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MAY-JUN 2016
School of lifelong education scales new heights

NUS’ School of Continuing and Lifelong Education (SCALE), a $12 million initiative to promote and expand lifelong learning opportunities for working adults, was officially launched on 17 June by Guest-of-Honour Acting Minister for Education (Higher Education and Skills) Ong Ye Kung.

Representatives from government agencies and industry joined NUS Chairman Mr Wong Ngit Liong, NUS President Professor Tan Chorh Chuan and NUS Deputy President (Academic Affairs) and Provost Professor Tan Eng Chye at the milestone event, which was marked by a roaring lion dance at University Town.

In his speech at the ceremony, Mr Ong pointed out that the role of universities in education does not stop after graduation. He said, “Centres such as SCALE are seedlings that will grow into key nodes of a network of national SkillFuture centres in future.”

The launch event included a flipped classroom presentation, as well as industry project presentations by NUS Bachelor of Technology in Engineering students and graduates to the Minister.

In conjunction with the launch, NUS signed a Memorandum of Understanding with the National Trades Union Congress’ Employment and Employability Institute (e2i), paving the way for adult learning courses in partnership with e2i.

NUS is also looking to work with the Singapore Workforce Development Agency to maintain an upstream role in identifying skills and competency gaps in developing the Singapore workforce.

SCALE will be headed by founding Dean Professor Wei Kwock Kee, a respected industry expert and consultant on e-commerce and social commerce. Prof Wei, a Singaporean who was the founding head of NUS Information Systems, returned to the University after his last appointment as Chair Professor of Information Systems at City University of Hong Kong.

The School will offer undergraduate certificate and graduate diploma courses, Bachelor’s and Master’s degree programmes, as well as short courses and executive programmes.

New data institute furthers Smart Nation vision

The Institute of Data Science (IDS) at NUS was officially launched on 27 May by NUS Chairman Mr Wong Ngit Liong, NUS Deputy President (Research and Technology) and Tan Chin Tuan Centennial Professor His Tock Hua, and Microsoft CEO Mr Satya Nadella.

The new $12 million research centre will cultivate strategic capabilities in data science, analytics and optimisation, as well as cybersecurity, providing the focal point of all data science research, education and related activities at the University.

During the launch, NUS President Professor Tan Chorh Chuan said IDS will draw on the University’s existing strengths in the field to “accelerate the translation of fundamental research into impactful solutions in areas such as healthcare and education that will benefit individuals, businesses and institutions in Singapore and beyond.” To achieve its goals, the Institute will work closely with industry, academia and government agencies, with Microsoft as its first chosen industry partner.

Bringing together more than 20 faculty members from computer science, mathematics, medicine, public health, policy, statistics and social sciences during the initial phase, IDS aims to have about 100 researchers and staff working on wide-ranging projects.

To nurture a pool of skilled data scientists in support of Singapore’s Smart Nation initiative, IDS will provide 50 scholarships over seven years to train PhD students in the areas of data science and data analytics. Undergraduates will also have opportunities for translational research as part of their academic projects.

Microsoft tie-up boosts data science expertise

NUS signed a Memorandum of Understanding with Microsoft on 27 May during the launch of the NUS Institute of Data Science (IDS). The partnership will see the two organisations collaborating on a series of industry-relevant data science research and education initiatives in support of Singapore’s Smart Nation vision.

NUS Deputy President (Research and Technology) and Tan Chin Tuan Centennial Professor His Tock Hua and Microsoft Singapore Managing Director Ms Jessica Tan signed the agreement. It was witnessed by NUS Chairman Mr Wong Ngit Liong and NUS President Professor Tan Chorh Chuan, together with Microsoft CEO Mr Satya Nadella and Microsoft Asia Pacific President Mr Cesar Nenuda.

The University will be Asia’s first to adopt Microsoft’s data science curriculum and co-create content with the tech giant for NUS’ general education curriculum relating to data science.

As the first industry partner of IDS, Microsoft will also offer internship opportunities to NUS students and help grow a pool of skilled technology individuals.

Freshmen’s grade-free scheme extended

The popularity of NUS’ grade-free semester, implemented two years ago to ease the entry transition of first year undergraduates, has prompted the extension of the initiative to the whole year.

Starting from Academic Year 2016/17, the programme will allow freshmen to write-off their grades for up to 32 modular credits from the previous maximum of 20 credits, nearly a full year’s load.

Professor Tan Eng Chye, NUS Deputy President (Academic Affairs) and Provost, revealed that analysis of the grade-free scheme extended implementation by the University. The changes seek to provide NUS students with a transformational educational journey that prepares them well for life in the 21st century.

The expanded grade-free scheme will allow freshmen to disregard grades for up to 32 modular credits from the previous maximum of 20 credits, nearly a full year’s load. The new $12 million research centre will cultivate strategic capabilities in data science, analytics and optimisation, as well as cybersecurity, providing the focal point of all data science research, education and related activities at the University.

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NUS President Professor Tan Chorh Chuan highlighted the important new direction for the University will actively support the national SkillFuture movement. “SCALE will offer differentiated opportunities for adult learners to acquire new knowledge and skills from NUS, help Singapore companies and industries stay competitive with industry-relevant professional development, and support national manpower needs.”

In his speech at the ceremony, Mr Ong pointed out that the role of universities in education does not stop after graduation. He said, “Centres such as SCALE are seedlings that will grow into key nodes of a network of national SkillFuture centres in future.”

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Exceptional achievers lauded for excellence

The NUS University Awards held on 29 April honoured nine outstanding individuals for their seminal work and achievements. The annual event recognises members of the NUS community who have raised the bar in education, research and service. The Outstanding Service Award that acknowledged noteworthy contributions to nation and society was presented to Mr Lee Tzu Yang, Chairman of NUS’ Middle East Institute and The Esplanade Company Limited; Professor Quek Tong Boon, Chairman of NUS’ Esplanade Company Limited and Emeritus Consultant at the Saw Swee Hock School of Public Health; and Mr Lee’s current chair, Richard Tan Ser Kiat, Clinical Professor of Orthopaedic Surgery at NUS and Emeritus Consultant at the Yong Loo Lin School of Medicine.

Founders’ Memorial Committee Members Mr Lee spent 35 years with Shell Companies in Singapore before retiring as its Chairman, and another eight years as Chairman of the Workplace Safety and Health Council. He was recently appointed Chairman of the Lee Kuan Yew School of Public Policy at NUS. A passionate patron of the arts, Mr Lee currently chairs the board of the Esplanade, Singapore’s national performing arts centre. He was recently appointed Chairman of the Temasek Research Fellowship Scheme in local universities to nurture young talent in leading defence research.

The current President of the Singapore Medical Council devoted more than 40 years to public healthcare and numerous national-level committees that helped shape the local healthcare system. As the first Group CEO of the healthcare group SingHealth, Prof Tan helmed the push for greater enhancement of patient care, staff development and medical education.

NUS also presented the Outstanding Educator Award and Young Researcher Award, which are to “train the next generation of future-ready public health leaders”, and to “nurture servant leaders who will change the practice of medicine for the better”.

Their passion, creativity, perseverance and outstanding achievements will galvanise NUS’ talented community to be constantly self-surpassing and to achieve and contribute even more in the future.

“...Prof Tan Chorh Chuan NUS President members who have excelled in engaging and inspiring students in their quest for knowledge...”

At NUS Yong Loo Lin School of Medicine

Practitioners and researchers whose works have impacted and advanced the frontiers of knowledge, and positioned NUS at the forefront of their areas of expertise.

At NUS Yong Loo Lin School of Medicine

His teaching philosophy exemplifies the schools’ educational missions, which are to “train the next generation of future-ready public health leaders”, and to “nurture servant leaders who will change the practice of medicine for the better”.

As a teacher, she believes that if students are given the right academic framework, learning environment and encouragement, they will rise to the challenge of learning independently, working collaboratively and thinking analytically.

With the molecular genetics of eye diseases, treatment methods for glaucoma.

Known for his research on the molecular genetics of eye diseases and on angle closure glaucoma, his studies on therapeutics and surgical outcomes have helped the development of new diagnostic and treatment methods for glaucoma.
Low-income families under the spotlight

In his keynote address, Guest-of-Honour and SSR Advisor Emeritus Senior Minister Goh Chok Tong underlined the importance of research in bolstering evidence-based policies and professional practice in working with low-income families. Studies also help to deepen the understanding of effective intervention models and approaches.

Mr Goh engaging with participants of the conference

“Having data is important for research, and research can help to improve existing policies or provide ideas for new policies.”

— Mr Goh Chok Tong, Singapore Emeritus Senior Minister

Mr Goh engaging with participants of the conference

Organised by the Social Service Research Centre (SSR) at NUS Arts and Social Sciences, the meeting saw more than 300 academics, professionals and policymakers presenting their views on topics ranging from health and housing to debt and cultural demographics.

Technology’s impact on global education

About 150 global leaders from academia, industry, and government and for-profit sectors took part in a dynamic discussion on important issues surrounding technology-enhanced learning (TEL) from 12 to 13 April at NUS.

The second meeting and symposium of the Global Learning Council (GLC), hosted by the University, revolved around the theme “Technology-enhanced learning in Asia: Promise and Challenges”.

The programme lined up expert keynote speakers, interactive question-and-answer sessions via the Pigeonhole Live software and panel discussions. Topics ranged from best practices in the deployment of TEL tools in institutions of higher education, to the latest trends and cross-cultural considerations.

Technology’s impact on global education

GLC develops best practices that promote collaboration and encourage individuals and organisations to use TEL approaches for better learning outcomes. “It’s only fitting that this meeting takes place in Singapore which, over the last several decades, has become a hub for learners from all over the world,” said Professor Subra Suresh, President of Carnegie Mellon University (CMU) and Chair of GLC.

At the meeting, GLC released its official report, Best Practices and Data Sharing in Higher Education, which detailed the social-technical infrastructure university leaders should build, as well as technology demonstrations by NUS, CMU and other institutions.

NUS presented Coursemology, an online learning management system that engages students by turning lessons into games, which has been used by over 200 educators globally to run more than 280 courses ranging from Computer Programming to Literature. Also shown was a collaboration by NUS and CMU based on Oculus Rift — a virtual reality 3D headset which allows students to better visualise medical concepts and develop empathy by “looking through the eyes” of the patient.

Mental muscle conquers desert race

“Think desert and images of hot sandy barrenness come to mind. Trudging for a week... to do better.”

— Assoc Prof Ng

NUS NEWS

The four youths went through punishing training to face the endurance test. They carried 10kg backpacks, trekked in Singapore’s rocky and uneven terrain of the Namib Desert still exacted a toll, injuring the racers’ ligaments and joints.

Technology’s impact on global education

The four young men’s decision to finish together partners from all three stages. It is an important platform for knowledge to be shared, ideas exchanged and the links between the theory of social science research, government policies and the practical aspects of implementation on the ground, strengthened,” he said.

Three research studies were presented: SSR Director Associate Professor Irene Ng from NUS Social Work shared how poor health affects employment through a sense of reduced personal mastery; Assisant Professor Ng Kooi Hoe from the NUS Lee Kuan Yew School of Public Policy and Dr Neo Yu Xiu, Senior Lecturer at SIM University, unveiled patients they had worked with.

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Triple triumph at biz contests

Students at NUS Business School put up impressive performances at three recent international business case competitions to emerge champions. They defeated formidable rivals at the Copenhagen Business School (CBS) Case Competition in Denmark, Belgrade Business International Case Competition in Serbia, and Global Business Case Competition in Seattle, US.

NUS has emerged top in the 2016 Asian rankings by both Quadruparelli Symonds (QS) and the Times Higher Education (THE). The University retained its title as Asia’s best university for the third time running in QS University Rankings: Asia 2016. This year also marked the first time it secured the number one position in the latest THE Asia University Rankings. The QS rankings show NUS continuing its stellar performance with high rankings on most metrics measured.

The University also chalked up perfect scores in four of QS’ 10 metrics — academic reputation, employer reputation, citations per paper and international faculty. Times Higher Education Rankings Editor Mr Phil Baty highlighted that based on THE’s 13 rigorous performance indicators covering the full range of a world-class university’s activities, NUS is clearly the number one university across the whole of Asia. NUS has demonstrated both strength-in-depth with a powerful all-round performance, but its strength in research really stands out,” he said.

NUS President Professor Tan Chorh Chuan expressed delight at the double achievements, saying that these results affirm the University’s strong reputation as a leading global university. Prof Tan added, “We will also continue to pioneer educational innovations and pursue cutting-edge research and its applications to benefit the communities we serve.”

The Logistics Institute — Asia Pacific (TLI — Asia Pacific), a collaboration between NUS and the Georgia Institute of Technology (GT) for research and education programmes in global logistics, snagged the Best Educational Course Provider award for the 12th time at the 2016 Asian Freight, Logistics and Supply Chain (AFLAS) Awards on 14 June in Shanghai, China.

Dr Robert De Souza, Executive Director of TLI – Asia Pacific at NUS, pointed out since the Institute’s inception in 1998, it has been interacting closely with the industry to help companies advance up the value chain through education, research and outreach initiatives. As such, the Institute’s programmes are “a key enabling factor in industry realisation; providing collaborative efforts and training key manpower with innovation concepts, methods and unique solutions that could be recruited by these companies”.

Speaking of the Institute’s success factors, Dr De Souza highlighted its one-stop approach as a dual carriageway between academia and industry. Its research-engaged learning and education programmes, together with the institute’s deep reach into the supply chain across Asia, make it unique in the field.

“Most importantly, we are embedded in two renowned universities: NUS and GT, both recognised leaders in logistics research and education with world-class faculty. The AFLAS Award is a recognition of our final outcome — grooming knowledgeable and highly sought-after graduates from our education programmes valued by their managers and peers in Asia where majority of supply chains emanate,” said Dr De Souza.

The annual AFLAS Awards, organised by Asia Cargo News, recognises leading organisations in the freight and logistics industry.

Prof Dr De Souza (left) accepting the award from Mr Lye Chee Whye, Managing Director of Guangxi at PSA International Pte Ltd

Artur Ekert elected Royal Society Fellow

Professor Artur Ekert, Director of Centre for Quantum Technologies at NUS has been elected a Fellow of the Royal Society. Fellows of the oldest scientific academy in the UK and the Commonwealth are identified based on the merit of their research and dedication to excellence in science.

Prof Ekert specialises in information processing of quantum-mechanical systems. His pioneering work in entanglement-based quantum cryptography in 1991 sparked an explosion of global research efforts and continues to inspire new investigative directions.

The Lee Kong Chian Centennial Professor at NUS has previously been awarded the 1995 Maxwell Medal and Prize by the Institute of Physics and the 2007 Hughes Medal by the Royal Society for his impactful studies.

The Fellowship of the Royal Society comprises pre-eminent scientists, engineers and technologists. Past Fellows and Foreign Members include Isaac Newton, Charles Darwin, Albert Einstein and Stephen Hawking.

The University’s researchers received five of seven prestigious fellowships awarded by the Singapore National Academy of Science (NAS) this year.

The outstanding scientists were Professor Tan Chorh Chuan, NUS President; Professor Ding Lea Ding, NUS Biological Sciences; Professor La Ching Heng, NUS Physics and Deputy Director of the Centre for Quantum Technologies at NUS; Professor Lee Han Kie, NUS Chemistry; and Professor Oo Beng Chin, Distinguished Professor, NUS Computer Science and Director of the Interactive and Digital Media Institute at NUS.

NUS President, researchers awarded science fellowships

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Maximising human capital for social mobility

Despite efforts pushing for social mobility and inclusion, the inequality chain continues to widen worldwide. Singapore has been taking an active role in addressing this challenge with a two-pronged approach, said Mr Tharman Shanmugaratnam, Singapore Deputy Prime Minister and Coordinating Minister for Economic and Social Policies.

“This topic was examined at “Mindset 2.0: Ignite your potential”, an inaugural event organised by the NUS Centre for Future-ready Graduates (CFG) on 1 April. About 200 corporate leaders, industry experts and members of the NUS community gathered to explore skill sets required in a fast-changing world,” Mr Tharman shared.

Recounting agency Egon Zehnder Global Partner Ms Elaine Yew and CFG’s Director Ms Crystal Lim Lea Hy shared in the discussion. Joining the panel were undergraduates who participated in “Roots and Wings”, CFG’s foundational life skills programme; and industry experts, including Global Institute of Tomorrow CEO Mr Chandran Nair; NUS Alumni Founder and CEO Mr Nair Ovok; the Lego Group Chief Commercial Officer Mr Loren Shuster, and Black & Veatch Social Impact Asia Managing Director Mr Mitesh Patil.

Mr Tharman said, “An NUS Trustee, Ms Yew shared in her keynote speech about aggregating crucial elements during the course of her work by listening to thousands of senior executives globally in different industries. Rather than focusing on what the future holds, or what jobs and courses of study to take up, an individual should develop a “set of muscles” — the underlying way of thinking, operating and managing oneself. To confront new challenges for the volatile, uncertain, complex and ambiguous world, Ms Yew outlined four crucial attributes: curiosity on how the world works, to understand about the information necessary for the future; insight to see patterns in a sea of information; engagement to influence, persuade and inspire others, so as to get support; and determination, developing the resilience and energy to stay the course in an increasingly complex world.”

Mr Tharman shared the government’s strategy during his opening address at the conference on “Intergenerational Transfer: Human Capital and Inequality”, hosted by the Centre for Family and Population Research at NUS Arts and Social Sciences. More than 250 academics, researchers and policymakers from 32 countries attended the International Sociological Association Research Committee 28 on Social Stratification & Mobility Conference, held for the first time in Southeast Asia from 26 to 28 May.

Singapore’s fundamental strategy to encourage social mobility focuses on human potential professionals but also friendly faces in the community. To create integrated neighbourhoods, an “activist state” is needed to bring people with different socio-economic status and ethnicities together. These neighbourhoods have to be regularly rejuvenated to avoid “broken windows”, added Mr Tharman.

Keynote speaker Dr Yokee Heyzer, social scientist and former United Nations Under-Secretary-General, spoke on “Harnessing Human Potential for a Sustainable, Secure Future of Shared Prosperity.”

Mr Tharman added Mr Tharman. Keynote speaker Dr Yokee Heyzer, social scientist and former United Nations Under-Secretary-General, spoke on “Harnessing Human Potential for a Sustainable, Secure Future of Shared Prosperity.”

Dr Heyzer, who is an NUS Trustee, highlighted that while the “Asian miracle” has lifted many from poverty, those living precarious lives have also increased. She identified the stunting blocks hampering the human potential: rising inequality, changing demography, climate change and ecosystem threats, transitional risks, and a flawed international financial system.

To unleash the full range of human capabilities, Dr Heyzer called for leaders, public institutions, private sector and citizens to relate to each other in mutual accountability “to shape a world that is fairer, more inclusive and more sustainable for ourselves and for the successive generations to come.”

We have to intervene early, from before birth, through the school years, and through life.

— Mr Tharman Shanmugaratnam, Singapore Deputy Prime Minister

The profile of today’s Islamic State of Iraq and Syria (ISIS) recruit mirrors that of Iraqi insurgents in the early 2000s, but the current refugee crisis may complicate matters further, explained Professor Alan Krueger, Bendheim Professor of Economics and Public Affairs at Princeton University. He said this at the NUS U@live: Lifting the Light Leadership forum titled “What Makes a Terrorist” on 25 May, organised by NUS Alumni Relations.

The professor’s analysis of terrorism in his 2007 book, What Makes a Terrorist: Economics and the Roots of Terrorism, holds water today. He cited recent research published in April 2016 by the US National Bureau of Economic Research in support of his findings. The new element in today’s war on terror, however, is that many terrorists are refugees who did not integrate well with their adopted countries’ communities.

“Foreign fighters were more likely to come from high-income countries where refugees were not assimilated, which suggested the importance of integrating refugees into the fabric of one’s nation,” he postulated.

During the question-and-answer session moderated by ULive Organising Committee Chairman Mr Viswa Sadasivan, a member of the audience asked whether terrorism is something that could be solved or if it is a perennial problem.

The Princeton professor surmised that terrorism is not an “existential threat” but countries should do their part to minimise its impact, thus reducing the incentive for taking part in terrorism.

The quarterly ULive series aims to raise thought leadership through robust engagement with the best minds among eminent NUS alumni as well as top global leaders and thinkers.
Customised medicine made simpler, cheaper

Personalising a pill for individuals with various ailments may become a reality with an innovative method pioneered by NUS researchers.

Assistant Professor Soh Siow Ling and PhD student Sun Yuqian from NUS Chemical and Biomolecular Engineering have developed a system using three-dimensional (3D) printing that can tailor tablets to release drugs at different dosages and release rates.

People requiring drug release in pulses, as is the case with hormones which need to be in sync with the biological processes of the human body, would benefit from this delivery mode. The process can be modified to include multiple drugs loaded within the same “container” or tablet.

“ar a long time, personalised medicine has been a mere concept as it was far too complicated or expensive to be realised,” said Ass Prof Soh. He explained that the new tablet fabrication method is technically simple, relatively inexpensive and versatile. “It can be applied at individualised settings where physicians could produce customised pills on the spot for patients, or in mass production settings by pharmaceutical companies,” he added.

The doctor or pharmacist draws a desired release profile in off-the-shelf design software, which then instructs a 3D printer to generate a mould for the drug. This mould shapes drug-infused polymers of specific release profiles, which are placed into an impermeable biodegradable casing. A solution of surface-eroding polymer, which solidifies when cured under ultraviolet light, fills the gaps in between. This fully customisable system can create templates for any release profile.

In future, clinics, pharmacies and hospitals could deploy this cost-effective method due to its simplicity and affordability, said the researchers. It utilises commercial 3D printers, a technology that is becoming increasingly affordable, and cost-effective materials.

The NUS team is in talks with a multinational corporation to commercialise its invention. It is also investigating the possibility of combining different polymer-based components for improved effectiveness.

Procedure for Making Customisable Tablets

Electronic waste, which poses a major disposal problem globally, could be a potential goldmine, thanks to microbes engineered by NUS scientists. Instead of occupying a landfill, the unwanted electronic materials can be converted by the synthesised bugs to yield precious metals such as gold, platinum and palladium.

NUS Synthetic Biology for Clinical and Technological Innovation (SynCTI) researchers and international collaborators have jointly developed bacteria that can recycle precious metals from electronic waste, a world’s first. The project is funded by the Singapore National Research Foundation.

“Ultimately, we can’t continue to mine precious metals such as gold from ores as we’ll run out of these natural resources, so all these circulating metals have to be recovered,” said Principal Investigator Associate Professor Yew Wen-Shan of NUS Biochemistry. Electronic waste contains a higher concentration of gold compared to gold ores which typically include other undesired fillers.

Existing methods for metal recycling employ harsh acids such as concentrated sulphuric and nitric acids to oxidise the metal into its soluble state. The solution then undergoes electrolysis to separate the liquid from the solid precious metals.

In contrast, Assoc Prof Yew’s innovative approach recovers precious metals, while removing toxic ones such as lead and mercury, in a greener and more sustainable way.

The team created a soil bacterium known as Chromobacterium violaceum within a bioreactor to produce a biochemical derived from the amino acid glycine. The biochemical does the job of the harsh acids, and another class of enzymes separates the precious metals out of the mix.

Assoc Prof Yew explained that there are enzymes that convert glycine into biochemical. His team improved this mechanism’s efficiency, in order to act on the precious metals in a way which the naturally occurring enzymes could not.

The new process takes one week to obtain the solid precious metals compared to about one hour in current methods. However, it can be scaled up for a greater volume of recycling – a notable advantage. The team expected to recover 85 per cent of gold from electronic waste.

The scientists aim to achieve 99.9 per cent gold recovery rate for commercial viability. The team is working with leading metal recycling company Cimelra Resource Recovery to encourage the adoption of its green procedure.

Singapore launches large-scale study on diabetes

An estimated 1 million people in Singapore will be affected by diabetes by 2025, according to a study by NUS Saw Swee Hock School of Public Health.

To tackle this major health crisis, researchers have launched a large-scale study called “Assessing the Progression to Type-2 Diabetes” (APT-2D) to examine factors contributing towards the disease’s development. APT-2D is a collaboration between National University Hospital (NUH) and Janssen Pharmaceuticals, which funds the study in partnership with Singapore’s Ministry of Health.

Findings from the $20 million project can potentially alter diabetes’ natural course and improve the outcomes of those at-risk or live with the disease through more targeted and effective interventions. It could also lead to enhanced therapeutics for diabetes.

The study headed by Dr Sue-Anne Toh, Senior Consultant at the NUH Division of Endocrinology and Assistant Professor at NUS Yong Loo Lin School of Medicine, is recruiting 2,300 healthy and prediabetic individuals for the largest study of its kind in Asia Pacific. NUH will monitor participants for three years to see if they develop type-2 diabetes, including tracking their bodies’ secretion and response to insulin.

The study’s results, expected to be released in about five years’ time, aim to better identify the specific risk factors and biomarkers which increase a person’s susceptibility to developing type-2 diabetes. It could also predict a person’s potential response to treatment and drug interventions or progression to diabetes-related complications, such as blindness, kidney failure, stroke and heart attacks.

The study’s advisor, Saw Swee Hock School of Public Health Dean Professor Cha Kee Seng, pointed out that the disease is a preventable one. “We only have ourselves to blame if we wind up with 1 million diabetics,” he said.
Medical education, research get $1m gift

Indonesian philanthropist Dato’ Sri Dr Tahir has contributed $1 million to kickstart a new partnership in medical education and research between NUS and Universitas Gadjah Mada (UGM), a leading university in Indonesia.

The Tahir-NUS-UGM Collaboration in Medicine was signed on 4 May by NUS President Professor Tan Chorh Chuan, UGM Rector Dr Susilo Bambang Yudhoyono and other distinguished guests.

At the event, Dato’ Sri Prof Dr Tahir, an alumnus of NUS and UGM, said he felt honoured being able to participate in education or healthcare. “I have very good relations with NUS, and also emotional relations with NUS, so I hope NUS and UGM can grow further for the benefit of the whole world.”

The collaboration between NUS Yong Loo Lin School of Medicine and UGM will focus on medical education, including student electives and the development of a global medicine curriculum.

Thus, the Tahir-NUS-UGM Collaboration in Medicine “enabled by the generous gift from Dato’ Sri Prof Dr Tahir, is a vital one”. Prof Tan thanked the philanthropist for his gift, adding, “We are also extremely grateful for the generous and unstinting support that he has shown NUS for over nearly a decade, through gives to bursaries, scholarships and medical research at NUS.”

Mr Tegi Wardhana, former Minister of Mines and Energy, Indonesia, said the partnership could be considered as an indication of the firm commitment for Indonesia to strengthen the cooperation in medical education and research.

Both medical schools will also build clinical and governance capacity through training workshops and attachments in various medical specialties.

Prof Tan pointed out that “collaborations with like-minded institutions are very important, as these enable the pooling of complementary expertise, clinical experiences and research, which are necessary to accelerate the development of new treatment approaches and implementation of clinical best practices.”

Mr Tegi also highlighted the Tahir-NUS-UGM Collaboration in Medicine as a solid foundation for the cooperation between NUS and UGM.

New CIL Director

Ms Lucy Reed, Head of the global international arbitration and public international law groups at Freshfields Bruckhaus Deringer since 1998 and assumed her current position in 2009.

She was with the US government as legal adviser in the State Department from 1985 to 1993, and was general counsel of the Korean Peninsula Energy Development Organization in Asia. She has also been active in academia.

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The world’s increasing demand on energy and water grows in tandem with the production of waste, which adversely impacts the environment. The new $60 million Sembcorp-NUS Corporate Laboratory will be leveraging the latest technology to find solutions, to address these challenges.

Launched on 20 April, the Corporate Laboratory will focus on resource optimisation of energy, water and waste, specifically power generation, industrial wastewater treatment and water reuse, as well as the upcycling of waste into useful and high-value products.

The facility was officially opened by Guest-of-Honour Mr Teo Chee Hean, Singapore Deputy Prime Minister and Coordinating Minister for National Security.

Located at NUS Engineering, the Corporate Laboratory will tap the expertise of 45 NUS researchers and 35 Sembcorp engineers in the laboratory and pilot studies. Research will be conducted using actual-size facilities, with the final aim of full-scale implementation.

A legacy to lift law students

In Singapore, education is a great leveller. With a sound education, you can achieve many goals. It doesn’t matter who your parents are. When I help deserving young students pursue their education, there is a multiplier effect when they in turn go on to help many others when they do well later in life.

Madam Agnes Sng ’84

Madam Agnes Sng nominated NUS as the beneficiary of her Central Provident Fund. She made this decision in the hope that law students in financial need can enjoy university and go on to help others later in life.

To find out more about making a gift to NUS, call 1-800-DEVELOP (1-800-338-3567), email askdvo@nus.edu.sg or visit www.giving.nus.edu.sg

Research projects will include development of predictive maintenance systems that enhance the efficiency of energy generation-operations, while reducing emissions and waste; and creation of cost-effective solutions to meet chemical oxygen demand discharge standards.

Biological models to optimise plant performance and reduce discharge; and conversion of solid residue from power and incineration plants into high-value products will also be studied.

Though such collaborations between universities and companies, we seek to align public sector research more closely to industry needs, to bring about greater positive impact to our society and economy.

Mr Teo Chee Hean

The Corporate Laboratory will walk closely with NUS Engineering research centres such as the Centre for Water Research and Centre for Advanced Materials and Structures. It will also enable NUS students and researchers to gain experience in industrial R&D, especially with Sembcorp engineers.

Sembcorp-NUS Lab drives green issues

CIL-MPA ocean governance programme

A new research programme, which looks into ocean governance and areas critical to strengthening Singapore’s position as a global maritime knowledge hub, has been launched by the NUS Centre for International Law (CIL) and the Maritime and Port Authority of Singapore (MPA).

CIL will set up the CIL-MPA Ocean Governance Research Programme with a three-year $1.56 million research grant from the Singapore Maritime Institute (SMI) supported by MPA.

CIL-MPA Lab focuses on resource and water grows in tandem with the world’s increasing demand on energy and water. The facility is built at Singapore's Corporate Laboratory with 45 NUS researchers and 35 Sembcorp engineers in the laboratory and pilot studies. Research will be conducted using actual-size facilities, with the final aim of full-scale implementation.

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Creativity shines at Biennale Architettura

Singapore, a UNESCO Creative City of Design, put up an enthralling display at the 15th International Architecture Exhibition (Biennale Architettura 2016) in Venice, Italy that literally dazzled visitors.

The NUS Architecture-curated Singapore Pavilion, with a centrepiece of 81 customised lanterns illuminating photos of Singaporeans’ homes, has been listed by Elle Décor Italia as one of the seven most impressive national pavilions of the event.

The creators behind the Singapore concept include Lead Curator NUS Architecture Head Associate Professor Wong Yunn Chii; and Co-Curators NUS Architecture Senior Lecturer Mr Tomohisa Miyauchi, and Red Bean Architects Principal and Founder Mr Teo Yee Chin. Mr Teo, an alumnus, designed the Pavilion, while recent alumna Ms Liane Ee helped as curatorial assistant.

Students from the department will also act as docents throughout the event.

Space to Imagine, Room for Everyone is the exhibit’s interpretation of Biennale Architettura’s main theme, Reporting from the Front. It highlights the small “battles” fought on the home front which are contributing to the emergence of an invigorated Singapore.

The presentation goes behind Singapore’s carefully planned infrastructure and its modern cityscape to put the spotlight on the people and their creative actions in forging new identities, connections to place, and social bonds. It was commissioned by DesignSingapore Council of the Ministry of Communications and Information.

Photos of the interior of homes line three sides of the glass lanterns while a model of a public housing flat resides within it. The images were selected from more than 2,000 photographs taken by Mr Miyauchi of public flats in the city.

Also featured at the exhibition are NUS Architecture students’ 10m long topographical model of the Rail Corridor project and 03-Flats, a collaborative film by Dr Chee Lilian.

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