, working with Dr Wu Kan Xing, a recent PhD graduate from NUS Medicine, and researchers from A*STAR. The team employed gene silencing, a technique where individual genes in the entire human genome of some 22,000 genes are prevented from carrying out their respective functions.

The procedure allowed the team to identify 256 human genes essential for EV71 virus replication in human cells, enabling deeper insight into the mechanism of the virus.

"By understanding how the virus infects cells and the mechanism, we can now design specific drug targets," explained Assoc Prof Chu. He hopes that repurposing existing approved drugs to target pathways that assist in virus replication would accelerate the process of developing next-generation drugs to reduce HFMD in the Singapore setting.

The work published in Nature Communications was among the first of such extensive studies of the human enterovirus.

Assoc Prof Chu’s laboratory is concurrently developing a multivalent vaccine for HFMD which targets the human enteroviruses causing HFMD in Singapore.

Battling TB with Mangosteens

Researchers from NUS Yong Loo Lin School of Medicine have discovered that mangosteens may be used to battle common and multidrug-resistant strains of tuberculosis (TB).

"Although there is anecdotal evidence such as people healing TB by drinking mangosteens, our study is the first to determine that the fruit possesses xanthones, a natural compound with antioxidant and antibacterial properties, which are effective against the bacteria causing TB.

The study conducted under the Singapore Programme of Research Investigating New Approaches to Treatment of Tuberculosis (SPRINT-TB), a multiparty programme based at NUS, was published in European Journal of Medicinal Chemistry.

A Cuppa a Day, Keeps Dementia at Bay

That daily cup of tea can just keep the mind sharp, especially for those who are genetically predisposed to dementia, NUS researchers have discovered.

A study headed by Assistant Professor Feng Lei from NUS Psychological Medicine at the Yong Loo Lin School of Medicine revealed that regular consumption of tea reduces elderly persons' risk of cognitive decline by half, and potentially up to 86 per cent for persons genetically at risk of Alzheimer's.

"I believe the cognitive benefits of drinking tea should be the same across all the ethnic groups because we share the same biology of ageing; the pathology of dementia is the same, and also because the bioactive compounds from tea are the same," he explained.

The advantages of tea derive from its bioactive compounds such as tea flavonoids which display anti-inflammatory and antioxidant potential.

To date, there is a dearth of effective pharmacological therapy and preventive strategies for neurocognitive disorders.

Asst Prof Feng pointed out that while the study focused on Chinese elderly, the results could apply to other races. "I believe the cognitive benefits of drinking tea should be the same across all the ethnic groups because we share the same biology of ageing; the pathology of dementia is the same, and also because the bioactive compounds from tea are the same," he explained.

The advantages of tea derive from its bioactive compounds such as tea flavonoids which display anti-inflammatory and antioxidant potential.

To date, there is a dearth of effective pharmacological therapy and preventive strategies for neurocognitive disorders.
Chatbots Ease Life on Campus

Designed as computer programmes to simulate a human conversation via voice or textual methods, chatbots are gaining popularity for their simple but helpful functionalities. Undergraduates Amos Goh (Year 1, NUS Business) and Natasha Koh (Year 3, NUS Computing) recently launched ‘Taxibot,’ which consolidates ongoing Uber, Grab, and ComfortDelGro promotion codes for the most affordable journey. Amos launched a simplified version initially, and when the bot received traction, he roped in Natasha to develop a technically superior version. They continue to gather feedback from more than 12,000 users to improve and expand on the bot’s features. Another bot enhancing the lives of fellow students is the Orderlyst. Another bot enhancing the lives of fellow students is the Orderlyst.

NUS students are creating their own chatbots to make life easier.

Chatbots are appearing on campus, the result of NUS students who apply their technical power and boundless creativity to make life easier.

Nanosfibres Clean up Air

Nanosfibres incorporated into thin air filters, which can remove up to 90 per cent of PM2.5 particles and achieve air flow 2.5 times better than available products, have been developed by NUS engineers. Assistant Professor Tan Swee Ching from NUS Materials Science and Engineering, together with PhD student Sai Kishore Ravi and former NUS Research Fellow Dr Varun Kumar Singh, fabricated molecules from phthalocyanine, a compound used in dyeing. These molecules can self-organise to form nanoparticles and subsequently, nanofibres. As suspensions in a liquid, the fibres readily “cling” onto non-woven mesh when applied to the fabric. After leaving to dry naturally, the fibres become air filters which enable natural lighting and visibility, even while blocking out harmful ultraviolet rays.

High-efficiency air filters often require multiple layers of fibres that limit their transparency. They are thus unsuitable for incorporation in doors and windows, explained Asst Prof Tan. Furthermore, current respirators’ efficient particle filtration does not let air pass through easily, resulting in a low quality factor. In contrast, the NUS filters achieve double the quality factor as their high air permeability results in better breathability.

Most nanofibres used in air filters now are energy-intensive to produce and have low quality factor. In contrast, the NUS nanofibre solution and create do-it-yourself air filters at home in future. The thin see-through filter require specialised equipment. The NUS team’s simple and cost-effective way of producing the eco-friendly air filters may potentially allow anyone to buy the nanofibre solution and create do-it-yourself air filters at home in future.

The researchers have filed a patent for the invention, and intend to collaborate with industry partners to commercialise this technology.

Number One in Asia

NUS has maintained its position as the best university in Asia, according to the latest Times Higher Education (THE) Asia University Rankings. This is the second consecutive year the University has attained the top spot since the introduction of the category in 2013. Professor Tan Chorh Chuan, NUS President said, “We are pleased that NUS has once again been recognised as Asia’s leading university in the latest rankings by the Times Higher Education. This is a strong recognition of our Asian and global approach to education and research, as well as the importance we place on making a positive impact on the nation and the community around us.”

The THE Asia University Rankings used similar performance indicators as the 13 indicators used in the World University Rankings, but are recalibrated to reflect the priorities of Asian institutions. It ranks 300 of the best universities from 24 Asian countries.

World’s Top 10 for 8 Subjects

NUS has been ranked among the 10 best universities globally in eight subjects including Environmental Science, Architecture, Chemistry and Materials Science in this year’s Quacquarelli Symonds (QS) World University Rankings by Subject. The University also came fifth in the world’s top five universities in Civil and Structural Engineering. NUS had 26 subjects which made the global top 20. It also achieved 35 top-50 finishes to emerge the joint highest number achieved by any Asian university, alongside the University of Tokyo.

NUS global rankings in subject areas

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>WORLD RANKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture &amp; Built Environment</td>
<td>9</td>
</tr>
<tr>
<td>Chemistry</td>
<td>7</td>
</tr>
<tr>
<td>Computer Science &amp; Information Systems</td>
<td>10</td>
</tr>
<tr>
<td>Engineering — Chemical</td>
<td>8</td>
</tr>
<tr>
<td>Engineering — Civil &amp; Structural</td>
<td>5</td>
</tr>
<tr>
<td>Environmental Sciences</td>
<td>9</td>
</tr>
<tr>
<td>Materials Science</td>
<td>8</td>
</tr>
<tr>
<td>Statistics &amp; Operational Research</td>
<td>8</td>
</tr>
</tbody>
</table>

The Rankings is based on academic reputation, employer reputation and research impact.

In addition, the UCLA-NUS EMBA programme was placed second in the QS Global Joint EMBA Rankings, which assessed the top 20 programmes jointly delivered by two or more business schools across multiple locations or platforms.

Pro Bono Efforts Commended

Ten NUS Law students also received the Pro Bono Leadership Award, while five students received the Special Recognition Award. Two grants were given out: the RHTLaw Taylor Wessing Subhas Aranadan Pro Bono Award was bestowed on the Criminal Justice Club, a student-led initiative which conducts pro bono work in criminal law; and the NUS Law Class of 1992 Pro Bono Award was presented to Syariah Law Forum, Military Justice Project and Innocence Project (Singapore).
Bringing Women to the Fore

Although science, technology, engineering and mathematics (STEM) are dominated by men, women have been making important and inspiring contributions to these fields. While a gender imbalance still exists, a significant shift in attitude has expanded the opportunities available for female scientists and researchers.

Professor Linda Kenney, Principal Investigator at the Mechanobiology Institute (MBI) at NUS, is among those who boldly challenge stereotypes about women’s roles in STEM and pave the way for others to realise their potential by achieving notable success in their own domains.

Prof Kenney completed her PhD in Physiology and Biophysics at the University of Pennsylvania and became a postdoctoral fellow at both Yale University and Princeton University. She moved to Singapore in 2006. “My research has gone in directions I could never have accomplished on my own in the US with limited resources,” she said.

Focusing on the study of bacteria, Prof Kenney adopts a multidisciplinary approach that taps different subjects such as genetics, biochemistry and molecular biophysics to answer fundamental questions like how Salmonella causes gastroenteritis and typhoid fever.

A cause close to her heart is the MBI Women in Science (MBI-WIS) group, which she founded in 2013. Comprising graduate students, staff, postdoctoral fellows and faculty in the sciences in Singapore, MBI-WIS seeks to achieve equal and full participation of women in all areas of science. The group organises sharing sessions and events aimed at increasing camaraderie.

“I think that women can do whatever they set their mind to, but women have special challenges relating to motherhood, day care and domestic chores. How individuals work that out has an enormous influence on their scientific careers. Women need to be motivated and driven. That was another impetus for our MBI-WIS group, to stimulate women to articulate their career goals and make it happen,” said Prof Kenney.

Thank You for Your Service

NUS students and support staff — bus drivers, cleaners, canteen and carpark operators, operations associates, and security personnel — banded over food and games for two weeks in February, thanks to an aptly named initiative called ThankBeyondNUS.

The NUS Students’ Union Special Project saw students penning personal messages to support staff as well as treating them to a free drink using “Drinks On Us” vouchers. The messages and vouchers were given to each support staff who attended the appreciation lunches.

The staff was pleasantly surprised and delighted at being recognised. “It’s nice to get to talk to young people; old people and young people should mix more and we can learn from each other,” said Rahimah, an operations associate from Central Library.

The organising committee hopes that the event will serve as a warm-up and springboard for more conversations and interactions between staff and students, in everyday campus life.

Organ Donation Receives Support

At the “Game of Survivors; Outlast Yourself, Support Organ Donation” roadshow and fundraiser held at NUS in February, a discussion forum revealed a sobering figure: for every million people, there are approximately 220 organ failure patients and about 10 organ donors.

This large disparity in numbers, shared by Professor A Vathsala, Co-Director and Senior Consultant of the National University Health System Transplantation (NUCOT), was a driving factor for the event.

Organised by NUCOT, in partnership with TeamNUS and NUS Medical Society, the event sought to increase awareness for the organ donation programme in Singapore. It also aims to promote a healthy lifestyle, and raise funds in support of the National University Health System Fund Limited to help organ transplant patients.

A treadmill charity run at the event, where each kilometre chalked up $10 for the Fund, raised some $6,300 for the programme.

Business leader gives to advance research in ageing

Mr Leong Mun Sum made a gift to support research on addressing the needs of an ageing population at the NUS Faculty of Science and also set up the Leong Mun Sum Scholarship at the NUS Department of Pharmacy. LKF is a home-grown Singapore company that manufactures Axe Brand, one of the leading brands of medicated oil in Asia.

“A Helping Hand for the Needy

Social work professionals can now learn new skills to better help low-income individuals and families manage their finances.

The Next Age Institute (NAI) at NUS Arts and Social Sciences is developing a new Singapore Financial Capability and Asset Building (FCAB) curriculum to enhance social work education locally.

The initiative will equip social workers with capabilities to aid the less fortunate navigate their financial difficulties and gain access to appropriate services to improve their financial well being and achieve better life outcomes. No such formal training exists currently.

The initiative is supported by Ministry of Social and Family Development, Singapore Association of Social Workers, National Council of Social Service, and the Institute for Financial Literacy, as well as Citi Foundation, which is providing approximately $180,000 in funding support for the development of the FCAB curriculum.

NAI has been collaborating closely with key stakeholders to gather feedback on the content requirements, which will be adapted from a curriculum developed in the US.

The initiative is expected to address the needs of an ageing population at the NUS Faculty of Science and also set up the Leong Mun Sum Scholarship at the NUS Department of Pharmacy. LKF is a home-grown Singapore company that manufactures Axe Brand, one of the leading brands of medicated oil in Asia.
NASA’s discovery of the first known system of seven Earth-sized planets around a single star, dubbed TRAPPIST-1, has ignited worldwide interest in knowing more about the universe beyond our own planet. The smallish star within the Aquarius constellation is 40 light years away, or 700,000 human years by current technology.

The scientific community in NUS was similarly excited by the news. Dr Cindy Ng, Senior Lecturer from NUS Physics explained, “This is the largest number of Earth-sized planets in one single extrasolar system ever discovered.” While other extrasolar systems spotted previously had just as many planets, these were not Earth-sized planets but larger, Jupiter-sized planets.

Dr Ng remarked on the significance, “Earth-sized planets are interesting because they have high habitable potentials as compared to the larger planets.” Also, Earth-sized planets are more difficult to be discovered using the transit method, a technique used to detect orbiting planets by tracking its passage in front of the star.

The possibility of life beyond Earth also fuels the allure of the TRAPPIST-1 revelation. Three of the seven planets are located within what physicists term the “habitable zone”, an area around the parent star in which a planet is most likely to have water, and hence a likelihood of sustaining some form of life.

NUS Physics Lecturer Dr Abel Yang pointed out that theories related to the probability of finding intelligent life have long suggested the likelihood of life beyond Earth, though the technology has yet to allow actual observation and discovery.

NUS offers astrophysics as a specialisation under the Physics major programme. Students study three astrophysics-related electives, and undertake a final-year project in the area. Both Dr Ng and Dr Yang jointly teach “Understanding the Universe”, a general education module that is open to all NUS students.