

# #weareNUS

NATIONAL UNIVERSITY OF SINGAPORE

Annual Report

2017





Transformative  
Life-changing  
Innovative  
Caring  
Holistic

#weare**NUS**



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Vision

A leading global university  
centred in Asia, influencing  
the future

Mission

To transform the way people  
think and do things through  
education, research and service

# Chairman's Statement

“  
The path that lies ahead for NUS is, again, one that heralds great change. In this era of the digital revolution, how we prepare for this journey will demand the inspired and collective efforts of the Board, university leadership, academics, staff, students and alumni.”



My relationship with the National University of Singapore (NUS) began in 1970, when I joined the then University of Singapore at Bukit Timah Campus to study Business Administration. At the time, there were 4,500 of us in the student body.

My next engagement with NUS was in 2003, as a member of the Council. The University had entered another era: it was a complex, multifaceted university in the midst of corporatisation, and on

the cusp of evolving from a teaching university into a research-intensive university.

As I rejoined the Board in January 2017, the University had grown beyond recognition. From a locally-respected teaching institution, NUS is today a globally-ranked, research intensive university that is widely regarded to be among the leading universities in the world. It is a remarkable achievement that was accomplished in two generations.

NUS has fared well under the leadership of my predecessor Mr Wong Ngit Liong, and current President, Professor Tan Chorh Chuan. It has earned a reputation for its pioneering educational programmes. The University has also established itself as a leading research university, working with partners from industry, government, and academia to address crucial and complex issues relevant to Singapore, Asia, and the world.

During his tenure, Chorh Chuan transformed NUS into the top university in Asia, and among the world's most respected universities, unifying colleagues, students and alumni in the unrelenting quest for excellence. We are deeply appreciative of Chorh Chuan's many contributions to NUS these past 13 years, and he leaves us with our fullest support as he takes up his next assignment to help address changing national healthcare needs.

The path that lies ahead for NUS is, again, one that heralds great change. In this era of the digital revolution, how we prepare for this journey will demand the inspired and collective efforts of the Board, university leadership, academics, staff, students and alumni. Our graduates will need to be well-prepared for their future roles, embracing lifelong learning amidst rapid change. Our research must continue to make an even greater impact on our country and society.

The Board has carefully considered the future role of the University, and picked from our deep bench of talent a team that is best able to take our University forward. With Professor Tan Eng Chye as the next President, and Professor Ho Teck Hua as the Senior Deputy President and Provost, we have, in this partnership, the best alchemy to lead us in our journey to be a truly great university.

I would like to thank my predecessor Ngit Liong, Board members Chong Siak Ching, Lucas Chow Wing Keung, Neo Kian Hong, and Teh Kok Peng, who have stepped down from the Board, for their guidance over the years. I would also like to warmly welcome Lai Chung Han to the Board.

It will be my great pleasure to work with our Board members, leadership team, faculty, staff, students, alumni, and benefactors to pursue our vision as a leading global university centred in Asia.

A handwritten signature in black ink, appearing to read 'H. H. Hsieh'.

MR HSIEH FU HUA  
CHAIRMAN



# President's Message

“  
NUS has continued to work hard to pursue and implement key strategic thrusts that significantly expand and deepen the value that we create for Singapore and the wider global community. We have done so by building further on the people, culture and purpose of our institution.”



It has been another full, exciting and successful year for NUS.

During this time, several key issues have received considerable attention in local and global higher education. These include the fundamental shifts in the nature of work, and the ways in which universities can spur innovation and further contribute to economic and societal advancement.

In this regard, NUS has continued to work hard to pursue and implement key strategic thrusts that significantly expand and deepen the value that we create for Singapore and the wider global community. We have done so by building further on

the people, culture and purpose of our institution. I am pleased to report that we have made very good progress in all these dimensions.

In education, NUS has further built on our framework to nurture highly adaptable, future-ready graduates.

The well-received grade-free first semester has been extended to virtually the entire first year to encourage our students to broaden their intellectual horizons and pursue courses outside their comfort zone. The implementation of the revamped General Education programmes has continued apace with the introduction of key modules in Quantitative Reasoning for the majority of undergraduates.

Five thousand students completed Roots & Wings 1.0, a signature programme developed by the Centre for Future-ready Graduates (CFG) to equip students with personal and interpersonal skills to thrive in an increasingly complex future. The programme is complemented by CFG's Future-ready Index, which benchmarks skill sets and future-readiness.

To complement the strengthening of our broad-based curricula, students can also select from 70 new double major and major-minor combinations for cross-disciplinary and exploratory learning.

In recent years, NUS has substantially expanded and enhanced our internship programmes and requirements. In Academic Year 2017/18, we will take an even bigger step in this direction by launching the NUS Co-Operative (Co-Op) Education Programme. This academic-work integration programme, which will be piloted in Information Security, Business Analytics, and Data Science and Analytics, aims to produce rigorously trained graduates with a deep experience of working on real-world problems and issues.

Beyond undergraduate and graduate education, we are developing lifelong learning into a key pillar of NUS' education. In partnership with NUS faculties, the School of Continuing and Lifelong Education is working with government and corporate bodies to offer industry-relevant training to enhance skills, competencies and capabilities. In addition, our new initiative to invite NUS alumni to choose from among 140 NUS modules as part of their continual learning, has been extremely well received.

On the research front, NUS has continued to do well in building broad-based research excellence. We have also maintained our emphasis on multidisciplinary and translational research with the potential for consequential societal impact. One exciting example is the NUS Smart Nation Research Cluster which represents a unique concentration of world-class research expertise in data science,

analytics and optimisation, and cybersecurity, and involves researchers from engineering, mathematics, medicine, computing and social sciences. The Net-Zero Energy Building, one of NUS' newest building projects, embodies our commitment to sustainable building design and research. We have also significantly strengthened our industry collaborations through our partnerships with the World Bank, Lloyd's Register Foundation, Deltares, Alibaba Cloud, Microsoft, LinkedIn and other corporate leaders to pioneer and testbed innovative solutions.

Finally, the NUS community came together in a spirit of service at the inaugural NUS Day of Service, which saw some 1,400 students, staff and alumni participating in 21 community activities, and reaching out to 4,500 beneficiaries. I am also very heartened by the growing number of thoughtful projects initiated by our students to engage more deeply with the wider community and address real needs in our society.

I would like to thank our students, faculty, staff, alumni, benefactors, partners and friends for playing such a critical and contributory role to NUS' achievements and success. Looking ahead, we will have to step forward with even greater boldness and imagination, build further on our strengths, and work with even greater energy to create significant and lasting impact and value for Singapore and the world.

**PROFESSOR TAN CHORH CHUAN**  
PRESIDENT

# Board of Trustees



**Mr HSIEH Fu Hua**

**Chairman**

Board of Trustees

**Chairman**

United Overseas Bank Limited

**Appointed on: 1 January 2017**

Mr Hsieh is the Chairman of United Overseas Bank Limited and a Board Member of GIC Pte Ltd. He also chairs the boards of several non-profit organisations including National Gallery Singapore, National Council of Social Service and the Stewardship Asia Centre, a thought leadership centre established by Temasek Holdings. He is also Chairman (Designate) of National University Health System. He co-founded PrimePartners Group, an independent financial services group, where he currently serves as Adviser. Mr Hsieh was previously appointed to the NUS Council in 2003, later NUS Board, for nine years. He graduated in 1974 from the business school in the University of Singapore.



**Ambassador CHAN Heng Chee**

**Ambassador-at-Large**

Ministry of Foreign Affairs

**Appointed on: 1 April 2012**

Ambassador Chan is Chairman of the Lee Kuan Yew Centre for Innovative Cities in the Singapore University of Technology and Design, Chairman of the National Arts Council, Member of the Presidential Council for Minority Rights, Deputy Chairman of the Social Science Research Council, Member of the Constitutional Commission 2016, Member of the Advisory Council of Temasek Foundation Connects and Member of the Yale-NUS Governing Board. She was Singapore's Ambassador to the United States, Singapore's Permanent Representative to the United Nations, High Commissioner to Canada and Ambassador to Mexico. She holds a PhD in Political Science from the National University of Singapore. She has received honorary degrees from Britain and Australia.



**Dr CHEONG Koon Hean**

**Chief Executive Officer**

Housing & Development Board (HDB)

**Appointed on: 1 April 2013**

Dr Cheong is on the boards of the HDB, the International Federation for Housing and Planning and the Civil Service College. She was also formerly Chief Executive Officer of the Urban Redevelopment Authority. She serves on several international expert panels and is a nominating committee member of the Lee Kuan Yew World City Prize. A Colombo Plan scholar, she holds a First Class Honours degree and University Gold Medal in Architecture and a Doctor of Architecture honoris causa from the University of Newcastle; as well as a Master's degree in Urban Development Planning from University College London. She is also the Tan Swan Beng Endowed Professor in Nanyang Technological University.



**Ms CHONG Siak Ching**

**Chief Executive Officer**

National Gallery Singapore

**Appointed on: 1 April 2011**

*(Stepped down on 1 August 2017)*

Ms Chong sits on the boards of Singapore Press Holdings and Economic Development Innovations Singapore Pte Ltd. She is Board Member of the National Arts Council and Governing Board Member of Yale-NUS College. She is a Non-Resident Ambassador to the Republic of Chile. Ms Chong holds an honours degree in Estate Management and a Master's degree in Business Administration from the National University of Singapore.



**Mr GOH Choon Phong**

**Chief Executive Officer**

Singapore Airlines

**Appointed on: 1 April 2015**

Mr Goh is a Board Director of SIA Engineering Company. He is also Chairman of Budget Aviation Holdings Pte Ltd which owns and manages Scoot. He is Chairman of the Board of Governors of the International Air Transport Association (IATA), in addition to being Chairman of its Chair Committee and a Member of the Strategy and Policy Committee. Mr Goh holds a Master of Science degree in Electrical Engineering and Computer Science and three Bachelor of Science degrees, in Computer Science & Engineering, Management Science and Cognitive Science, from the Massachusetts Institute of Technology.



**Mr GOH Yew Lin**

**Managing Director**

G.K. Goh Holdings Ltd

**Appointed on: 1 April 2008**

Mr Goh is Managing Director of Singapore-listed G.K. Goh Holdings Ltd, an investment company with operations in aged care, and in business services. He is Chairman of Seatown Holdings Pte Ltd, Yong Siew Toh Conservatory of Music and Singapore Symphonia Company Limited, and is Deputy Chairman of the National Arts Council. He also serves on the boards of Temasek Holdings (Private) Limited and Trailblazer Foundation Ltd. Mr Goh holds a Bachelor of Science (Economics) degree from the University of Pennsylvania.



# Board of Trustees



**Dr Noeleen HEYZER**  
**Social Scientist and Former United Nations**  
**Under-Secretary-General**  
**Appointed on: 1 August 2013**

Dr. Heyzer, a social scientist, was Under-Secretary General of the United Nations (2007-2015). She was the first woman to serve as the Executive Secretary of the UN Economic and Social Commission for Asia and the Pacific since its founding in 1947. She was the first woman from outside North America to head the United Nations Development Fund for Women becoming its longest serving Executive Director for 13 years. She was also the United Nations Secretary General's Special Adviser for Timor-Leste. She has served on numerous boards and advisory committees of international organisations and received numerous awards for leadership. She holds a Bachelor of Arts (Honours) and a Master of Science from the University of Singapore and a PhD from University of Cambridge.



**Mdm Kay KUOK Oon Kwong**  
**Executive Chairman**  
Shangri-La Hotel Limited  
**Appointed on: 1 April 2008**

Mdm Kuok is Managing Director of Shangri-La Hotels (M) Berhad, Chairman of Allgreen Properties Limited, and Director of Kuok (Singapore) Limited. She is the Chairman of the Board of National Healthcare Group, TTSH Community Fund and Yale-NUS College Governing Board. She is also Director of the Wildlife Reserves Singapore Conservation Fund and Director of The Courage Fund Ltd. She is a Barrister-at-Law from Gray's Inn London.



**Mr Peter HO Hak Ean**  
**Senior Advisor**  
Centre for Strategic Futures  
**Senior Fellow**  
Civil Service College  
**Appointed on: 1 April 2011**

Mr Ho is the Senior Advisor to the Centre for Strategic Futures, a Senior Fellow in the Civil Service College, and a Visiting Fellow at the Lee Kuan Yew School of Public Policy. He is Chairman of the Urban Redevelopment Authority of Singapore, the Social Science Research Council, the Singapore Centre on Environmental Life Sciences Engineering, and the Campus for Research Excellence and Technological Enterprise Governing Council. He was Head of Civil Service, Permanent Secretary (Foreign Affairs), Permanent Secretary (Defence) and the inaugural Chairman of the Maritime and Port Authority of Singapore. Mr Ho holds a Bachelor of Arts (Honours) in the Engineering Tripos and a Master of Arts from the University of Cambridge.



**Mr LAI Chung Han**  
**Second Permanent Secretary (Education)**  
Ministry of Education  
**Appointed on: 19 June 2017**

Mr Lai is Second Permanent Secretary (Education). He was formerly Chief of the Republic of Singapore Navy (RSN) from Aug 2014 to Jun 2017. Some of his appointments in the RSN included Commanding Officer of the missile corvette RSS Valiant and Fleet Commander. He was also Director (Policy) and Deputy Secretary (Policy) in the Ministry of Defence (MINDEF) prior to his appointment as Chief of Navy. For his contributions in MINDEF and the RSN, he was awarded the Public Administration Medal (Gold) (Military) in 2016. Mr Lai holds a Bachelor of Arts (First Class Honours) in Economics from University of Cambridge and a Master of Public Administration from Harvard University.



**Professor Olaf KÜBLER**  
**President Emeritus**  
ETH Zurich  
**Appointed on: 1 April 2006**

Professor Kübler is a member of the German Council of Science and Humanities (Wissenschaftsrat). He serves on the Board of the Institute of Science and Technology Austria (IST Austria). He is a partner of Robert Bosch Industrietreuhand KG and also serves on its Supervisory Council. Professor Kübler holds undergraduate and graduate degrees in Theoretical Physics from TU Karlsruhe and ETH Zurich respectively, and obtained his doctorate from the University of Heidelberg.



**Mr Michael LIEN Jown Leam**  
**Executive Chairman**  
Wah Hin and Company  
**Appointed on: 1 April 2009**

Mr Lien is Executive Chairman of Wah Hin and Company. He is a Board Member of Temasek Holdings (Private) Limited. He was Managing Director of Morgan Stanley and headed its Singapore corporate finance business up to 2002. He previously served at Singapore's Ministry of Trade and Industry. Mr Lien is also the founder of Leap Philanthropy. Mr Lien was a Colombo Plan Scholar and holds a Bachelor of Economics (First Class Honours) degree, with majors in Finance and Econometrics from Monash University, Australia.

# Board of Trustees



**Mr Andrew LIM Ming-Hui**  
**Partner**

Allen & Gledhill LLP

**Appointed on: 1 April 2012**

Mr Lim is Co-Head of Corporate Mergers & Acquisitions at Allen & Gledhill. He is currently a Director of Singapore Press Holdings Limited, Jurong Engineering Limited and Singex Pte Ltd. He also serves on the Board of the Committee for Private Education (a Committee of the SkillsFuture Singapore Board). Mr Lim graduated from the National University of Singapore with a Bachelor of Laws degree and a Master of Laws degree. He is a Fellow of Singapore Institute of Directors.



**Mr NG Wai King**  
**Managing Partner**

WongPartnership LLP

**Appointed on: 1 April 2015**

Mr Ng is Managing Partner of WongPartnership, and maintains an active mergers and acquisitions, and private equity practice. He graduated from the National University of Singapore with a Bachelor of Laws honours degree where he was awarded the AV Winslow Prize. He subsequently obtained a Master of Laws degree from Columbia University School of Law where he graduated as a Harlan Fiske Stone Scholar.



**Mr LOH Chin Hua**  
**Chief Executive Officer and Executive Director**

Keppel Corporation Limited

**Appointed on: 1 April 2016**

Mr Loh is Chairman of several companies within the Keppel Group including Keppel Offshore & Marine Ltd, Keppel Land Ltd, Keppel Infrastructure Holdings Pte Ltd, Keppel Telecommunications & Transportation Ltd, Keppel Capital Holdings Pte Ltd and Alpha Investment Partners Ltd. He also holds directorship in several Keppel companies, namely, Keppel Oil & Gas Pte Ltd and Keppel Care Foundation Limited. A Colombo Plan Scholar with a Bachelor in Property Administration from Auckland University and a Presidential Key Executive Master of Business Administration from Pepperdine University, Mr Loh is also a CFA® Charterholder.



**Professor TAN Chorh Chuan**  
**President**

National University of Singapore

**Appointed on: 1 April 2006**

Professor Tan is Chairman of National University Health System, Deputy Chairman of Singapore's Agency for Science, Technology and Research and Director of Monetary Authority of Singapore. He is a member of several international committees, advisory boards and associations, and played leadership roles in a variety of these. He obtained his MBBS, Master of Medicine (Internal Medicine) and PhD from the National University of Singapore and MRCP (UK) from the Royal College of Physicians.



**Mr Chaly MAH Chee Kheong**  
**Former Chief Executive Officer**

Deloitte Southeast Asia

**Appointed on: 1 April 2015**

Mr Mah retired as Chief Executive Officer of Deloitte Southeast Asia and Chairman of Deloitte Singapore. He is the Chairman of Singapore Accountancy Commission, Singapore Tourism Board, Accounting Advisory Board of NUS Business School and Netlink NBN Management Pte Ltd. He also serves on the boards of Economic Development Board and CapitaLand Limited. He graduated with a Bachelor of Commerce degree from the University of Melbourne. He is an associate member of the Institute of Chartered Accountants in Australia, a fellow member of CPA Australia as well as the Institute of Singapore Chartered Accountants.



**Mr Phillip TAN Eng Seong**  
**Director**

EQ Insurance Company Ltd

**Appointed on: 1 April 2008**

Mr Tan is a Director of EQ Insurance Company Ltd and is currently serving on the boards and the audit, finance and investment committees of a number of statutory and charitable bodies. He is a Fellow of the Institute of Chartered Accountants in England and Wales, and a Fellow of the Institute of Certified Public Accountants of Singapore.





**Mr Abdullah TARMUGI**  
**Member of the Presidential Council for Minority Rights  
and Former Speaker of Parliament**  
**Appointed on: 1 April 2012**

Mr Tarmugi is a member of the Presidential Council for Minority Rights, former Speaker of Parliament, Singapore, and former Minister of Community Development and Sports. He is also an Independent Director for the Islamic Bank of Singapore, GuocoLand Ltd, Goodhope Asia Holdings Ltd and Pacific Insurance Bhd. He holds an Honours degree in Social Sciences from the University of Singapore and a postgraduate Diploma (Merit) in Urban Studies from the University of London under the Commonwealth Scholarship.



**Mr WONG Fong Fui**  
**Chairman & Group Chief Executive Officer**  
Boustead Singapore Limited  
**Appointed on: 1 April 2016**

Mr Wong is Chairman and Group Chief Executive Officer of Boustead Singapore Limited. He was formerly the Group Chief Executive Officer of QAF Limited and EasyCall International Limited. He was a Member of the Economic Strategies Committee (ESC) and a Co-Chairman for the ESC Land Sub-Committee. Mr Wong graduated as a Chemical Engineer from the University of New South Wales (UNSW) and was awarded an Honorary Degree of Doctor of Business by UNSW.



**Dr Leslie TEO Eng Sipp**  
**Chief Economist and Director, Economics & Investment Strategy**  
GIC Private Limited  
**Appointed on: 1 April 2016**

Dr Teo was Deputy Division Chief in the Asia Pacific Department at the International Monetary Fund and Head of the Financial Surveillance Division at the Monetary Authority of Singapore. He is a Council Member of the Economic Society of Singapore and a Board Member of the Pacific Pension and Investment Institute. Dr Teo holds a Bachelor of Arts from the University of Chicago, US and PhD in Economics from the University of Rochester, US. He is a certified Financial Risk Manager and CFA® Charterholder.



**Ms Elaine YEW Wen Suen**  
**Member of Global Executive Committee**  
Egon Zehnder  
**Appointed on: 1 April 2014**

Ms Yew is a member of Egon Zehnder's Global Executive Committee. Apart from her executive committee responsibilities, she works with clients on senior level search and leadership development, specifically in succession planning for C-level and board roles. She chairs the Industry Advisory Board for the NUS Centre for Future-ready Graduates. She also serves on the Board of Workforce Singapore and the Board of Governors of the Convent of the Holy Infant Jesus group of schools, amongst various other board and advisory board roles in Singapore and overseas. She has a Bachelor of Arts Honours degree in English and Drama from the University of Kent, UK and Master's degree in Business Administration from INSEAD, France.

# Senior Management



**Prof TAN Chorh Chuan**  
President



**Prof TAN Eng Chye**  
President Designate  
Deputy President  
Academic Affairs & Provost



**Prof HO Teck Hua**  
Senior Deputy President  
and Provost Designate  
Deputy President  
Research & Technology  
Tan Chin Tuan Centennial Professor



**Dr Lily CHAN**  
Chief Executive Officer  
NUS Enterprise



**Prof John Eu-Li WONG**  
Senior Vice President  
Health Affairs  
Isabel Chan Professor  
in Medical Sciences



**Prof YONG Kwet Yew**  
Vice President  
Campus Infrastructure



**Ms Jenny LEE**  
Vice President  
Endowment and Institutional  
Development



**Prof Andrew WEE**  
Vice President  
University and Global Relations



**Prof Philip Li-Fan LIU**  
Vice President  
Research & Technology



**Mr LIM Kin Choo**  
Vice President  
Finance



**Prof Bernard C Y TAN**  
Vice Provost  
Undergraduate Education &  
Student Life



**Prof PHOON Kok Kwang**  
Vice Provost  
Academic Personnel



**Prof Ashraf A KASSIM**  
Vice Provost  
Special Duties



**Prof Brenda YEOH**  
Vice Provost  
Graduate Education



# Calendar of Events

1 August 2016 – 31 July 2017



## AUGUST 2016

**1** NUS students raised more than \$472,000 at the annual NUS Students' Union Rag and Flag event, the highest amount in five years. For the first time in Rag history, the six Halls of Residence at NUS banded together to put up a special extravaganza. The funds collected will benefit 23 beneficiaries in Singapore.

**2** At the Kent Ridge Ministerial Forum 2016, Mr Lawrence Wong, Singapore Minister for National Development, shared Singapore's roadmap for a distinctive Singapore in the next 50 years. He outlined four areas in national development: building a distinctive global city; homes for citizens; preserving greenery and biodiversity; and forging a distinctive culture and identity.

**3** A dialogue session "Thought leaders at NUS: In Conversation with the Secretary-General of the United Nations" with the then United Nations Secretary-General Mr Ban Ki-moon was held at NUS where Mr Ban shared his personal journey with NUS students and faculty. Mr Ban was in Singapore in August 2016 on a two-day working visit.

**4** Mr Ban Ki-moon, the eighth Secretary-General of the United Nations was conferred the Honorary Doctor of Letters by Singapore President and NUS Chancellor Dr Tony Tan Keng Yam at a special ceremony at the Istana. The honorary degree recognises Mr Ban's humanitarian accomplishments to the United Nations and the world.



## SEPTEMBER 2016

**5** Some 1,400 staff, students and alumni participated in a host of community activities at the inaugural NUS Day of Service, an initiative of the NUS Alumni Advisory Board. Reaching out to about 4,500 beneficiaries, a total of 21 projects categorised under Environment, Food, Health and Knowledge took place in Singapore and abroad.



**6** The NUS Institute of Systems Science celebrated its 35th year of training and developing infocomm technology professionals. The event was graced by Guest-of-Honour Mr Ong Ye Kung, the then Acting Minister for Education (Higher Education and Skills) and attended by some 300 business leaders, industry professionals, educators, as well as NUS staff and alumni.





# Calendar of Events

1 August 2016 – 31 July 2017



7

## OCTOBER 2016

7 The Lloyd's Register Foundation Institute for the Public Understanding of Risk — Asia's first international academic and public outreach institution — was launched by Minister for National Development and Second Minister for Finance Mr Lawrence Wong. The Institute was jointly set up by the University and UK-based charity Lloyd's Register Foundation.



8

8 NUS and Singtel launched the NUS-Singtel Cyber Security Research and Development Lab, which will conduct research and develop innovative solutions that protect Singapore's public agencies, businesses and individuals from cyber threats. The facility was launched by Guest-of-Honour Mr Teo Chee Hean, Deputy Prime Minister and Coordinating Minister for National Security, and Chairman of the National Research Foundation Singapore.



9

9 Guest-of-Honour Mr S Iswaran, Minister for Trade and Industry (Industry) officiated at the launch of the Technology Centre for Offshore and Marine, Singapore, a joint venture between NUS and the Agency for Science, Technology and Research. The national Centre of Excellence, established at NUS, aims to build capabilities in the marine and offshore engineering industry.

## NOVEMBER 2016

10 Mr Teo Chee Hean, Deputy Prime Minister and Coordinating Minister for National Security, and Chairman of the National Research Foundation Singapore, officially launched the St John's Island National Marine Laboratory (SJINML), which is part of the Tropical Marine Science Institute at NUS. Designated a national marine laboratory, SJINML supports marine research for Singapore.



10

## JANUARY 2017

11 An appreciation dinner was held in honour of NUS' former Chairman Mr Wong Ngit Liong who helmed the University for 12 years. The occasion was graced by Dr Tony Tan Keng Yam, Singapore President and NUS Chancellor. Some 300 guests including Mr Ong Ye Kung, Minister for Education (Higher Education and Skills) and Dr Ng Eng Hen, Minister for Defence, also attended the event.



11

## FEBRUARY 2017

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



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# Calendar of Events

1 August 2016 – 31 July 2017



13

## MARCH 2017

**13** Minister for Manpower Mr Lim Swee Say spoke at the 2017 Kent Ridge Ministerial Forum titled “Singapore’s Changing Demographics – Maintaining a Thriving Economy with a Diversified Workforce” at NUS University Town. He elaborated on the current and future social and economic impact of an ageing and shrinking population, coupled with immigration.

## APRIL 2017

**14** Eleven global higher education leaders gathered at NUS for the Council for Advancement and Support of Education Higher Education Leadership Symposium, held in celebration of the Council’s 10th anniversary in the Asia-Pacific region. The leaders of the participating institutions discussed 10 ideas for the future of their institutions amidst a challenging global landscape.



14

## MAY 2017

**15** The inaugural Syariah Law Forum, graced by Guest-of-Honour Speaker of Parliament Madam Halimah Yacob, was held to raise awareness on Syariah Law and how it governs specific matters for the Muslim community in Singapore. A book titled *Navigating Muslim Law in Singapore*, compiled by law students with support from NUS Faculty of Law and legal practitioners, was also launched at the event.



15

**16** The East Asian Institute at NUS celebrated its 20th anniversary with a public forum and conference themed “China in a Transitional Global Order”. Guest-of-Honour Mr Teo Chee Hean, Deputy Prime Minister and Coordinating Minister for National Security, delivered the keynote address, sharing insights from his experiences working with China’s senior leaders.



16

**17** The Centre for Law & Business at NUS Faculty of Law has been renamed the EW Barker Centre for Law & Business to pay tribute to Singapore’s first and longest-serving law minister Mr Edmund William Barker. The new centre was launched at the NUS Bukit Timah Campus by Singapore Prime Minister Mr Lee Hsien Loong. At the event, the EW Barker Bursary was also launched to provide support to financially needy undergraduate law students.



17

## JULY 2017

**18** Professor Klaus Schwab, Founder and Executive Chairman of the World Economic Forum, and Mr Gerard Ee, Chairman of Charity Council, and also Eastern Health Alliance, and President of the Institute of Singapore Chartered Accountants, were conferred Honorary Doctor of Letters by Dr Tony Tan Keng Yam, Singapore President and NUS Chancellor, at the NUS Commencement Ceremony 2017. Prof Schwab and Mr Ee were recognised for their international leadership contributions, and achievements in community service and charity work, respectively.



18



# EDUCATION

At NUS, our students embark on an enriching learning journey that prepares them to meet society's needs today as well as the challenges of tomorrow.

We are future-focused  
**#weareNUS**

The Study Trips for Engagement and EnRichment-Sail programme embarked on its maiden voyage to Indonesia, Brunei and East Malaysia with 12 students in June 2017.





An NUS education offers our students an intellectually rewarding experience, inside and outside the classroom, while nurturing their talents to become effective leaders.

## AMONG THE BEST

In Academic Year (AY) 2016/17, our standing as one of the leading universities in both the regional and global arenas remained strong. Over the years, NUS has consistently garnered a spot among the world's 30 most dominant university brands, a true testament to the University's reputation.

NUS once again emerged as Asia's top university in the **Times Higher Education (THE) Asia University Rankings 2017**. This is the second consecutive year that the University has come out tops since this category was introduced in 2013. It has also taken the top spot in the inaugural **THE Asia-Pacific Rankings 2017**. NUS was also ranked the top university in Singapore and 27th globally in **THE World Reputation Rankings 2017**.

In addition, the University was 15th in the **Quacquarelli Symonds (QS) World University Rankings 2018**. This latest QS rankings also ranked NUS 11th in the world and top in Asia for Academic Reputation and Employer Reputation, reflecting our strong focus on cultivating future-ready graduates. This is the University's third straight year among the global top 20.

The NUS Business School's Asia-Pacific Executive Master of Business Administration (EMBA) programme rose eight notches to the 17th spot in the **Financial Times Executive MBA Ranking 2016**. Its double-degree Executive MBA programme with the University of California, Los Angeles (UCLA-NUS EMBA) was ranked sixth globally, maintaining its position in the world's top 10 EMBA programmes. In the inaugural **QS Global 100 EMBA Rankings by Region**, the NUS Business School's EMBA programme was top in Asia Pacific.

## PROVIDING MORE DIVERSE ACADEMIC PATHWAYS

Students today need to develop deep expertise in more than one area. With a knowledge and skill base that is both intensive as well as extensive, they must acquire the necessary agility and flexibility to become effective workplace contributors of the future.

NUS' Unrestricted Electives component allows undergraduates to explore greater breadth and depth in any subject at any level, usually beyond their major.

In AY2016/17, to further empower our students to customise their education, the University recalibrated 22 majors/degree programmes across five Faculties and Schools to build in greater flexibility. We have increased the proportion of Unrestricted Electives in the curriculum so that our undergraduates can undertake broader academic pursuits such as a second major or minor without having to earn additional credits or delay graduation.

In February 2017, the University announced that prospective students could now directly apply for about 30 new combinations of double-major and 40 major-minor programmes. These structured combinations intersecting subject areas from Business, Humanities, Social Sciences, and Science and Technology allow our students to explore their interests, grow and maximise their potential.

## EXPANDING THE TOOLBOX OF SKILLS

In AY2016/17, the General Education curriculum was further enhanced with the "Asking Questions" module, which was introduced to some 1,339 students in Arts and Social Sciences, Computing, Engineering, Design and Environment, Business and Science. This pilot module presents six dominant modes of questioning from the perspective of computational thinking, design thinking, engineering, humanities, science and social sciences, and seeks to expose students to specific lines of questioning in the different disciplines.

Student feedback revealed that over 80 per cent of students found the module favourable, citing it as an excellent platform for exposing them to various disciplinary lines of investigation. From AY2017/18 onwards, the "Asking Questions" module will be offered to around 2,700 students each semester.

Given the growing importance of computational skills for complex problem solving, NUS has made progress in AY2016/17 to embed computational thinking into selected undergraduate major and degree programmes. Computational thinking, which involves problem formulation, solution development and solution analysis, with a focus on computation and computational tools, will enable students to hone their skills in solving problems across various situations and disciplines.

## STAYING RELEVANT THROUGH LIFELONG LEARNING

NUS firmly believes that people should upgrade their skills through continuing and lifelong learning. Towards this end, we have launched several initiatives.

### a. School of Continuing and Lifelong Education

From AY2017/18, the School of Continuing and Lifelong Education (SCALE) and School of Computing will offer the part-time Bachelor of Technology (BTech) degree programmes in Cyber Security, Software Engineering, and Business Analytics. Targeted at adult learners to meet national workforce needs, these programmes add to the current suite of courses which can be taken standalone or stacked towards a Bachelor's degree.

SCALE will also offer the "It Begins With NUS Series" that is designed for professionals and managers to acquire new knowledge and basic skills in new technology and best management practice. This series of 1-2 day workshops, which covers subjects in leadership, business-technology innovation, service transformation, in-demand technical skills, as well as emerging and future skills, is facilitated by industry experts.

## b. NUS Institute of Systems Science

In September 2016, the NUS Institute of Systems Science launched two new Professional Conversion Programmes for Data Analysts and Full Stack Software Developers for mid-career professionals. It also introduced a new stackable graduate degree programme in digital solutions development. This modular format allows participants to enjoy the flexibility of bite-sized learning opportunities and to upskill without disrupting their careers.

## c. Lifelong Learning Initiative for NUS Alumni (LLINA)

As new technologies reverberate across the global economic and business landscape, our alumni would need to continue to learn and adapt to develop their careers fully. Mindful of this need, the University intensified efforts to promote continuing education among our extensive network of 278,000 alumni.

In May 2017, NUS announced a new lifelong learning initiative for our alumni. The three-year initiative began with a one-year pilot from August 2017 to July 2018, during which some 800 spaces across 140 modules were made available *gratis* to the NUS alumni community. Alumni enrolled in these modules will study alongside current NUS students during the regular semesters.

## GROOMING FUTURE-READY GRADUATES

THE's **Global University Employability Rankings 2016** had indicated that NUS graduates are the 15th most employable in the world – up two places from the previous year. NUS is also the third Asian university and the only Singapore higher education institution to be among the global top 15 list.

NUS ensures that our graduates emerge from the University with the right mindset, skills and abilities to increase their employability as well as enable them to progress and achieve fulfilling careers.

Our employability-enhancing programmes include:

### a. NUS Co-operative Programme

NUS has intensified efforts to ascertain that more students receive differentiated opportunities for experiential learning. In AY2016/17, we started developing a co-operative education model in collaboration with key industry partners.

Through this programme, students will be able to translate classroom knowledge into practice through related work experiences which accelerate and deepen their learning, and hone their competitive edge in the workforce. Conversely, our industry partners can use the programmes to identify and groom emerging talent early as potential future hires.

In AY2017/18, the University will offer the co-operative education pathway for students admitted to our Information Security, Business Analytics, and Data Science and Analytics programmes.

### b. Future-ready Index

In 2016, the Centre for Future-ready Graduates (CFG) collected insights from over 300 multinational and local employers to create the world's first CFG Future-ready Index. Based on nine essential soft skill sets, CFG developed a CFG Future-ready Index Tool and published the *NUS Future-ready Report*, which was circulated to 2,000 employers and students in February 2017. The data will be used to engage industrial partners in co-developing programmes to facilitate greater understanding and collaboration between students and industry.



## Yale-NUS pioneers graduate

Yale-NUS College's first batch of students celebrated their graduation in a ceremony held on 29 May 2017. Comprising 119 students, the top five majors of the graduating class were Arts and Humanities; Philosophy, Politics and Economics; Environmental Studies; Psychology; and Mathematical, Computational and Statistical Sciences. More than 60 per cent had already secured jobs or university places to pursue graduate studies by the time they graduated.

### c. "Roots & Wings" launch and pilot findings

Also in 2016, CFG conducted two runs of its new "Roots & Wings" module, coaching more than 5,000 students in social-emotional competencies, and personal and interpersonal skills. In January 2017, its content was expanded to include three new seminars on job acquisition strategies, industry awareness and career design.

### SUPPORTING TECH-POWERED EDUCATION

At NUS, we endeavour to integrate technology into course design and delivery to enhance the student learning experience. We actively support the efforts of our faculty to learn more about online pedagogy and explore new opportunities to optimise face-to-face interaction for high value, impactful and quality learning experiences.



In AY2016/17, NUS continued to strengthen our online/blended educational resources, creating more experiential learning opportunities for our students, including:

#### a. Blended modules

Enrolment for selected foundation and bridging modules, which ran on an extended duration from January to June 2017 in a blended learning environment, increased by 22 per cent year-on-year. These essential modules were offered to pre-matriculated, pre-university and polytechnic students as well as Returning Full-time National Servicemen who would be matriculating in August 2017.

Since AY2013/14, 109 blended modules with a total enrolment of nearly 48,000 students have received pedagogical support from the Centre for Development of Teaching and Learning, technical expertise from the Centre for Instructional Technology, and/or funding support from the Learning Innovation Fund–Technology (LIF-T). LIF-T seeds the imaginative use of technology to advance pedagogical research for more effective learning outcomes and has contributed immensely to a culture of technology-enhanced teaching and learning at NUS.

The blended learning approach has been applied to a variety of NUS modules ranging from foundation subjects and bridging modules to modules fulfilling minors. This pedagogical approach enables the University to effectively conduct large-enrolment modules, such as the flagship modules under the NUS General Education programme and the Roots & Wings foundational life skills programme, which are offered to 2,000-3,000 students each semester. Students undertaking internships or part-time degree programmes also benefitted from technology facilitated pedagogy.

#### b. Technology-enhanced learning

We continued to invest in technology-enhanced learning experimentation, supporting 35 projects through LIF-T seed grants. NUS held the inaugural Tech Experience Day in April 2017, where our faculty had the opportunity to view and try out various digital technologies, tools and applications. The range of technologies included virtual reality systems, 360 degree cameras, gesture computing and online gaming, 3D printed models and 3D augmented reality generators.

#### c. Active learning classrooms

As the blended learning approach requires active teaching and learning spaces, NUS renovated and refurbished traditional classrooms into active learning ones. The two-year project was completed in December 2016 and the University now has 48 active learning classrooms.

### STUDYING HOW STUDENTS LEARN

In September 2016, NUS established the Institute for the Application of Learning Science and Educational Technology (ALSET) to support research and innovation in learning science, technology, and pedagogy. Aimed at tertiary and adult students in Asia, the Institute conducts original studies, promotes innovative projects and ensures that the latest research and learning science would have a broad impact.

Since its launch, ALSET has hosted several events for students, faculty and researchers, including the Ultimate Learning Weekend, a student edtech competition in February that attracted 80 participants. It also co-hosted an international Workshop for Educational and Social Science Technologies in July 2017 with the School of Computing, attended by some of the world's leading experts in the field.

It is also making progress to establish the NUS Education Data Lake, an exciting new resource for researchers that includes comprehensive, anonymised data on student academic outcomes and learning behaviours. Finally, it will pilot two innovative undergraduate courses in AY2017/18 titled "Learning How to Learn" and "Learning to Choose".

### GAINING A GLOBAL PERSPECTIVE

In AY2016/17, our students continued to benefit from a range of exciting international programmes that opens a new world of experiences and opportunities for them.

#### a. Student Exchange Programme

Our flagship Student Exchange Programme (SEP) remains our largest and most popular overseas programme. Under SEP, our students experience one or two semesters at an overseas partner university while earning credits towards their NUS degree. In the period of review, there were 325<sup>1</sup> SEP partner universities spanning 43 countries. The programme also achieved record numbers with NUS sending out 2,104 students on exchange, and playing host to 2,087 international exchange students.

Two premier Thai universities, Chulalongkorn University and Mahidol University, became NUS' first university-wide Southeast Asian SEP partners in October and December 2016 respectively. In addition, Chongqing University, located in the strategic western China region, also became a university-wide SEP partner in August 2016.

#### b. Study Trips for Engagement and EnRichment programme

Through the Study Trips for Engagement and EnRichment programme (STEER), students learn about the societal and developmental changes in other parts of the world.

In AY2016/17, a total of 239 students participated in 13 STEERs across three continents.

<sup>1</sup> 188 university-wide + 195 faculty-level less 58 double-counted university-wide & faculty-level = 325 unique partners

Two inaugural trips were organised in the year of review. One was to Costa Rica and Panama in Central America in December 2016 and another was to Botswana from May to June 2017. For the first time, STEER-Sail, a voyage to the Riau Islands in Indonesia, Brunei and East Malaysia in June 2017, was incorporated in the STEER programme. These new STEERs supplemented other trips to China, India, Kazakhstan, Myanmar and Thailand.

### c. Summer learning and research attachment

In AY2016/17, more than 1,500 students took part in some 140 international summer programmes, internships, research attachments and network programmes in 30 countries. During the year, our summer programme offerings grew with new collaborations with Yale University, and Exeter College in the University of Oxford.

Our students also gained invaluable work experience through overseas internships which prepare them for a globalised world. Our new global internship partners include Aberdeen Asset Management in Hong Kong, Indonesia, Japan, Malaysia and Thailand; Ctrip Computer Technology in China; Microsoft in Japan; Philips in the Netherlands; and Sonoma County Economic Development Board in the US.

Through a new partnership with the University of Alberta, Canada, 11 NUS undergraduates took part in the University of Alberta Research Experience in May 2017, a research internship programme. This programme allows top undergraduates from key partner universities to conduct research at the University of Alberta.

## LEARNING THROUGH MENTORSHIP

Our students also get to expand their learning experience through various mentorship and coaching initiatives in the residential colleges and halls of residence, including:

### a. Peer Mentor Programme

In August 2016, Prince George's Park (PGP) Residence 5 piloted the Peer Mentorship Programme across two semesters. Senior undergraduates with proven academic competency mentored freshmen to ease their transition to student life. These seniors also guided and counselled freshmen in areas such as academic studies and life skills to maximise their campus life. This programme will continue in the new PGP House in AY2017/18.

### b. J.P. Morgan Mentorship Programme

Hosted by Residential College 4 (RC4), the J.P. Morgan Mentorship Programme helps students to improve their soft skills and make them future-ready, as well as give them a better understanding of the operations of J.P. Morgan. The 30 RC4 students who enrolled in this programme are attending face-to-face sessions with J.P. Morgan employees beginning in March 2017. After the last session in November, J.P. Morgan will shortlist suitable students as interns.

### c. Coaching programme for students

This pilot programme is a collaboration between Tembusu College and coaches who have been trained in co-active coaching with the Coaches Training Institute. The programme began in Semester 2 of AY2016/17 and the first round, which ended on 15 May 2017, involved 20 Tembusu students. They were given the opportunity to discuss and reflect on topics such as leadership and useful life skills that would help them in the working world.

### d. Alumni Mentorship Programmes

The Eusoff Alumni Mentorship Programme and the Raffles Hall Alumni Mentorship Programme are new initiatives in 2016 which pair Hall residents with mentors who are alumni of the Hall. These mentors will guide their mentees in career direction, job applications, work skills and also provide insights to industries. For Eusoff Hall, a total of 22 mentors and 27 mentees were paired for for a nine-month period from 2016 to 2017.

## NEW DEGREE PROGRAMMES AT NUS IN AY2016/17

### Joint, Double, and Concurrent Degree Programmes with Overseas Universities

#### Joint Degree Programmes

- Doctor of Philosophy in Integrated Biology and Medicine, NUS-Duke University Joint Degree Programme
- Doctor of Philosophy, NUS-Karolinska Institute Joint Degree Programme

### New Degree Programmes in NUS

#### Master's Degree Programmes

- Master of Science in Applied Geographic Information Systems (Faculty of Science)
- Master of Science in Chemistry for Energy and Environment (Faculty of Science)
- Master of Laws in International Arbitration and Dispute Resolution (Faculty of Law)

#### Double Degree Programmes (with no overseas tie-up)

- Master of Business Administration and Master of Science in Real Estate (NUS Business School / School of Design and Environment)

#### Concurrent Degree Programmes (with no overseas tie-up)

- Bachelor of Arts (Honours) and Master in Public Policy (Faculty of Arts and Social Sciences / Lee Kuan Yew School of Public Policy)
- Bachelor of Social Sciences (Honours) and Master in Public Policy (Faculty of Arts and Social Sciences / Lee Kuan Yew School of Public Policy)



# RESEARCH

A thought-leader for Asia and the world, our high impact multidisciplinary research aims to transform lives and the world for the better.

We discover and innovate  
**#weareNUS**

NUS was part of a collaborative team which found that the consumption of the bioactive compound nimbolide, derived from the leaves of the neem plant, could significantly suppress the development of prostate cancer.

Our researchers help to make a positive impact and transform lives through their multi- and cross-disciplinary research in science, technology and the humanities.

NUS continued to make significant strides in a wide range of research areas, resulting in a significant growth in our research output. In 2016, our researchers published a total of 8,737<sup>1</sup> papers in international journals. In Financial Year (FY) 2016, some 1,110<sup>2</sup> new projects were launched and 1,170<sup>2</sup> projects were completed. Over the same period, NUS signed 353<sup>3</sup> research collaborative agreements.

We also ensure that our researchers receive the appropriate funding needed to pursue research excellence in their respective fields. In FY2016, NUS researchers received more than \$745 million<sup>4</sup> in research funds from the Ministry of Education, the National Research Foundation (NRF), the Agency for Science, Technology and Research (A\*STAR) and other granting agencies – an increase of \$31 million over the previous financial year.

## MAJOR BREAKTHROUGHS

In Academic Year (AY) 2016/17, our researchers achieved several significant breakthroughs which were published in leading scientific journals.

### a. Fish alarm

Dr Ajay Mathuru, Assistant Professor of Science at Yale-NUS College, discovered that a “fearful” medaka fish produces a semiochemical, *Schreckstoff*, a type of message-bearing chemical which triggers fear in fish by warning it of a nearby danger. For the medaka fish, this semiochemical is released when another medaka is physically injured. This discovery could further improve our understanding of fear and panic in other animals, including humans. Dr Mathuru’s research was published in *Scientific Reports*, a leading international journal, in November 2016.

### b. Enhancing protein analysis

Mass spectrometry (MS)-based proteomics (protein analysis) is a powerful tool for profiling systems-wide protein expression changes, which can be applied in biomarker discovery in diseases and the study of drug responses. However, proteomics has consistency and coverage issues. As experimental methods to overcome these issues remain problematic, alternatives are needed to complement them.

An NUS research team from the School of Computing (SoC), led by Professor Wong Limsoon, has pioneered an alternative approach that circumvents these issues. Using articulated protein complex-based proteomics profile analysis, they have been developing a series of methods for identifying phenotype-significant protein complex-based signatures that are much more sensitive, specific and reproducible than biomarkers produced by other methods. In 2016, the team’s research was presented in *Trends in Biotechnology*, *Journal of Bioinformatics and Computational Biology* and *Journal of Proteome Research*.

### c. Towards improved bio-management

Building on a recent pilot study on biodiversity at six local reservoirs, Dr Darren Yeo from the Department of Biological Sciences at the NUS Faculty of Science is now studying the aquatic biodiversity and ecology in Singapore’s 11 remaining reservoirs. This translational project is backed by more than \$1.8 million in funding from the Public Utilities Board, from October 2016 to September 2020. The study provides a greater understanding of the food web and nutritional structure in Singapore’s waterways, which paves the way for improved environmental and water quality management.

This project also assesses biodiversity and food webs in Kallang River @ Bishan-Ang Mo Kio Park, a popular “naturalised” waterway, for the first time. It will allow for a broad comparison between waterways and reservoirs, resulting in more effective resource management, public education and outreach activities at the park.

### d. Genetic heart of the matter

A team from the Duke-NUS Medical School, comprising Professor Stuart Cook, Assistant Professor Jean-Paul Kovalik and Assistant Professor Owen Rackham, along with collaborators from the United Kingdom, Germany, the Netherlands and the United States, discovered that gene mutations in the protein titin predispose apparently healthy people to heart failure.

These mutations are linked to dilated cardiomyopathy, where the heart muscle is weakened and enlarged, and cannot pump blood efficiently. The hearts with the titin mutation may be primed to fail if triggered by other genetic or environmental stressors. This study revealed possible new targets for drugs and therapies, and improved confidence in the diagnosis. The research was published in *Nature Genetics* in January 2017.

### e. Creating low-cost high-performance terahertz (THz) emitters

Terahertz (THz) waves have a wide range of applications in medicine, surveillance, computing and communication. However, current THz sources are large, multicomponent systems that are heavy and expensive, and hard to transport, operate, and maintain.

<sup>1</sup> Data extracted from the SCOPUS online database and updated as at 22 June 2017. Figure represents articles, conference papers, and reviews.

<sup>2</sup> Figures reflect the number of new projects that commenced and completed in FY2016. Figures derived from SAP PS as at 7 June 2017.

<sup>3</sup> Figures updated as at 12 May 2017.

<sup>4</sup> Figures updated as at 18 May 2017.



Led by Associate Professor Yang Hyunsoo and Dr Wu Yang from the Department of Electrical and Computer Engineering at NUS Faculty of Engineering and the NUS Nanoscience and Nanotechnology Initiative, the team has successfully developed high-performance, low-power driven THz emitters that can be mass produced economically. They also devised a novel, low-cost fabrication technique to produce the emitters. Their flexible, low-cost THz radiation sources potentially pave the way for greater adoption and commercialisation of THz technology and its applications. The findings were published in the scientific journal *Advanced Materials* in January 2017.

#### f. Greater visibility, fewer accidents

A study led by Professor Ho Teck Hua, NUS Deputy President (Research & Technology), in collaboration with Associate Professor Chong Juin Kuan from the NUS Business School and Assistant Professor Xia Xiaoyu from the Chinese University of Hong Kong Business School, has found a clear link between the colour of a taxi and its accident rate. A 36-month-long analysis of detailed taxi, driver and accident data from two fleets of yellow and blue taxis in Singapore suggests that yellow taxis had fewer accidents than blue ones. The higher visibility of yellow makes it easier for drivers to avoid getting into accidents with yellow taxis, leading to a lower accident rate.

To test a possible causal relationship between taxi colour and accident rates, the team analysed data from the largest taxi company in Singapore. Upon reviewing the data from 4,175 yellow taxis and 12,525 blue taxis, it was revealed that yellow taxis had about 6.1 fewer accidents per 1,000 taxis per month. The researchers also studied the economic impact of changing the colour of the entire fleet to yellow, and found that it could generate an annual savings of \$2 million. The study findings were published in the *Proceedings of the National Academy of Sciences* in March 2017.

### SUPPORTING SMART NATION INITIATIVES

To help Singapore build stronger and more effective digital capabilities, NUS' latest research focus is on data science, analytics and optimisation, and cybersecurity.

#### a. Singapore Consortium for Synthetic Biology

Anchored by NUS, Nanyang Technological University (NTU), A\*STAR and Temasek Life Sciences Laboratory, the Singapore Consortium for Synthetic Biology (SINERGY) was launched in September 2016 to actively promote technology translation, manpower training and technology awareness in the field of synthetic biology across academia, industry and government agencies. The consortium will also utilise the facilities set up at the Synthetic Biology for Clinical and Technological Innovation at NUS, to impart skills and experience in synthetic biology experimentation to industry personnel.

More than 10 industry partners, including AdvanceSyn Pte Ltd, GlaxoSmithKline, Singer Instruments Co. Ltd and Wilmar International Limited, have committed to join SINERGY as founding members. Consortium members will have access to opportunities for dialogue, partnerships, knowledge updates, skills training and research collaborations with universities via seed grants.

#### b. Singapore Cybersecurity Consortium

Funded by NRF, the Singapore Cybersecurity Consortium was launched in September 2016 to engage industry, academia and government agencies in use-inspired research, translation, manpower training and technology awareness in security.

The consortium, which will leverage research under NRF's National Cybersecurity R&D Programme, will utilise the National Cybersecurity Lab housed at NUS to impart relevant skills and experience to industry personnel. Consortium members, which include 14 industry partners, can access a range of activities such as technology talks, annual cybersecurity camps, short certification courses and seed grants that address critical problems in security and privacy.

#### c. NUS-Singtel Cyber Security Research and Development Laboratory

The \$42.8 million NUS-Singtel Cyber Security Research and Development Laboratory (NUS-Singtel Cyber Security Lab) was established in October 2016 to conduct research, and develop capabilities and innovative digital solutions to protect individuals, businesses and public agencies in Singapore from a wide range of cyber threats.

Hosted by the NUS SoC, NUS researchers at the laboratory work alongside Singtel to translate cybersecurity research and innovations into relevant technologies and solutions in four critical areas:

- Network, data and cloud security
- Predictive security analytics
- The Internet of Things and industrial control systems
- Future-ready cybersecurity systems based on quantum technology

Over the next five years, the NUS-Singtel Cyber Security Lab will host the research activities of more than 100 research staff from NUS and Singtel. It will also train 120 new cybersecurity professionals from the undergraduate to the postdoctoral levels.

#### d. Lloyd's Register Foundation Institute for the Public Understanding of Risk

Established through a £10 million (approximately S\$18 million) gift from the Lloyd's Register Foundation and £11 million (approximately S\$20 million) in funding from NUS, the Lloyd's Register Foundation Institute for the Public Understanding of Risk (LRFI) was launched in October 2016 as the first institute in Asia to focus on enhancing the public understanding of risk.

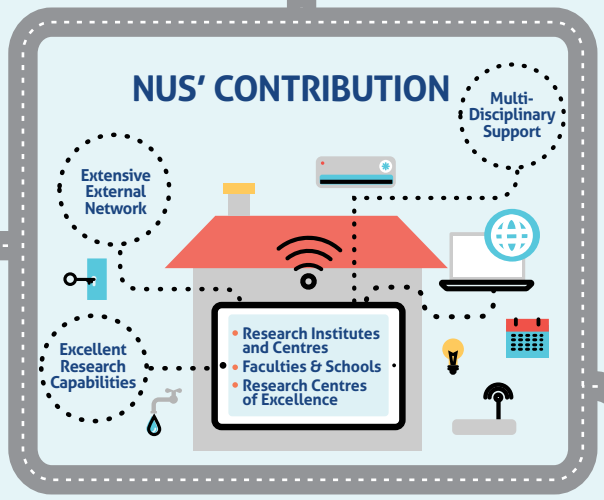
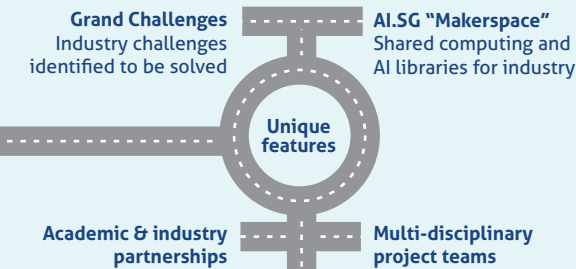
The Institute will spearhead in-depth international research, with an Asia-centric focus, to offer decision makers in government and business across the region access to previously unavailable data and information, which will enable them to make better-informed policy decisions. Up to 30 research projects will be carried out in the first five years.

LRFI also aims to become a trusted and authoritative voice on risk issues. Its outreach efforts will include conducting training programmes for industry and government leaders, and organising conferences to bring experts together to forge closer networks and collaborations on risk communication across Asia.

## NUS' CONTRIBUTION TO SINGAPORE'S SMART NATION INITIATIVE

### WHAT IS AI.SG?

Artificial Intelligence (AI) can vastly improve our lives. AI.SG is a nationwide initiative to nurture talents in AI, increase AI industry translation and commercialisation, drive innovation, and position Singapore at the forefront of the global AI industry.



©National University of Singapore

### e. AI.SG

Launched in May 2017 by NRF, AI.SG is a national partnership that draws on Singapore's artificial intelligence (AI) capabilities from various sectors. It seeks to develop transformative smart technologies, and is investing in the next wave of AI capabilities.

The programme is funded up to \$150 million over five years by NRF and will include a series of grand challenges to inspire researchers and end users to tackle major societal challenges for both Singapore and the global community. Multidisciplinary project teams in AI.SG will work collaboratively across institutions, disciplines and national borders to investigate different approaches to develop innovative AI technology and solutions.

AI.SG will focus on finance, healthcare and city management, and potentially address issues such as:

- Real-time transport planning systems to reduce travel time
- Intelligent personal health assistant for patients
- A personal digital financial adviser for an ageing population



#### f. Singapore Data Science Consortium

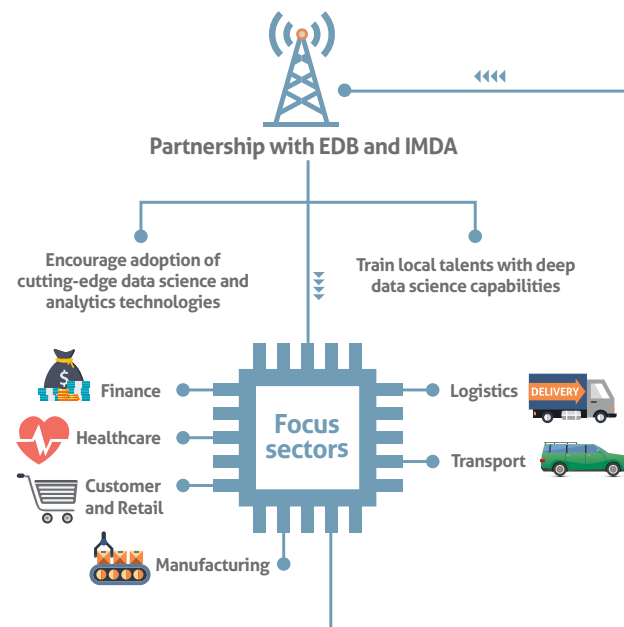
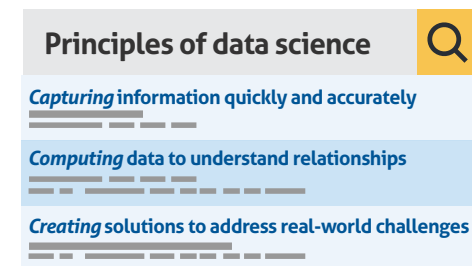
Led by Professor Ho Teck Hua, NUS Deputy President (Research & Technology), the Singapore Data Science Consortium was also launched in May 2017 to boost partnership between researchers and industry in big data analytics. The Consortium is a collaboration between NRF, NUS, NTU, Singapore Management University and A\*STAR. NUS' research centres with data science capabilities, including the Smart Systems Institute, the Institute of Operations Research and Analytics, and the Institute of Data Science, will play an integral role in this initiative.

The Consortium will strengthen collaborative R&D in data science between institutes of higher learning, research institutes and industry to facilitate industry adoption of the latest big data technologies and address real-world challenges. It will also train Singapore's pipeline of talent in data science capabilities.

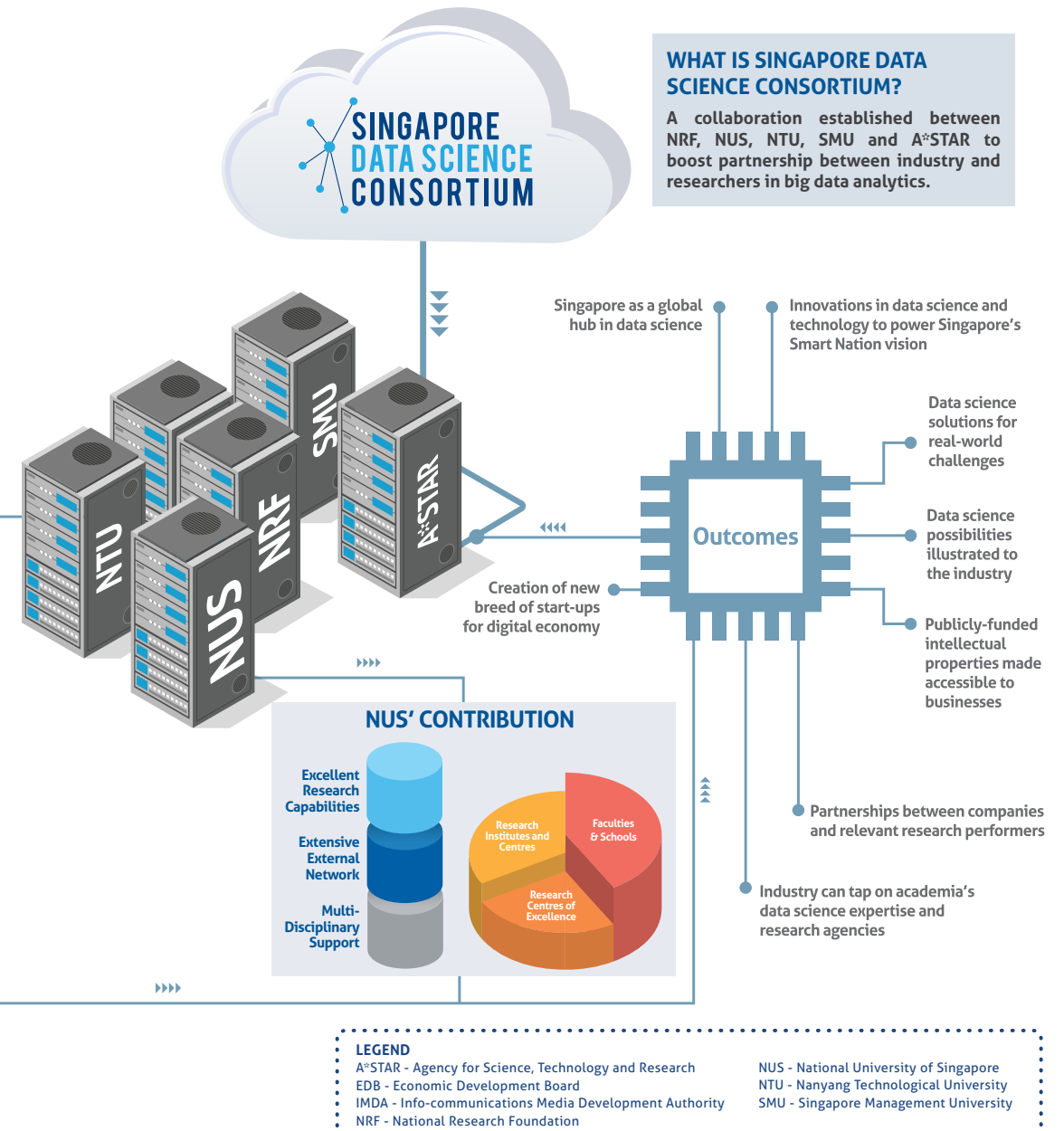
Companies in the consortium hail from these sectors:

- Finance
- Healthcare
- Customer and retail
- Manufacturing
- Logistics
- Transport

## NUS' CONTRIBUTION TO SINGAPORE'S SMART NATION INITIATIVE



IN SUPPORT OF  
Smart Nation  
SINGAPORE  
Many Smart Ideas • One Smart Nation



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## COLLABORATION IN RESEARCH

AY2016/17 saw the emergence of new cutting-edge research programmes and several Memoranda of Understanding (MoUs) between NUS and various institutes, and public and private organisations.

### a. NUS - World Bank Group

NUS and the World Bank Group signed an MoU in September 2016 to broaden collaboration in areas of shared expertise, thereby advancing policy research that addresses global development challenges. The areas of focus include urbanisation, technology, health, education and trade.

The World Bank Group plans to partner the Saw Swee Hock School of Public Health, the Yong Loo Lin School of Medicine, the Duke-NUS Medical School and the Biomedical Institute for Global Health Research and Technology in the areas of healthy ageing, and epidemic and pandemic response design. To support smart cities development and strengthen water management and security, the World Bank will work closely with the School of Design and Environment's Centre for Sustainable Asian Cities and the Lee Kuan Yew School of Public Policy's Institute of Water Policy respectively.

Other proposed partnerships include joint research projects in data analytics, as well as promoting learning opportunities in support of NUS' global education initiatives.

### b. Hybrid-Integrated Flexible (Stretchable) Electronics Systems

NUS' 10-year Hybrid-Integrated Flexible (Stretchable) Electronics Systems research programme was launched in October 2016 to encourage design-process-materials scientific/engineering co-innovation to create new applications and processes in flexible and stretchable systems. Its system-driven approach differs greatly from the mostly bottom-up or materials/component-level investigations done worldwide.

To support the study, a new Centre for Heterogeneous Integration of Nano Systems will be established in January 2018. The Centre will be developed in stages and is scheduled to be fully operational by September 2018. Its work will perfectly dovetail with the Singapore Government's Research, Innovation and Enterprise (RIE) 2020 Plan. One possible application could be wearable biomedical diagnostics, which aligns with RIE2020's Health and Biomedical Sciences domain to develop Singapore into a leading centre for the advancement of human health and wellness.

### c. Singapore Centre on Urban Resilience

NUS and Dutch research institute Deltares signed an MoU in November 2016 to formally launch the development of the Singapore Centre on Urban Resilience (SeCURE). Using big data, SeCURE will adopt a holistic systems approach to address urban resilience challenges such as climate change-induced flooding and drought in Southeast Asia.

### d. NUS-Alibaba Cloud-EZ Link

NUS, Alibaba Cloud and EZ-Link signed an MoU in January 2017 to collaborate and boost Singapore's smart computing and data-driven capabilities by strengthening NUS' data science curriculum, building local IT skill sets, meeting enterprise demands, and supporting R&D in the big data era. The collaboration will also pave the way for a pilot data analytics project with EZ-Link.

Under the MoU, Alibaba Cloud will contribute US\$500,000 (approximately S\$685,000) in cloud credits towards the use of its cloud platform and data centres by NUS students and researchers for academic and research purposes. IT experts from Alibaba Cloud will also offer hands-on lessons on the use of Alibaba Cloud's platform to NUS staff and students.

The collaboration provides a platform for all three organisations to work collectively on harnessing data and translating it into ready-to-implement solutions which will positively impact Singaporeans and Singaporean businesses.



## Research Statistics

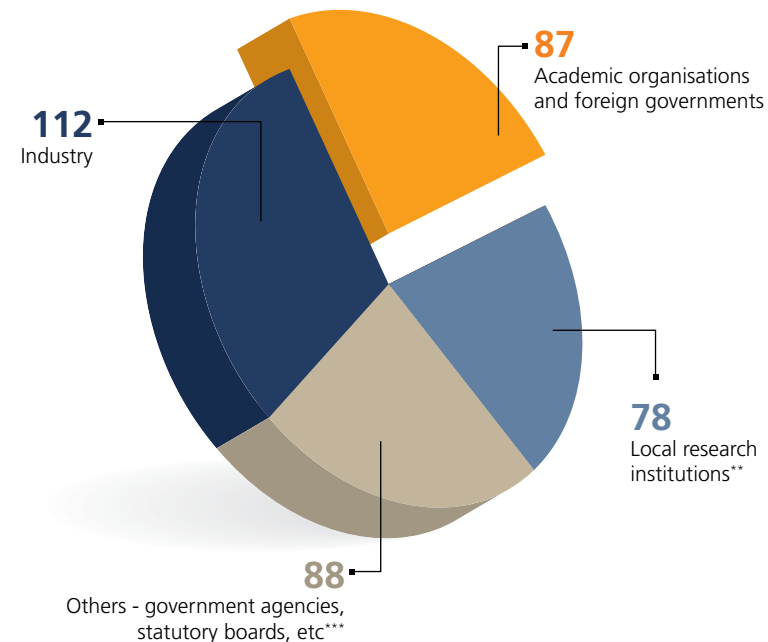
**8,737** Number of papers published in international journals in CY2016<sup>1</sup>

**1,110** Number of new projects launched in the year<sup>2</sup>

**1,170** Number of projects completed in the year<sup>2</sup>

### NEW RESEARCH COLLABORATIONS THAT TOOK OFF IN FY2016

**353\***



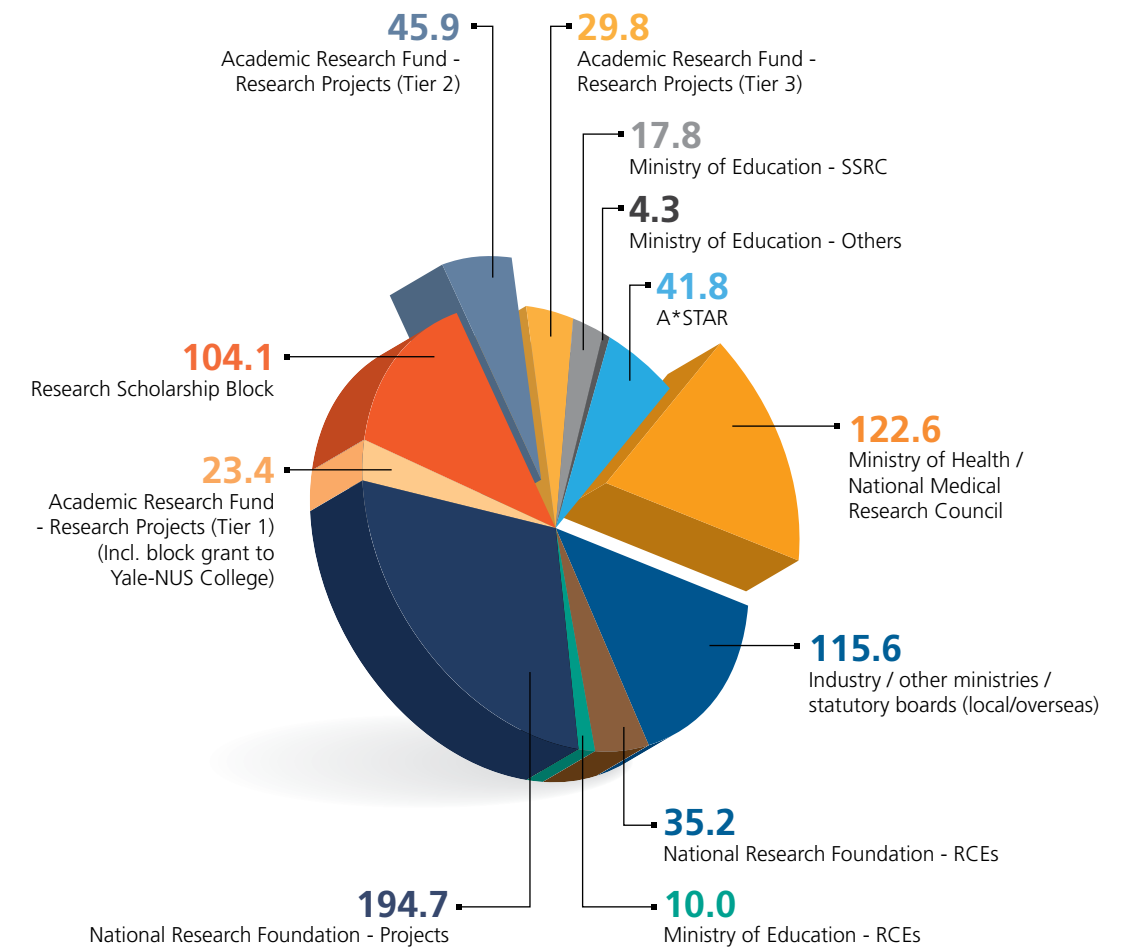
\* As a single collaboration may involve more than one partner, the individual categories do not add up to the total number of agreements signed

\*\* Includes A\*STAR research institutes and centres

\*\*\* Includes local public/restructured hospitals and charities

### TOTAL PROJECT VALUE AWARDED BY EXTERNAL SOURCES (\$ MILLION)

**745<sup>3</sup>**



<sup>1</sup> Data extracted from the SCOPUS online database and updated as at 22 June 2017. Figure represents articles, conference papers, and reviews.

<sup>2</sup> Figures reflect the number of new projects that commenced and completed in FY2016. Figures derived from SAP PS as at 7 June 2017.

<sup>3</sup> Figures updated as at 18 May 2017.

# ENTREPRENEURSHIP



Our enterprise ecosystem offers a wide spectrum of support to help our community turn their entrepreneurial dreams into reality.

We shape the future  
**#weareNUS**

Subnero, an NUS spin-off residing at The Hangar, provides innovative solutions to facilitate underwater wireless communications and real-time water quality monitoring of waterbodies using robotic platforms.



Over the years, the University’s entrepreneurship drive has gained momentum and established a strong foothold in both local and global settings.

IDEAS ABOUND

NUS Enterprise’s annual flagship event, innovFest unbound, one of the largest innovation events in Singapore as well as Southeast Asia, saw an overwhelming response with over 11,000 registered for the event. Organised by NUS Enterprise and unbound, the two-day event in May 2017 showcased 350 technologies, of which more than 120 were from NUS’ faculties, research institutes and community of start-ups. Thought leadership forums, involving NUS researchers, senior corporate executives and entrepreneurs, discussed the future of healthcare, manufacturing and the digital economy.

REALISING ENTREPRENEURIAL POTENTIAL

NUS has various entrepreneurial education programmes to support budding entrepreneurs and help realise their potential.

In Academic Year (AY) 2016/17, a total of 329 students took part in the NUS Overseas Colleges (NOC) programmes in China, Israel, Germany, Switzerland, Sweden, the United States and Singapore. The year also saw the first batch of six students embarking on the NOC programmes in Lausanne and Munich.

Since its inception in 2001, NOC has nurtured the entrepreneurial spirit of more than 2,200 students. Its alumni have created over 300 start-ups, including 11 incorporated in AY2016/17.

In September 2016, NOC organised the inaugural <hackfestsg/>, a 30-hour hackathon aimed to create meaningful solutions in line with Singapore’s Smart Nation vision. The event was oversubscribed three-fold with 465 sign-ups.

NOC alumni and companies scored several notable achievements in the year of review, including:

a. Start-ups being expanded, acquired or receiving funding:

- Funding Societies: Raised US\$7.5 million in a Series A round
- 99.co: Raised US\$7.9 million in a Series A+ round
- MoneySmart: Raised US\$10 million in a Series B round

b. NOC alumni and their companies gaining recognition:

- PathoVax: Took second place in 43North’s business plan competition, receiving a US\$500,000 prize
- Shamir Rahim: Founder of VersaFleet, who earned the title of Young Entrepreneur of The Year by the Singapore Malay Chamber of Commerce and Industry
- Veerappan Swaminathan: Co-founder of Sustainable Living Lab, was included in The Peak Power List 2016

A total of 15 companies has been incorporated under the Lean LaunchPad Singapore (LLP Singapore) entrepreneurial education programme, since it was launched in 2013. This programme helps research scientists and engineers translate their inventive technologies into commercially viable products and feasible business ventures. In AY2016/17, 32 teams took part in the 6th edition of LLP Singapore and the JUMPSTART-LLP edition for medical devices.

Another key programme is the NUS Enterprise Summer Programme on economic and enterprise development in Singapore which saw its 12th season this year. Some 70 undergraduates of 18 nationalities participated in this two-week residential programme, which enables both local and foreign participants to learn from Singapore’s success story.

BRIDGING RESEARCH AND INDUSTRY

NUS’ Industry Liaison Office (ILO) handles technology transfer matters and promotes collaboration between NUS, industry and other parties.

The year’s highlights include:

a. Collaborations with industry and government

- The Innovation Access Programme was launched to support corporate innovation by connecting companies to NUS technologies, talents and tech start-ups. It seeks to create new value for its customers through fostering MNC-start-up and industry-academia partnerships within the community.

- In September 2016, Singapore’s National Research Foundation announced the launch of two new national-level consortia, the Singapore Cybersecurity Consortium and the Singapore Consortium for Synthetic Biology. Both consortia will be hosted at NUS. So far, NUS has signed separate Memoranda of Understanding with Wilmar International Ltd, Illumina Singapore Pte Ltd, Singer Instruments Co Ltd and Agilent Technologies Singapore (Sales) Pte Ltd.
- The Minimum Viable Product (MVP) studio was established in 2015 to foster the development of minimum viable products based on NUS technologies. In AY 2016/17, the Building and Construction Authority (BCA) formalised an agreement with the MVP studio to build at least five prototypes based on projects funded by BCA.

In the year of review, ILO handled an extensive range of invention disclosures, patents and licences

329
invention disclosures received
516
patents filed
115
patents granted

**b. Technology Transfer and Translation**

- NUS Enterprise launched a new decentralised GAP funding programme called the Technology Acceleration Programme (TAP) to replace the NRF Proof-of-Concept scheme. TAP, funded by the Ministry of Education, provides up to \$250,000 to aid the commercialisation of NUS-owned technology and intellectual property, and facilitate more spin-offs. In the first round, the fund supported three life sciences and four physical sciences projects.
- NUS signed an exclusive licence agreement with NKarta, an NUS spin-off developing genetically modified immune cell technology. This technology has tremendous potential to become a novel cell-based therapy for treating cancer.
- Ten NUS spin-offs were formed through licensing, with half of them from the School of Design and Environment's Division of Industrial Design and its crowdfunding class.

**REVVED UP ON RUNWAY**

NUS Enterprise, via the NUS Start-Up Runway, provides comprehensive support for affiliated start-ups and spin-offs, including:

- Access to funding and mentorship
- Co-working space
- Numerous events and workshops
- Formal validation, incubation and acceleration programmes

In AY2016/17, we launched NUS Enterprise@ Singapore Science Park. This collaboration with Ascendas-Singbridge will support the incubation and acceleration of growth-stage deep-tech start-ups. By fostering a community of start-ups and

companies, corporate partners and accelerators as well as university researchers and academics, it aims to facilitate innovation in the nascent deep technology space.

Other facilities for co-working and community building include The Hangar by NUS Enterprise, which serves as a campus base for start-ups and entrepreneurs; and BLOCK71 Singapore, a thriving community of entrepreneurs, investors, developers and mentors within Singapore's vibrant start-up ecosystem.

Notable achievements of NUS Enterprise-supported companies in AY2016/17 included:

**a. Start-ups expanding, being acquired, or receiving funding:**

- Carousell: Raised US\$35 million in a Series B round
- PatSnap: Raised an undisclosed Series C round. It also announced the investment of S\$22 million into the opening of a Singapore R&D Centre.
- EndoMaster: Raised \$20.5 million in a Series B round

**b. Start-ups gaining recognition:**

- ShopBack: Emerged a winner at the 2016 Emerging Enterprise Awards. It received \$500,000 in prizes consisting of consultancy services, executive education programmes, and support in capability development.
- Zimplistic: Shipped its first batch of Rotimatics in 2016, after eight years and 15 prototype iterations
- Dynaoptics: Won gold award for Best Innovative Start-up (Growth Stage) at the Singapore infocomm Technology Federation Awards

In the year of review, NUS Enterprise continued to bring together the start-up community through a hive of activities across our facilities

400  
events

15,000  
attendees

**BEYOND SINGAPORE'S SHORES**

NUS was a key contributor to the Committee of Future Economy's (CFE) recommendations in the Global Innovation Alliance proposal, which took the cue from the successes of our NOC programmes and overseas launchpads. The CFE has recommended deepening overseas linkages and seizing opportunities in new markets.

To further support entrepreneurial journeys within the local geography and beyond, two new overseas incubation facilities were announced:

- BLOCK71 Jakarta, a collaboration between NUS Enterprise and Indonesia's Salim Group, was officially launched in July 2017. As part of NUS Enterprise's plan to serve as a catalyst for the ASEAN community, BLOCK71 Jakarta will help expanding start-ups access new markets through the resources and contacts of NUS Enterprise and Salim Group.

- In June 2017, an MoU was signed between NUS Enterprise, NUS (Suzhou) Research Institute (NUSRI) and Ascendas-Singbridge to establish BLOCK71 Suzhou, with the purpose to help promising start-ups leverage NUS Enterprise's global network of resources and contacts, and access new markets, building bridges for business development in China and beyond.

**BLOCK71 Jakarta takes off**

NUS Enterprise, in partnership with Indonesia's Salim Group, officially launched BLOCK71 Jakarta, its newest start-up incubation space in Indonesia on 28 July 2017. The launch of BLOCK71 Jakarta was officiated by Mr Lim Hng Kiang, Singapore's Minister for Trade and Industry, and Mr Enggartiasto Lukita, Indonesia's Minister of Trade. The 1,500 sqm facility was set up to support innovation and entrepreneurship development for both Singapore and Indonesian companies.



From left: Mr Axton Salim, Salim Group Executive Director; Mr Lim; Mr Lukita; and Dr Lily Chan, CEO of NUS Enterprise at the official launch of BLOCK71 Jakarta in Indonesia



These facilities join the existing network of NUSRI, located in China; and BLOCK71 San Francisco, United States, which were launched in 2013 and 2015 respectively. The former helps Chinese tech companies leverage NUS' network to expand into Southeast Asia and beyond while the latter fosters closer ties between start-up ecosystems in Singapore and the United States.

## COMMUNITY AND CORPORATE OUTREACH INITIATIVES

### a. Corporate Accelerator Programmes

NUS Enterprise partnered with several corporate partners to launch new corporate accelerator programmes for budding start-ups and entrepreneurs. Corporate accelerator programmes in AY2016/17 included Startup Autobahn Singapore, i5Lab, Grants4Apps Singapore and L'Oréal Innovation Runway. The corporate accelerators exposed teams to real-life problems experienced by these corporations, and real-world data and environment for test-bedding. Start-ups/teams with winning ideas received the chance to commercialise their products with the corporate business teams in Singapore and around the world.

### b. Social Venture Lab@NUS

The Social Venture Lab@NUS initiated the Small Change series to expose students to change making and eventually embark on the social entrepreneurship journey. Small Change Gets Real, held in October 2016, gave students a taste of the challenges social entrepreneurs face.

The initiative also facilitated meet-ups for collaboration between student groups, which resulted in increased student-led social entrepreneurship initiatives, including:

- The Lotus-NUS Fund, launched in March 2017, to provide funding for social impact-driven start-ups founded by Singaporeans
- NUS Entrepreneurship Society's new Social Enterprise Wing, which started their own boot camp, The Social Oven, from 25 to 27 May 2017, and created a new pipeline for social enterprises

### c. Modern Aging Singapore

The Modern Aging Singapore accelerator programme, launched in August 2015 in partnership with ACCESS Health International, has built an extensive database of 1,000 community members. In November 2016, six from the more than 80 submissions received were shortlisted for the final pitching. Of these, the Kinexcs and Flexosense teams were awarded \$50,000 each to build prototypes.

FlexoSense, from NUS, is developing a flexible pressure sensor technology into a smart insole solution to address diabetic foot ulcers, while Kinexcs is developing a wearable monitoring device to remotely track, analyse and monitor the rehabilitation of patients who have undergone lower limb surgery.

### d. DBS-NUS Social Venture Challenge Asia 2017

The DBS-NUS Social Venture Challenge Asia 2017 received over 1,000 entries from more than 30 countries. This fourth run saw deep partnerships from corporates, such as Syngenta and HEAD Foundation.

## THOUGHT LEADERSHIP AND RESEARCH ON ENTREPRENEURSHIP

NUS Enterprise also worked with our partners on entrepreneurship-related research projects such as:

- Growth Dynamics of High-Tech Start-ups in Singapore: A Longitudinal Study, a two-year project which generated a longitudinal tracer database and provided insights into the changing dynamics over the life cycle of start-ups
- Singapore Tech Entrepreneurs' Network Map, a collaboration with Endeavor Insights, the research arm of Endeavor – a non-profit organisation supporting high-impact entrepreneurs. Its findings highlight the influential role of entrepreneurship facilitation institutions in Singapore



# COMMUNITY



Our students stand ready to serve the underprivileged and the wider community with unstinting dedication.

We lend a helping hand  
**#weareNUS**

"Project Cheway", a community project conducted by NUS students in the Philippines, garnered the "Power Up Award 2016" for community impact and programme sustainability.



We are proud of our dedicated students and faculty, who continue to reach out and help those less fortunate, with their many community projects throughout the year.

## CHARITY BEGINS AT HOME

In keeping with our proud tradition of serving the community, close to 1,400 staff, students and alumni participated in the inaugural NUS Day of Service in September 2016. This initiative, mooted by the NUS Alumni Advisory Board, generated 21 projects which reached out to 4,500 beneficiaries, locally and abroad.

Categorised under Environment, Food, Health and Knowledge, the various activities included food distribution to needy families, coastal clean-up along Singapore's eastern coastline, free health screening for selected neighbourhoods, and animal welfare. Our overseas alumni in New Zealand, China, Bangladesh, India and Japan also joined in the cause with their own community events.

In Academic Year (AY) 2016/17, our students were involved in a variety of outreach initiatives in Singapore.

### a. NUSSU Rag and Flag 2016

This event, organised by NUS Students' Union, is our most iconic community outreach programme, which has been helping the underprivileged since 1957. During Flag Day held on 2 August 2016, close to 7,000 NUS students fanned across Singapore to seek donations from members of the public. They raised more than \$472,000 which aided 23 beneficiaries under the Community Chest, National Council of Social Service.

### b. Christmas cheer

Both Sheares Hall Voluntary Corps (SHVC) and Kent Ridge Hall Volunteers spread some festive cheer with their respective Jolly Jingles and Project KRistmas Christmas events in December 2016. SHVC interacted and bonded with 40 underprivileged children at Pro-Teach School Care @ Innova Primary while the Kent Ridge Hall Volunteers visited cancer patients at the National Cancer Institute of Singapore and the Children's Cancer Foundation.

### c. SG51 Arts and Crafts Session

The Raffles Hall Volunteer Corps organised two craft sessions – one at the Sree Narayana Missionary Home, and another at HCA Hospice Care in September 2016. The senior citizens designed and sketched art pieces which were then assembled by the students to form the SG51 logo.

### d. Eusoff Expedition Newspaper Collection

In October 2016, Eusoff Hall volunteers conducted a collection spree of newspapers, old clothes and electronics from Toa Payoh residents and raised funds from the recyclables. The funds were then channelled to the beneficiaries in the Prey Veng Province in Cambodia.

### e. College of Alice & Peter Tan Active Community Engagement Wing

In line with the college's ethos of active citizenship and community engagement, 91 per cent of College of Alice & Peter Tan (CAPT) students participated in at least one community engagement event in AY2016/17, including:

- Weekly visits to the elderly living alone in Commonwealth
- Cricket lessons with South Asian migrant workers from Westlite Dormitory and enjoying meals with migrant workers at Healthserve Little India Centre
- Children's Day celebration for children with incarcerated parents (Prison Fellowship Singapore)
- Regular hand bell teaching sessions at the Singapore Association for the Visually Handicapped
- Financial literacy lessons and soap-making sessions with students with special needs at APSN Tanglin school
- Educational character building and mentorship programmes for children from low-income families with New Hope Community Services

### f. Ramadhan on Wheels

In June 2017, the NUS Silat team conducted a "home makeover" for some homes of the less privileged in Boon Lay as part of the programme run by 4PM, the Malay Youth Literary Association. This new initiative provided the student athletes a hands-on opportunity to engage the community, whose previous community work typically involved silat performances or coaching sessions.

### g. YST Connects: Sharing Gifts through Music

In April 2017, Year 2 students from the Yong Siew Toh Conservatory of Music (YSTCM) teamed up with performers aged five to 80 in a one-hour music showcase at the Alexandra Hospital Auditorium. This project was the culmination of YSTCM's ongoing engagement with allied health professionals and nurses from Sengkang Health; senior citizens from the Choral Singing for the Prevention of Dementia programme; underprivileged and special needs children from Superhero Me; and music students from the Singapore School of the Arts.

It is also part of YSTCM's compulsory "Leading & Guiding Through Music" module, where students conduct workshops with community partners to teach music fundamentals and lead the process of putting together performances for the show.

#### h. The Community Health Angels Mentoring Programme

This collaboration, between NUS and Montfort Care's @27 Family Service Centre, enables Pharmacy students to apply what they have learnt to real-life situations while gaining a better understanding of the needs of seniors. The students visit senior citizens to ensure that they correctly follow medical advice, and check for signs and symptoms of deeper medical conditions. The programme has now trained a total of 80 students.

Other community-engaging programmes which ignite interest in the environment, and spark off constructive and helpful dialogue about critical and sensitive issues include:

#### i. Permaculture@USP

In partnership with Carbon InQ, an organisation which aims to integrate nature with urban living through education and communal activities, the University Scholars Programme (USP) launched Permaculture@USP in September 2016. Permaculture is a multidisciplinary approach to sustainable design for agriculture, infrastructure and community building. Besides farming activities, it also runs workshops on various aspects of urban farming.

#### j. Annual Community Engagement Network Diversity Symposium

This collaboration with 15 Community Engagement Network Groups, comprising student societies and interest groups, actively provides a safe space for conversations on social cohesion and national identity. A symposium held in March 2017 attracted about 100 participants who addressed topics on multiculturalism, privileges and diverse communities in Singapore.

### BEYOND OUR SHORES

While our students actively engage communities in Singapore, they also venture abroad to carry out community projects in countries across the region.

#### a. Project Orca

In Residential College 4's first overseas community involvement project, 20 students and two staff travelled to Thanh Loc Commune, Vietnam in December 2016 to hold Systems Thinking workshops and organise games for 600 students at the Thanh Loc Secondary School.

#### b. Soap for Hope in Tagaytay

CAPT has been using this global initiative as a platform to practise and spread ideas of social innovation. A five-day Overseas Service Learning trip to Tagaytay, the Philippines, was held in December 2016 for 19 CAPT students as well as teenagers and volunteers from Prison Fellowship Singapore. During the trip, the group interacted with teachers, parents, and students of the Holy Family School. CAPT students also imparted knowledge on life skills and financial literacy to the students.

#### c. Maalu Maalu Lanka

Under this Youth Expedition project, 12 student volunteers from NUS Tamil Language Society helped Sri Lankan youths in the Batticaloa region to improve their English and IT proficiencies. During the two-week trip in December 2016, the beneficiaries learnt new and relevant IT skills while the NUS volunteers acquired skill sets such as financial literacy and leadership skills.

#### d. Project Cheway

Twenty students received \$15,000 for its community project in the Philippines under Maybank's eMpowering Youths Across ASEAN programme. As part of the project, students from NUS Chemical Engineering Students Society set up a system to harvest rainwater for household use, and a biosand water filtration system to recycle bathroom and kitchen waste water for residential use. They also planted mangrove trees as a flood prevention measure, held maths and science lessons for children, and organised a leadership boot camp. The project won the Maybank's Power Up Award 2016 in January 2017 for community impact and sustainability.

#### e. tChamps overseas trip to Phnom Penh

Through tChamps, a strategic project formed in 2013, students from Tembusu College partnered with Indochina Starfish Foundation to create a sustainable ecosystem for youth empowerment in Cambodia through ethical community development. A field study trip to Cambodia was first conducted in December 2016 to explore collaboration possibilities with the Foundation. Seven students then headed to Phnom Penh in May 2017 to conduct workshops to help the youths initiate their own community involvement projects.

### ADVANCING SOCIAL IMPACT IN SINGAPORE AND ABROAD

In April 2017, NUS received a new pledge of \$5 million from philanthropist Mr Chua Tian Poh, Chairman and Chief Executive Officer of Ho Bee Land Limited, to expand the Chua Tian Poh Community Leadership Programme. The gift will enable the programme to double its yearly student intake of about 40 students to 80 students in the years ahead. It will also provide more resources for student community projects and encourage greater collaboration with social service organisations.

Since its inauguration in 2011, students participating in this programme have embarked on 85 community projects. It has also inspired former participants and other students to initiate ground-up community projects involving the wider NUS community.

At NUS Business School, the Asia Centre for Social Entrepreneurship and Philanthropy (ACSEP) also promotes social entrepreneurship and philanthropy through education and research. Some of the initiatives which took place in the year of review are as follows:

- In 2016, ACSEP built a case study on the Lien Foundation, which culminated in a report titled "Philanthropy: Social Innovation in Community Health", that helped non-profit organisations adopt best practices for better social impact. The project was supported by the Tote Board via its inaugural Case Study Collaborator programme.



- In April 2017, ACSEP held its annual International Symposium on Social Entrepreneurship which brought together an international group of academics, social entrepreneurs and stakeholders to discuss whether impact assessment for social enterprises should be contextualised or generalised. This platform, now in its third year, aims to encourage the social entrepreneurship community to share their knowledge and expertise in the development of social enterprises, and promote thought leadership in Singapore and beyond Asia.
- The 2017 edition of “Crossing the Chasm Challenge”, held from January to August 2017, offered students the opportunity to work with social enterprises and industry mentors to develop innovative solutions for the social sector. The Challenge featured workshops which focused on topics such as executing marketing pitches, and how corporates and social enterprises can collaborate.

### CUTTING ACROSS CULTURES AND BORDERS

In AY2016/17, the NUS i.Care Network continued to organise a variety of programmes to foster cross-cultural exchange between local and international students which will enable them to be better global citizens.

#### a. Student Buddy “SG KAKI” Programme

This programme immerses new international students in local culture by matching them with a group of buddies. They then participate in cultural workshops, food tour and sharing sessions, and work together on a cultural showcase.

#### b. Language cum Cultural Exchange

Held in August and September 2016, this programme offered a platform for local and international students to learn more about each other’s languages and share their cultures.

#### c. Casual Talk on Beauty in Africa

Held in October 2016, the talk introduced beauty standards in different parts of Africa, and undertook a comparative focus between Singaporean and African standard of beauty. Issues discussed included the politics of hair, the effects of skin tone on social standing, and the problems of a commercialised African fashion.

#### d. Cultural SHOCK! Workshops

These workshops, held in March 2017, provided cultural exposure to countries such as Egypt, Turkey, Finland and Mexico.

### SUSTAINABILITY ON CAMPUS

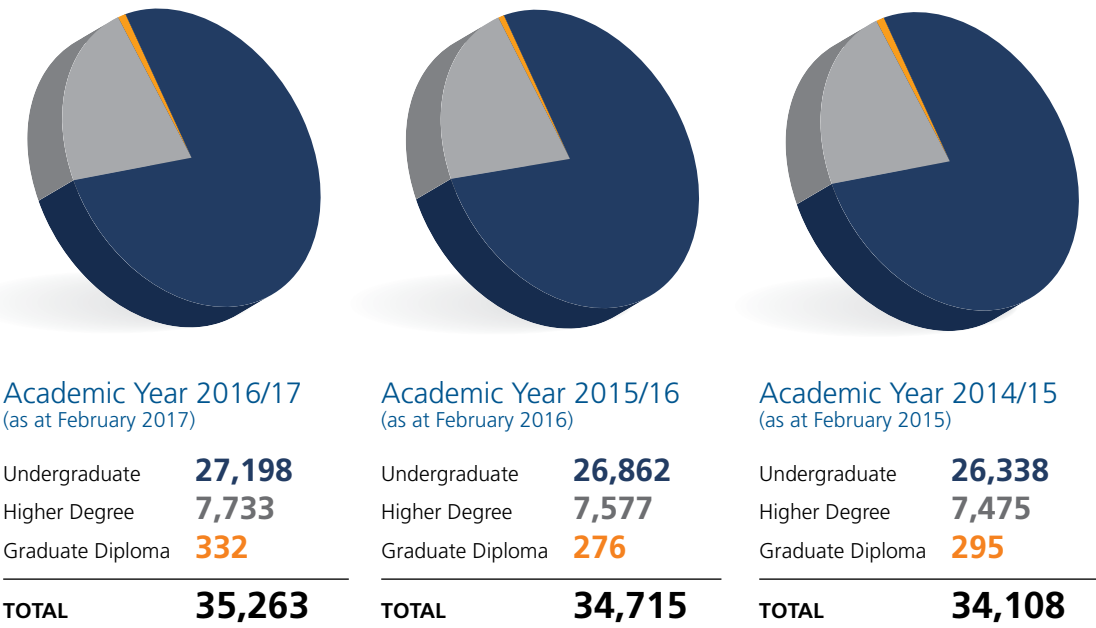
Our students play an important role in protecting the environment and incorporating sustainability in all aspects of campus life. Various student groups are actively involved in promoting environmental awareness and action on campus through numerous initiatives.

- A sustainABLE NUS initiative was held in conjunction with the United Nation’s World Food Week in October 2016. Various student groups and NUS departments organised a host of activities ranging from talks, documentary screenings and meat-free days to roadshows featuring sustainable cultivation of coffee and tea.
- In January 2017, student representatives from green clubs from NUS and other local universities participated in the National Environment Agency’s Youth Partners Appreciation & Networking Session, which NUS co-hosted. At the event, student leaders from NUS’ Students Against Violation of the Earth (SAVE) and Yale-NUS College’s I’dECO shared their experiences on organising and collaborating with like-minded groups on environmental initiatives targeting both the campus community and general public.

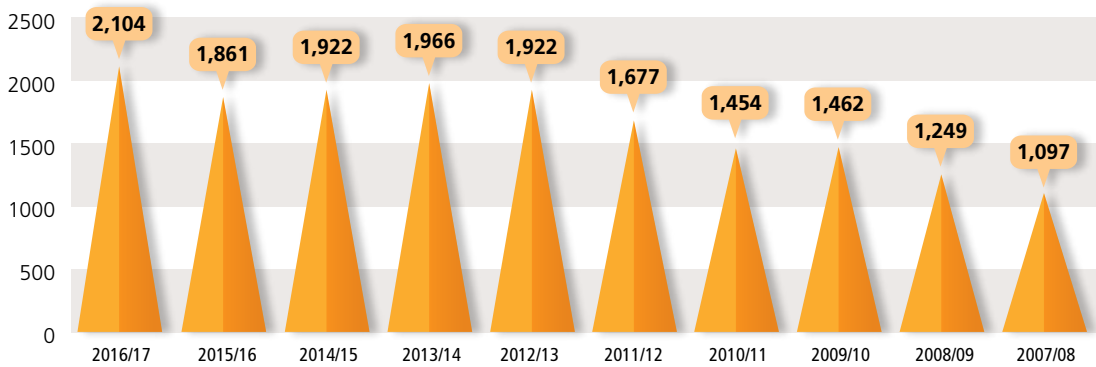
- In March 2017, NUS SAVE launched its annual NUS Goes Lite flagship event with the theme “Ctrl-Alt-Del Waste Manager” which sought to encourage individuals to reduce plastic and food waste. They should:
  - Better control their consumption habits through increasing awareness about food and plastic waste
  - Provide alternatives when the environmentally-friendly option is less viable
  - Delete wasteful behaviour and inspire long-term behavioural change

# Academic Year In Review

## PROFILE OF STUDENTS<sup>#</sup>

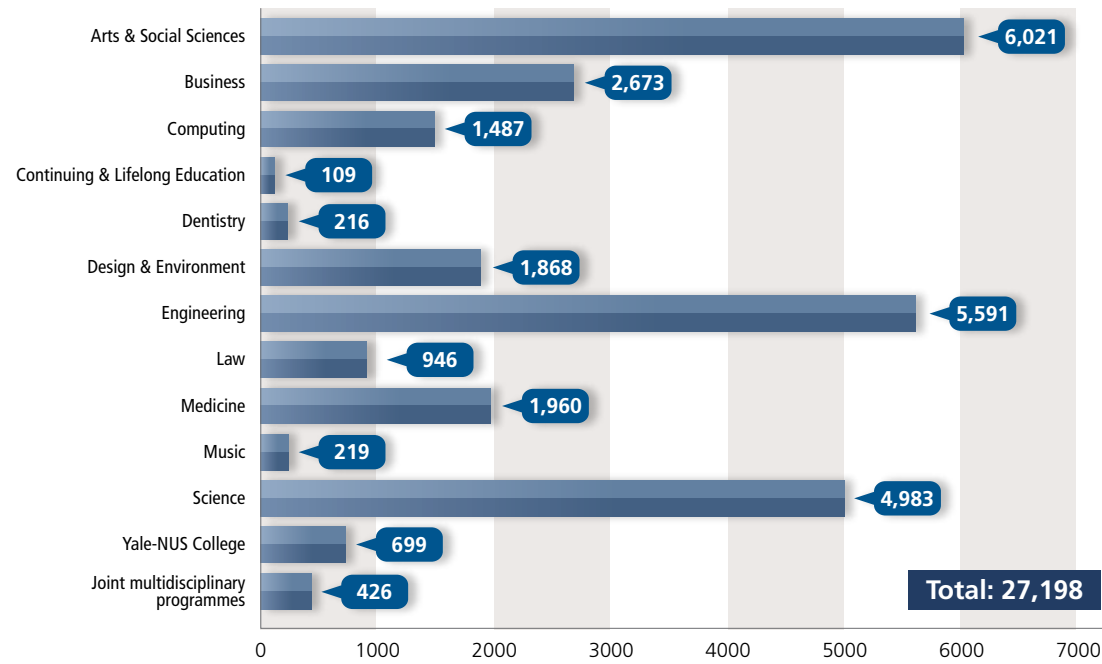


## NUS STUDENTS ON STUDENT EXCHANGE\*

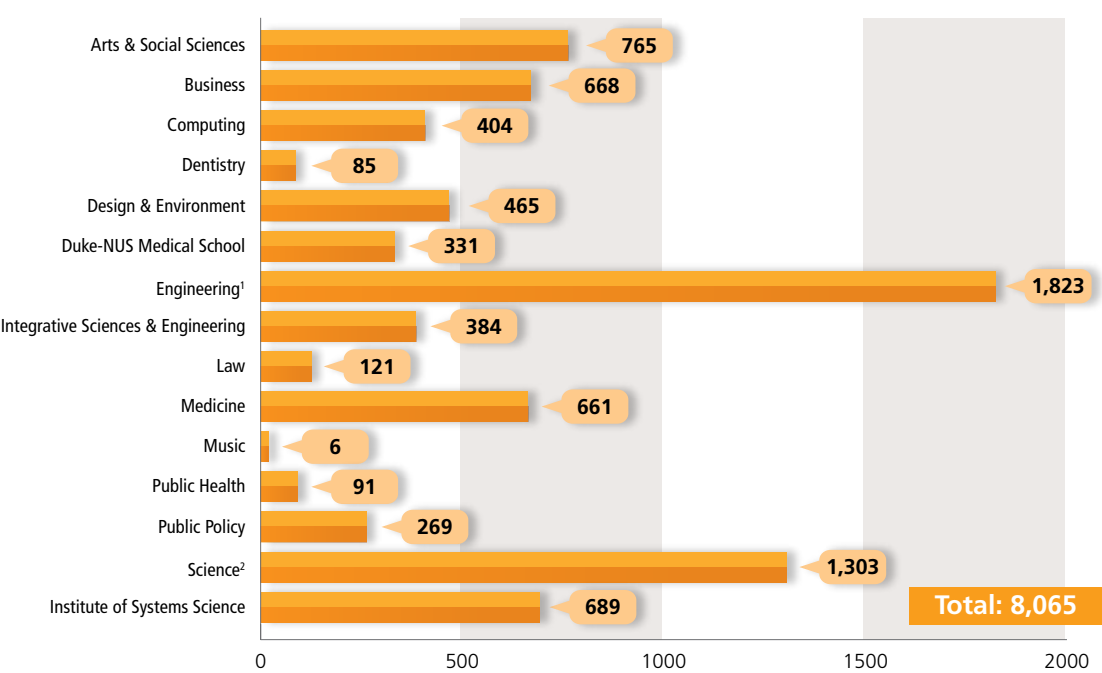


\* Undergraduate students on student exchange with overseas partner universities

## UNDERGRADUATE ENROLMENT 2016/17<sup>#</sup> (As at February 2017)



## GRADUATE STUDENT ENROLMENT 2016/17<sup>#</sup> (As at February 2017)



<sup>1</sup> Includes Temasek Defence Systems Institute figures

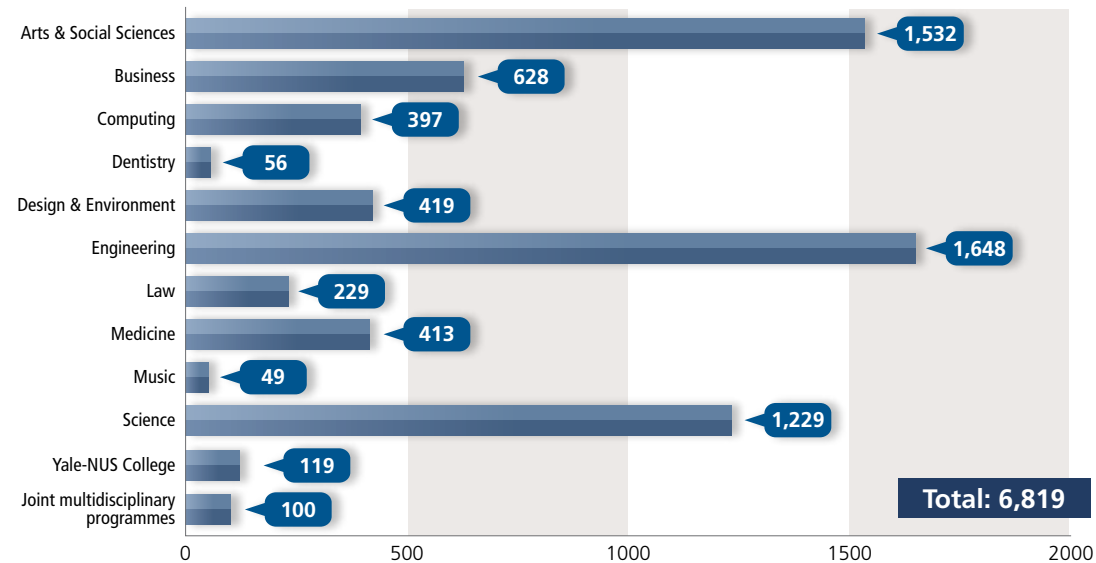
<sup>2</sup> Includes Risk Management Institute figures

<sup>#</sup> Figures are Full Time Equivalent



**PROFILE OF CLASS OF 2017**

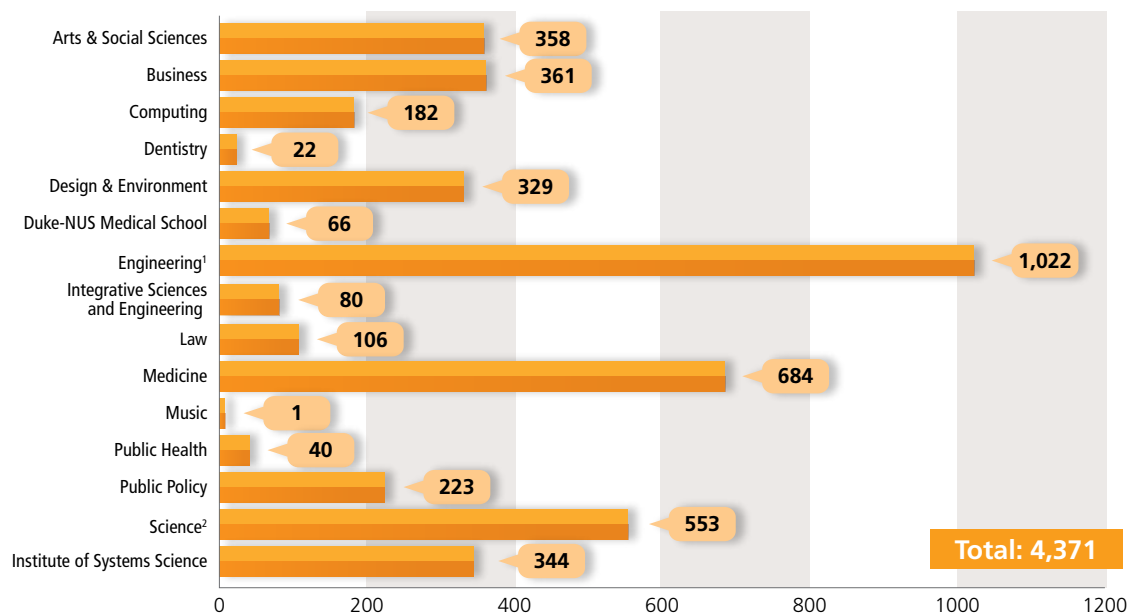
(First Degree Graduates) \*



\* Figures correct as at 10 July 2017 and are based on degrees conferred between 1 July 2016 and 30 June 2017. Double degree graduates are counted towards both their home and second faculties.

**PROFILE OF CLASS OF 2017**

(Higher Degree &amp; Graduate Diploma Graduates) \*



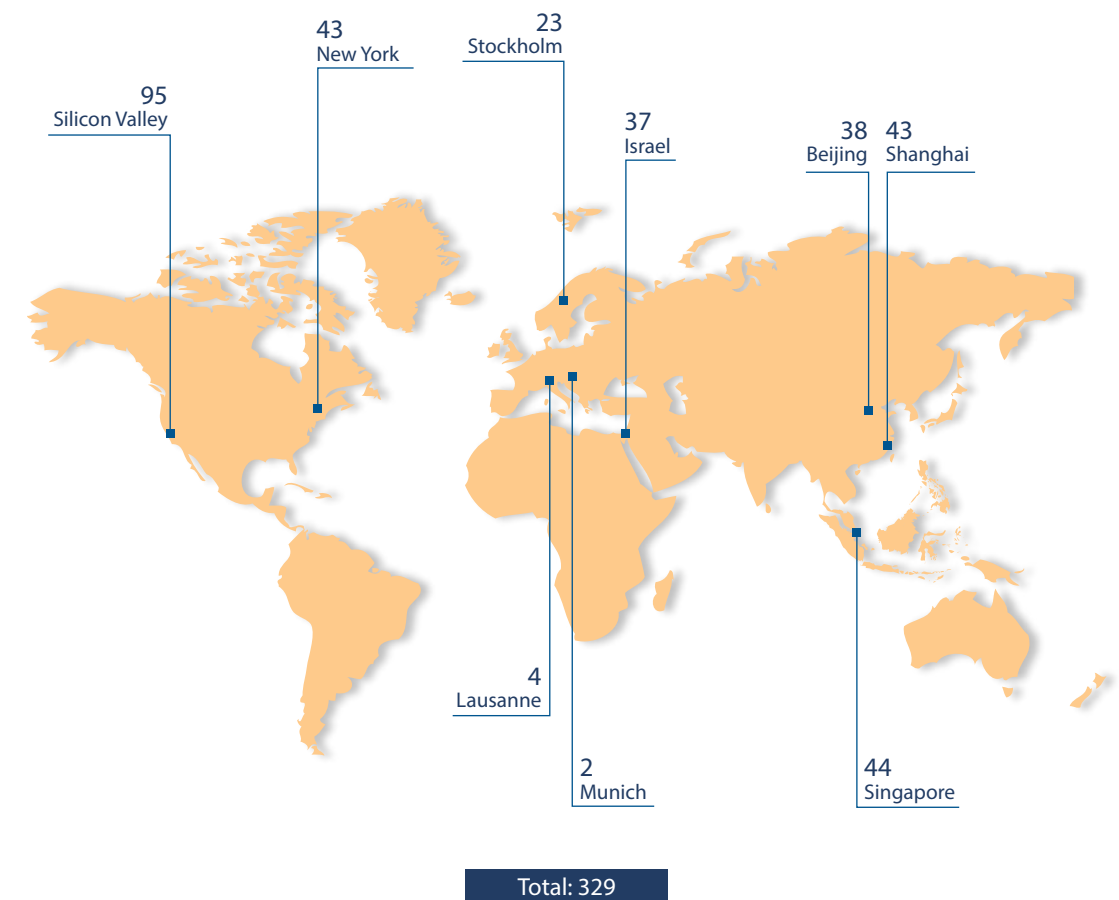
\* Figures correct as at 10 July 2017 and are based on degrees and graduate diplomas conferred between 1 July 2016 and 30 June 2017.

<sup>1</sup> Includes Temasek Defence Systems Institute figures

<sup>2</sup> Includes Risk Management Institute figures

**STUDENTS AT NUS OVERSEAS COLLEGES FOR ACADEMIC YEAR 2016/17**

(As at July 2017)

**PROFILE OF NUS FACULTY AND STAFF**

(As at July 2017)



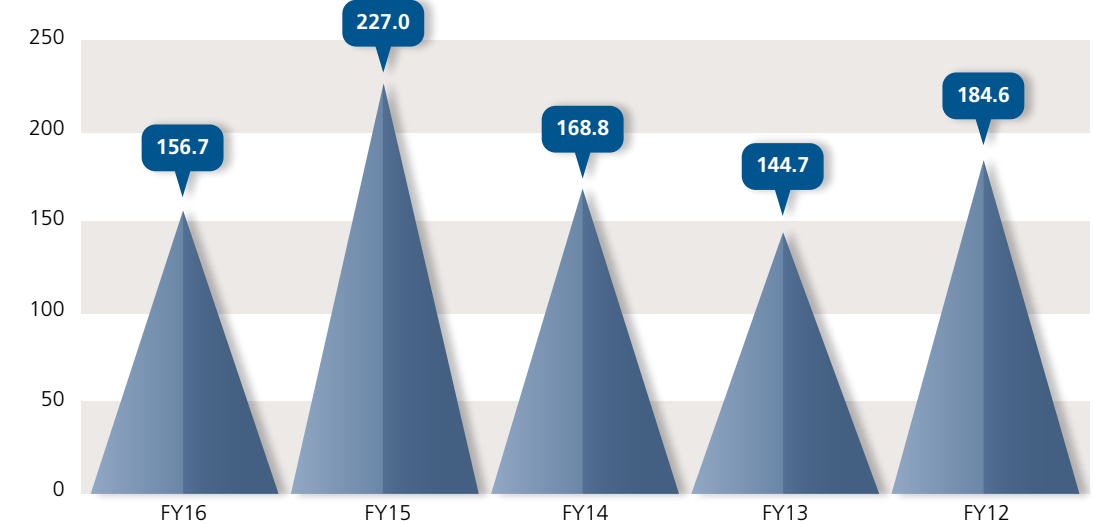
Note: Figures are Full Time Equivalent and exclude staff on honorary appointments

\* Faculty include tenurable faculty and other teaching staff

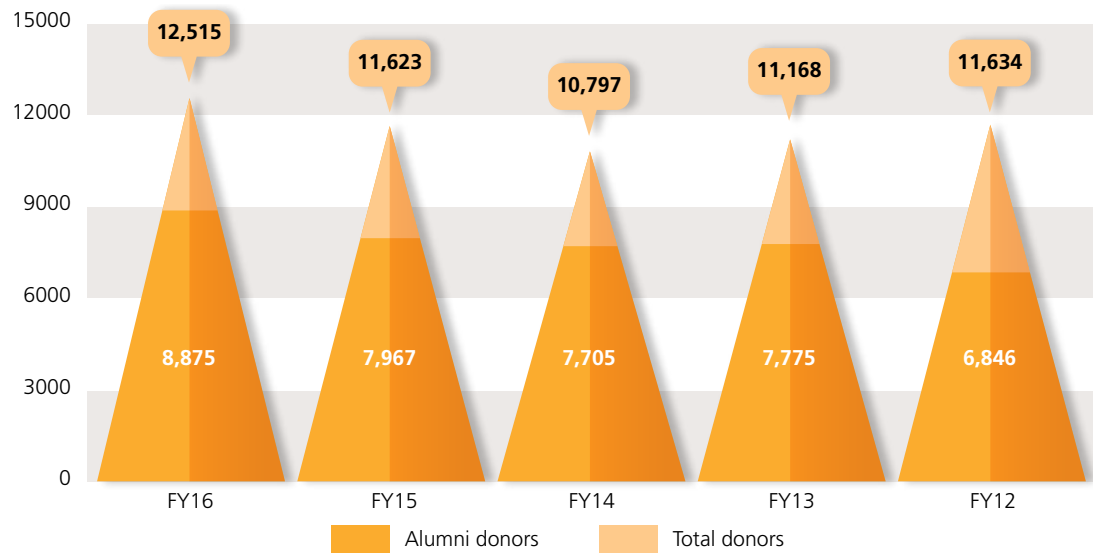
# Benefactions

The University is grateful to our 12,515 donors, for their generous gifts of S\$156,681,666 in Financial Year 2016 (1 April 2016 to 31 March 2017).

## GIFT RECEIPTS (S\$ Million)

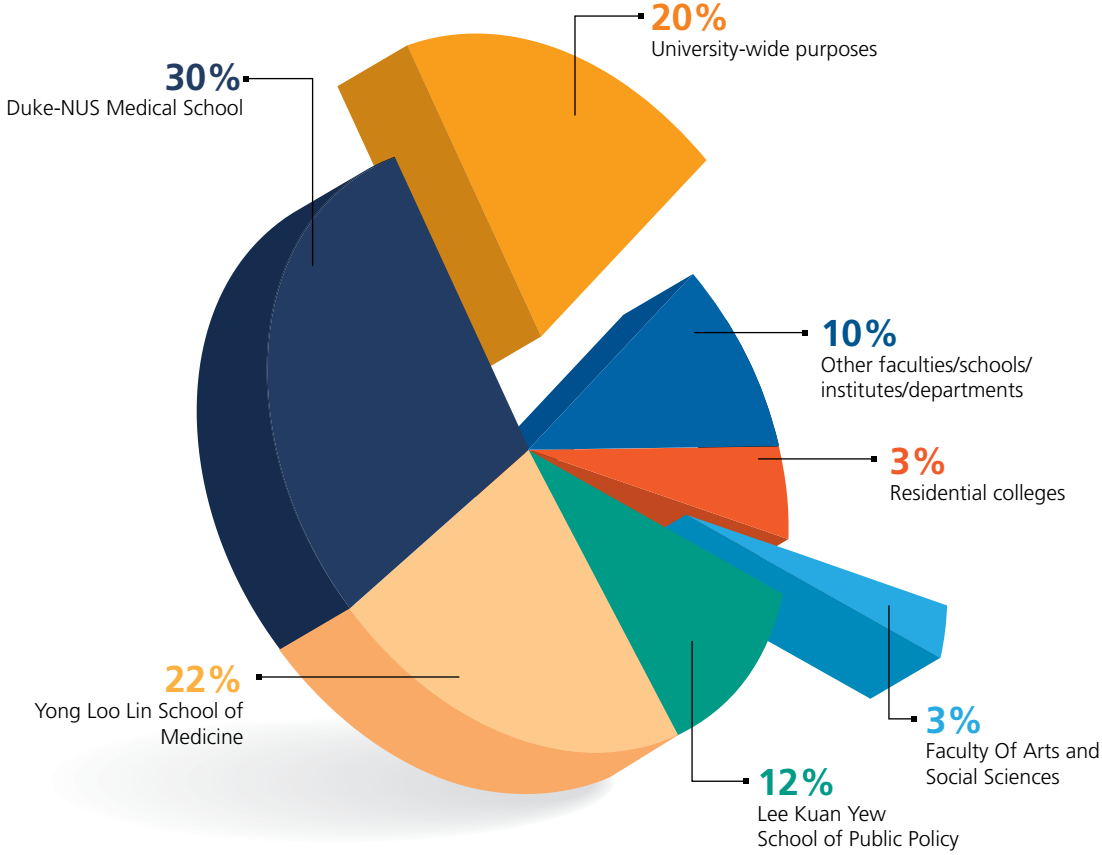


## NUMBER OF DONORS



Reported figures are exclusive of unfulfilled pledges and Singapore government research grants and matching grants. At the time of publication, the figures for FY16 included in this Report are unaudited numbers.

## GIVING BY DESIGNATION (In Value)



In Academic Year 2015/16,  
**4,583 undergraduates**  
received financial support\*:

**3,021**  
**BURSARIES**

**1,562**  
**SCHOLARSHIPS**

In Financial Year 2016,  
we established

**7**  
**NEW NAMED PROFESSORSHIPS**

NUS has benefitted from  
**108**  
**NAMED PROFESSORSHIPS**  
made possible by benefactors

\* University-wide bursaries funded by Annual Giving funds, gifts designated to financial aid and unrestricted endowment funds



# Corporate Governance

## INTRODUCTION

NUS is committed to a high standard of corporate governance and has always recognised the importance of good governance as being critical to the effective performance and operation of the University. Good governance is also crucial in realising its vision of being a leading global university centred in Asia, influencing the future, excelling in teaching, research, enterprise, thought-leadership and public service. The University has accordingly put in place a corporate governance structure with comprehensive and clear lines of reporting, responsibility and accountability.

## OUR GOVERNANCE EVALUATION CHECKLIST

In addition to the application of good governance practices as a corporate entity, we have as an institution of public character (“IPC”), adopted best practices in key areas of governance that are closely aligned to the principles enunciated in the Code of Governance for Charities and Institutions of a Public Character (the “Code”). In line with the disclosure requirement by the Charity Council that all IPCs are required to disclose the extent of their compliance with the Code, NUS’ Governance Evaluation Checklist can be found at the Charity Portal website [www.charities.gov.sg](http://www.charities.gov.sg).

## OUR BOARD OF TRUSTEES

The NUS Board of Trustees comprises 22 members appointed by the Minister for Education, and is chaired by Mr Hsieh Fu Hua. Our Board of Trustees includes respected business/industry leaders, academics, entrepreneurs, and professionals from the public and private sectors. Members

are appointed on the strength of their calibre, experience, stature, ability to contribute to the oversight and development of the University, as well as strategic networking relationships they bring which are of strategic importance to the University. Profiles of the Board members are found on pages 8 to 15 of the Annual Report.

The Board of Trustees is responsible for ensuring that the University acts in the furtherance of its objectives in education and research, and properly accounts and safeguards the funds and assets of the University. The Board of Trustees works closely with the management and stakeholders of the University to shape the vision, chart the major directions, and develop programmes and initiatives to produce a strong and enduring impact for the University, and for Singapore and beyond.

To support the Board of Trustees in discharging its functions, Board committees have been formed as dictated by corporate, operational and business needs pursuant to the Articles of Association of the University. There are five Board committees, namely, the Executive Committee, Audit Committee, Campus Planning and Development Committee, Investment Committee and Remuneration Committee. These Board committees assist the Board of Trustees to provide oversight of the University and to facilitate decision making. Membership of the Board Committees is carefully selected to ensure an equitable distribution of responsibility among Board members and promote the effectiveness of each committee’s focus and contribution. Where necessary, non-Board members who have expertise in their respective fields are also co-opted to enhance the deliberations and decision making process of some of the Board Committees.

The present composition of the Board Committees is as follows:

### Executive Committee

Mr Hsieh Fu Hua (Chairman)  
Prof Tan Chorh Chuan  
Dr Cheong Koon Hean  
Mr Peter Ho Hak Ean  
Ms Kay Kuok Oon Kwong  
Mr Andrew Lim Ming-Hui  
Mr Phillip Tan Eng Seong

### Remuneration Committee

Mr Hsieh Fu Hua (Chairman)  
Mr Peter Ho Hak Ean  
Prof Olaf Kübler  
Mr Chaly Mah Chee Kheong  
Mr Ng Wai King  
Ms Elaine Yew Wen Suen

### Audit Committee

Mr Phillip Tan Eng Seong (Chairman)  
Mr Goh Choon Phong  
Mr Ng Wai King  
Mr Chaly Mah Chee Kheong  
Mr Eddie Chau (Co-opted)

### Investment Committee

Mr Goh Yew Lin (Chairman)  
Prof Tan Chorh Chuan  
Mr Michael Lien Jown Leam  
Mr Andrew Lim Ming-Hui  
Mr Loh Chin Hua  
Dr Leslie Teo Eng Sipp  
Mr Lee Ming San (Co-opted)  
Mr George Raymond Zage III (Co-opted)

### Campus Planning and Development Committee

Mr Peter Ho Hak Ean (Chairman)  
Prof Tan Chorh Chuan  
Dr Cheong Koon Hean  
Ms Chong Siak Ching (*Stepped down on 1 August*)  
Prof Olaf Kübler  
Mr Raymond Woo (Co-opted)  
Mr Siew Man Kok (Co-opted)

OUR SENIOR MANAGEMENT

Management functions and day-to-day operations of the University are led by the Senior Management of the University, headed by the President Professor Tan Chorh Chuan. The President is the University's Chief Executive Officer. Details of the management team can be found at its website [www.nus.edu.sg](http://www.nus.edu.sg).

OUR POLICIES AND PROCEDURES TO MANAGE CONFLICTS OF INTEREST

Board members and staff are required in their respective capacities to act at all times in the best interest of the University. Policies and procedures are designed to prevent and address potential conflict-of-interest situations while promoting ethical business conduct of officers and staff in line with the strong focus of the University on integrity.

NUS' Articles of Association contain provisions for the management and avoidance of conflicts of interest by members of its Board of Trustees. Such provisions include (a) permitting a Board member to be interested in any transaction with NUS provided that the member has declared the nature of the interest to the Board of Trustees and abstains from participating in the Board's decision in respect of the transaction concerned, (b) permitting a Board member, or a firm associated with the member, to act in any professional capacity for the University and to be remunerated for professional services as if the Board member was not a Trustee, and (c) permitting a Board member to be reimbursed

for out-of-pocket expenses, travelling and other expenses properly incurred by the Board member in attending and returning from meetings of the Board of Trustees, any of its committees, or any general meeting of the University or otherwise in connection with the affairs of the University. NUS' Articles expressly stipulate that Board members shall not receive any remuneration for services rendered by them as members of the Board of Trustees.

In addition, the Board of Trustees has adopted the practice of requiring every Board member to annually review and refresh their independence by disclosing to the Executive Committee whether there are any factors that will affect the member's independence in the decision making process of the Board.

The University's terms of business and code of conduct for staff include a Conflict of Interest Policy which all staff members must observe and comply with. In accordance with the current policy, staff must ensure that their private activities and interests do not conflict with their professional obligations to the University. Where there is potential violation of a prohibition, the staff member shall make a full disclosure and may request for an exception. Approval for an exception will be at the discretion of the University. In addition, in compliance with the University's prevailing policy on conflict of interest and other related policies, staff are reminded annually to declare any potential conflict for resolution.

NATIONAL UNIVERSITY OF SINGAPORE AND ITS SUBSIDIARIES

(INCORPORATED IN SINGAPORE. REGISTRATION NUMBER: 200604346E)

SUMMARY FINANCIAL STATEMENTS  
PREPARED FROM THE AUDITED FINANCIAL STATEMENTS  
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2017

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# IMPORTANT NOTE

The Summary Financial Statements as set out on pages 79 to 86 contain only a summary of the information in the full financial statements. The Summary Financial Statements do not contain sufficient information to allow for a full understanding of the results and the state of affairs of the Group and the Company.

For further information, the full financial statements and the Auditor’s Report on those statements should be consulted. Readers who require a copy of the full financial statements can contact the Company’s Office of Financial Services, University Hall, Tan Chin Tuan Wing #03-02, 21 Lower Kent Ridge Road, Singapore 119077, Tel: 6516 1981. The full financial report can also be viewed at the Company’s website: <http://www.nus.edu.sg/annualreport/>.

# TRUSTEES’ STATEMENT

The Trustees are pleased to present their statement to the members together with the summary financial statements of the National University of Singapore (“the Company”) and its subsidiaries (collectively, “the Group”), which comprise the statements of financial position of the Group and the Company as at 31 March 2017 and the statements of comprehensive income of the Group and the Company, and related notes. These are derived from the audited financial statements of the Company and its subsidiaries for the year then ended.

## OPINION OF THE TRUSTEES

In the opinion of the Trustees,

- a) the summary financial statements has been derived and presented consistently, in all material respects with the audited financial statements of the Group and of the Company for the year ended 31 March 2017; and
- b) at the date of this statement there are reasonable grounds to believe that the Company will be able to pay its debts when they fall due.

## TRUSTEES

The Trustees of the Company in office at the date of this report are:

Mr Hsieh Fu Hua – Chairman <i>(Appointed on 1 January 2017)</i>	Mr Peter Ho Hak Ean	Mr Abdullah Tarmugi
Professor Tan Chorh Chuan	Professor Olaf Kübler	Ms Elaine Yew Wen Suen
Ambassador Chan Heng Chee	Mdm Kay Kuok Oon Kwong	Mr Loh Chin Hua
Dr Cheong Koon Hean	Mr Michael Lien Jown Leam	Dr Leslie Teo Eng Sipp
Mr Goh Choon Phong	Mr Andrew Lim Ming-Hui	Mr Wong Fong Fui
Mr Goh Yew Lin	Mr Chaly Mah Chee Kheong	Mr Lai Chung Han <i>(Appointed on 19 June 2017)</i>
Dr Noeleen Heyzer	Mr Ng Wai King	Ms Chong Siak Ching <i>(Stepped down on 1 August 2017)</i>
	Mr Phillip Tan Eng Seong	

## TRUSTEES' STATEMENT

### ARRANGEMENTS TO ENABLE TRUSTEES TO ACQUIRE SHARES AND DEBENTURES

Neither at the end of nor at any time during the financial year was the Company a party to any arrangement whose objects are, or one of whose object is, to enable the Trustees of the Company to acquire benefits by means of the acquisition of shares or debentures of the Company or any other body corporate.

### TRUSTEES' INTERESTS IN SHARES OR DEBENTURES

The Company is a public company limited by guarantee and does not have a share capital.

At the end of the financial year, the Trustees of the Company have no interest in the share capital (including any share options) and debentures of the Company's related corporations as recorded in the register of the directors' shareholdings kept by the Company's related corporations under Section 164 of the Singapore Companies Act.

### AUDITOR

Ernst & Young LLP have expressed their willingness to accept re-appointment as auditor.

On behalf of the Trustees



**Mr Hsieh Fu Hua**  
Trustee



**Professor Tan Chorh Chuan**  
Trustee

21 September 2017

## INDEPENDENT AUDITOR'S REPORT TO THE TRUSTEES OF NATIONAL UNIVERSITY OF SINGAPORE

### OPINION

The summary financial statements of National University of Singapore (the "Company") and its subsidiaries (the "Group"), which comprise the statements of financial position of the Group and the Company as at 31 March 2017 and the statements of comprehensive income of the Group and the Company, and related notes, are derived from the audited financial statements of the Company and its subsidiaries for the year then ended. We expressed an unmodified audit opinion on those financial statements in our report dated 28 July 2017.

In our opinion, the accompanying summary financial statements are consistent, in all material respects, with the audited financial statements and the Trustee's Statement of the Company and its subsidiaries for the year ended 31 March 2017 from which they are derived and comply with the requirements of Section 203A of the Companies Act, Chapter 50 (the Act) and the regulations made thereunder applicable to summary financial statements.

### SUMMARY FINANCIAL STATEMENTS

The summary financial statements do not contain all the disclosures required by the Financial Reporting Standards in Singapore. Reading the summary financial statements and the auditor's report thereon, therefore, is not a substitute for reading the audited financial statements and the auditor's report thereon. The summary financial statements and the audited financial statements do not reflect the effects of events that occurred subsequent to the date of our report on the audited financial statements.

### OTHER INFORMATION

Management is responsible for other information. The other information comprises the information included in the annual report but does not include the summary financial statements and our auditor's report thereon.

Our opinion on the summary financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the summary financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the summary financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

# INDEPENDENT AUDITOR’S REPORT TO THE TRUSTEES OF NATIONAL UNIVERSITY OF SINGAPORE

## MANAGEMENT’S RESPONSIBILITY FOR THE SUMMARY FINANCIAL STATEMENTS

Management is responsible for the preparation of the summary financial statements in accordance with Section 203A of the Act. In preparing the summary financial statements, Section 203A of the Act requires that the summary financial statements be derived from the annual financial statements and Trustees’ Statement of the Company and its subsidiaries for the year ended 31 March 2017, and be in such form and contain such information so as to be consistent with the audited financial statements.

## AUDITOR’S RESPONSIBILITY

Our responsibility is to express an opinion on whether the summary financial statements are consistent, in all material respects, with the audited financial statements based on our procedures, which were conducted in accordance with Singapore Standard on Auditing (SSA) 810 (Revised), Engagements to Report on Summary Financial Statements.



**Ernst & Young LLP**  
Public Accountants and  
Chartered Accountants

Singapore  
21 September 2017

# STATEMENTS OF FINANCIAL POSITION FOR THE FINANCIAL YEAR ENDED 31 MARCH 2017

	GROUP		COMPANY	
	31 March 2017	31 March 2016	31 March 2017	31 March 2016
	S\$'000	S\$'000	S\$'000	S\$'000
<b>NON-CURRENT ASSETS</b>				
Subsidiary companies	–	–	128	328
Associated companies	127,512	122,925	77,161	73,057
Fixed assets	3,482,295	3,484,025	3,479,820	3,481,580
Intangible assets	8,325	8,109	8,317	8,094
Available-for-sale investments	6,416	8,428	4,518	4,773
Student loans (repayable after 12 months)	6,880	8,971	6,880	8,971
Long-term loan to subsidiary company	–	–	250	250
Prepayments (to be utilised after 12 months)	197	458	197	458
<b>Total Non-Current Assets</b>	<b>3,631,625</b>	<b>3,632,916</b>	<b>3,577,271</b>	<b>3,577,511</b>
<b>CURRENT ASSETS</b>				
Student loans (repayable within 12 months)	2,647	2,547	2,647	2,547
Debtors	509,307	484,179	507,714	482,446
Consumable stores	575	457	333	265
Deposits and prepayments (to be utilised within 12 months)	45,521	42,994	45,023	42,617
Amounts owing from subsidiary companies	–	–	921	889
Investments at fair value through income or expenditure	7,977,964	6,379,425	7,977,964	6,379,425
Derivative financial instruments	16,007	82,771	16,007	82,771
Cash and cash equivalents	160,502	753,977	137,696	733,145
<b>Total Current Assets</b>	<b>8,712,523</b>	<b>7,746,350</b>	<b>8,688,305</b>	<b>7,724,105</b>
<b>TOTAL ASSETS</b>	<b>12,344,148</b>	<b>11,379,266</b>	<b>12,265,576</b>	<b>11,301,616</b>

The accompanying notes form an integral part of these financial statements.



STATEMENTS OF FINANCIAL POSITION  
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2017

	GROUP		COMPANY	
	31 March 2017	31 March 2016	31 March 2017	31 March 2016
	S\$'000	S\$'000	S\$'000	S\$'000
<b>CURRENT LIABILITIES</b>				
Creditors and accrued expenses	283,725	381,285	281,623	378,705
Provisions for employee leave liability	103,341	97,240	100,895	95,080
Grants received in advance	391,305	456,926	387,225	452,859
Deferred tuition and other fees	72,608	69,373	72,354	69,248
Derivative financial instruments	40,864	709	40,864	709
Amounts owing to subsidiary companies	–	–	26,156	25,937
Fixed rate notes (due within 12 months)	250,000	–	250,000	–
<b>Total Current Liabilities</b>	<b>1,141,843</b>	<b>1,005,533</b>	<b>1,159,117</b>	<b>1,022,538</b>
<b>NON-CURRENT LIABILITIES</b>				
Fixed rate notes (due after 12 months)	750,000	900,000	750,000	900,000
Deferred capital grants	1,954,006	1,874,875	1,951,671	1,872,498
<b>Total Non-Current Liabilities</b>	<b>2,704,006</b>	<b>2,774,875</b>	<b>2,701,671</b>	<b>2,772,498</b>
<b>TOTAL LIABILITIES</b>	<b>3,845,849</b>	<b>3,780,408</b>	<b>3,860,788</b>	<b>3,795,036</b>
<b>NET ASSETS</b>	<b>8,498,299</b>	<b>7,598,858</b>	<b>8,404,788</b>	<b>7,506,580</b>
<b>FUNDS AND RESERVES</b>				
<b>ACCUMULATED SURPLUS</b>				
Designated General Funds	2,619,993	2,406,939	2,546,661	2,337,013
Restricted Funds	2,147,333	1,703,656	2,127,632	1,682,438
	4,767,326	4,110,595	4,674,293	4,019,451
<b>ENDOWMENT FUNDS</b>	3,730,027	3,486,406	3,729,595	3,485,974
<b>FAIR VALUE RESERVE</b>	910	1,801	900	1,155
<b>TRANSLATION RESERVE</b>	36	56	–	–
<b>TOTAL FUNDS AND RESERVES</b>	<b>8,498,299</b>	<b>7,598,858</b>	<b>8,404,788</b>	<b>7,506,580</b>
<b>Funds managed on behalf of the Government Ministry</b>	298,375	292,924	298,375	292,924
<b>Represented by:</b>				
<b>Net assets managed on behalf of the Government Ministry</b>	298,674	293,334	298,674	293,334
<b>Amount receivable from Government Ministry</b>	(299)	(410)	(299)	(410)
	<b>298,375</b>	<b>292,924</b>	<b>298,375</b>	<b>292,924</b>

The accompanying notes form an integral part of these financial statements.

STATEMENTS OF COMPREHENSIVE INCOME  
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2017

GROUP	DESIGNATED GENERAL FUNDS		RESTRICTED FUNDS		TOTAL	
	2017	2016	2017	2016	2017	2016
	S\$'000	S\$'000	S\$'000	S\$'000	S\$'000	S\$'000
<b>OPERATING INCOME</b>						
Tuition and other related fees	468,201	445,752	–	–	468,201	445,752
Other income	237,149	212,074	99,155	120,596	336,304	332,670
	705,350	657,826	99,155	120,596	804,505	778,422
<b>OPERATING EXPENDITURE</b>						
Expenditure on manpower	923,349	887,909	369,883	341,667	1,293,232	1,229,576
Depreciation and amortisation expenditure	82,624	84,894	264,232	256,919	346,856	341,813
Other operating expenditure	436,136	431,076	550,178	514,019	986,314	945,095
	1,442,109	1,403,879	1,184,293	1,112,605	2,626,402	2,516,484
Operating deficit	(736,759)	(746,053)	(1,085,138)	(992,009)	(1,821,897)	(1,738,062)
Net investment income (loss)	93,774	4,999	535,153	(35,087)	628,927	(30,088)
Share of results (net of tax) of associated companies	2,000	(1,985)	(1,517)	8,533	483	6,548
Deficit before Grants	(640,985)	(743,039)	(551,502)	(1,018,563)	(1,192,487)	(1,761,602)
<b>GRANTS</b>						
Operating Grants:						
Government	702,379	728,689	593,775	523,949	1,296,154	1,252,638
Others	8,389	18,514	255,135	261,646	263,524	280,160
Deferred capital grants amortised	30,403	31,877	259,289	249,040	289,692	280,917
	741,171	779,080	1,108,199	1,034,635	1,849,370	1,813,715
<b>SURPLUS FOR THE YEAR BEFORE TAX</b>	100,186	36,041	556,697	16,072	656,883	52,113
Income tax	–	–	–	–	–	–
<b>SURPLUS FOR THE YEAR</b>	<b>100,186</b>	<b>36,041</b>	<b>556,697</b>	<b>16,072</b>	<b>656,883</b>	<b>52,113</b>
<b>OTHER COMPREHENSIVE INCOME:</b>						
Items that may be reclassified subsequently to income or expenditure:						
Exchange differences on translating foreign operations	(20)	(22)	–	–	(20)	(22)
Change in fair value of available-for-sale investments	–	–	(255)	(1,576)	(255)	(1,576)
Transfer of fair value reserve on sale of available-for-sale investments to income or expenditure	–	–	(636)	–	(636)	–
<b>OTHER COMPREHENSIVE INCOME FOR THE YEAR, NET OF TAX</b>	(20)	(22)	(891)	(1,576)	(911)	(1,598)
<b>TOTAL COMPREHENSIVE INCOME FOR THE YEAR</b>	<b>100,166</b>	<b>36,019</b>	<b>555,806</b>	<b>14,496</b>	<b>655,972</b>	<b>50,515</b>

The accompanying notes form an integral part of these financial statements.

STATEMENTS OF COMPREHENSIVE INCOME  
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2017

COMPANY

	DESIGNATED GENERAL FUNDS		RESTRICTED FUNDS		TOTAL	
	2017	2016	2017	2016	2017	2016
	S\$'000	S\$'000	S\$'000	S\$'000	S\$'000	S\$'000
<b>OPERATING INCOME</b>						
Tuition and other related fees	463,508	440,972	–	–	463,508	440,972
Other income	234,079	208,595	99,155	120,596	333,234	329,191
	697,587	649,567	99,155	120,596	796,742	770,163
<b>OPERATING EXPENDITURE</b>						
Expenditure on manpower	900,812	865,928	369,883	341,667	1,270,695	1,207,595
Depreciation and amortisation expenditure	81,960	84,211	264,232	256,919	346,192	341,130
Other operating expenditure	428,125	422,647	550,178	514,019	978,303	936,666
	1,410,897	1,372,786	1,184,293	1,112,605	2,595,190	2,485,391
Operating deficit	(713,310)	(723,219)	(1,085,138)	(992,009)	(1,798,448)	(1,715,228)
Net investment income (loss)	92,467	5,340	535,153	(35,087)	627,620	(29,747)
Deficit before Grants	(620,843)	(717,879)	(549,985)	(1,027,096)	(1,170,828)	(1,744,975)
<b>GRANTS</b>						
Operating Grants:						
Government	681,037	708,241	593,775	523,949	1,274,812	1,232,190
Others	6,797	16,450	255,135	261,646	261,932	278,096
Deferred capital grants amortised	29,789	31,238	259,289	249,040	289,078	280,278
	717,623	755,929	1,108,199	1,034,635	1,825,822	1,790,564
<b>SURPLUS FOR THE YEAR BEFORE TAX</b>	96,780	38,050	558,214	7,539	654,994	45,589
Income tax	–	–	–	–	–	–
<b>SURPLUS FOR THE YEAR</b>	<b>96,780</b>	<b>38,050</b>	<b>558,214</b>	<b>7,539</b>	<b>654,994</b>	<b>45,589</b>
<b>OTHER COMPREHENSIVE INCOME:</b>						
Items that may be reclassified subsequently to income or expenditure:						
Change in fair value of available-for-sale investments	–	–	(255)	31	(255)	31
Transfer of fair value reserve on sale of available-for-sale investments to income or expenditure	–	–	–	–	–	–
<b>OTHER COMPREHENSIVE INCOME FOR THE YEAR, NET OF TAX</b>	<b>–</b>	<b>–</b>	<b>(255)</b>	<b>31</b>	<b>(255)</b>	<b>31</b>
<b>TOTAL COMPREHENSIVE INCOME FOR THE YEAR</b>	<b>96,780</b>	<b>38,050</b>	<b>557,959</b>	<b>7,570</b>	<b>654,739</b>	<b>45,620</b>

The accompanying notes form an integral part of these financial statements.

NOTES TO THE SUMMARY FINANCIAL STATEMENTS  
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2017

1 GENERAL

The Company (Registration Number 200604346E) is incorporated in Singapore as a public company limited by guarantee and its registered office and place of business is located at 21 Lower Kent Ridge Road Singapore 119077.

The Company is principally engaged in the advancement and dissemination of knowledge, and the promotion of research and scholarship.

The consolidated financial statements of the Group and the statement of financial position, statement of comprehensive income and statement of changes in funds and reserves of the Company as of and for the year ended 31 March 2017 were authorised for issue in accordance with a resolution of the Trustees on 28 July 2017.

2 SIGNIFICANT ACCOUNTING POLICIES

ADOPTION OF NEW AND REVISED STANDARDS - In the current financial year, the Group has adopted all the new and revised FRSs and Interpretations of FRS (“INT FRS”) that are relevant to its operations and effective for annual periods beginning on or after 1 April 2016. The adoption of these new/revised FRSs and INT FRSs does not result in changes to the Group’s and Company’s accounting policies and has no material effect on the financial statements for the current or prior years.

The Group has not adopted the following standards that have been issued but are not yet effective:

Description	Effective for annual periods beginning on or after
Amendments to FRS 7: Disclosure Initiative	1 January 2017
Amendments to FRS 12: Recognition of Deferred Tax Assets for Unrealised Losses	1 January 2017
Amendments to FRS 112: Disclosure of Interests in Other Entities	1 January 2017
Amendments to FRS 28: Investments in Associates and Joint Ventures	1 January 2018
FRS 109 Financial Instruments	1 January 2018
FRS 115 Revenue from Contracts with Customers	1 January 2018
Amendments to FRS 115: Clarifications to FRS 115 Revenue from Contracts with Customers	1 January 2018
FRS 116 Leases	1 January 2019
FRS 116 Leases: Illustrative Examples & Amendments to Guidance on Other Standards	1 January 2019
Amendments to FRS 110 and FRS 28 Sale or Contribution of Assets between an Investor and its Associate or Joint Venture	Date to be determined

NOTES TO THE SUMMARY FINANCIAL STATEMENTS  
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2017

2 SIGNIFICANT ACCOUNTING POLICIES (cont'd)

At the date of authorisation of these financial statements, the management has considered and anticipated that the adoption of the FRSs, INT FRSs and amendments to FRS that were issued but not effective until future periods will have no material impact on the financial statements of the Group and the Company in the year of their initial adoption, except FRS 116 which the Group is currently assessing the impact. The details are described below.

FRS 116 Leases

FRS 116 requires lessees to recognise most leases on balance sheets to reflect the rights to use the leased assets and the associated obligations for lease payments as well as the corresponding interest expense and depreciation charges. The standard includes two recognition exemption for lessees – leases of ‘low value’ assets and short-term leases. The new standard is effective for annual periods beginning on or after 1 January 2019.

The Group is currently assessing the impact of the new standard and plans to adopt the new standard on the required effective date.

NOTES TO THE SUMMARY FINANCIAL STATEMENTS  
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2017

3 RELATED PARTY TRANSACTIONS

Parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial and operating decisions.

The Group receives grants from the Ministry of Education (MOE) to fund its operations and is subject to certain controls set by MOE.

Hence, other government-controlled enterprises are considered related parties of the Group. Many of the Group’s transactions and arrangements are with related parties and the effect of these on the basis determined between the parties is reflected in these financial statements. For related parties debtors and creditors balances, the terms of these balances are disclosed in the respective notes to the financial statements.

There were transactions with corporations in which certain trustees have the ability to control or exercise significant influence.

Details of significant balances and transactions between the related parties are described below:

	GROUP		COMPANY	
	2017	2016	2017	2016
	S\$'000	S\$'000	S\$'000	S\$'000
<b>Government-controlled enterprises and companies within the Group</b>				
<b>Balances</b>				
Debtors	436,205	407,029	435,889	406,747
Amount owing by subsidiary companies	–	–	921	889
Long-term loan to subsidiary company	–	–	250	250
Creditors and accrued expenses	914	1,632	914	1,632
Amount owing to subsidiary company	–	–	26,156	25,937
Deferred capital grants	1,597,937	1,875,924	1,596,968	1,874,790
Grants received in advance	365,906	458,463	360,135	452,854
<b>Transactions</b>				
Endowed donations	290	2,370	290	2,370
Non-endowed donations	27,257	5,409	27,257	5,409
Other income	20,858	18,892	20,858	18,892
Other operating expenditure	70,255	80,706	70,255	80,706
Operating/capital grants received	2,040,753	1,984,625	2,019,229	1,962,226
<b>Corporations in which trustees have the ability to control or exercise significant influence (including donations received from trustees)</b>				
<b>Balances</b>				
Debtors	175	44	175	44
Creditors and accrued expenses	14	109	14	109
<b>Transactions</b>				
Endowed donations	752	1,363	752	1,363
Non-endowed donations	2,451	24,029	2,451	24,029
Other income	1,018	441	1,018	441
Other operating expenditure	1,210	1,113	1,210	1,113
Operating/capital grants received	139	102	139	102



NOTES TO THE SUMMARY FINANCIAL STATEMENTS  
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2017

4 KEY MANAGEMENT PERSONNEL COMPENSATION

The compensation for twenty-one (2016: twenty-two) key management personnel (includes the remuneration of an executive trustee) are as follows:

	GROUP AND COMPANY	
	2017	2016
	S\$'000	S\$'000
Short-term benefits	14,174	14,297
Post-employment benefits	241	327
	14,415	14,624

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Produced by NUS Office of Corporate Relations





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