This year, NUS celebrates its 110th anniversary, and Singapore, the 50th anniversary of our independence as a nation. These have been momentous decades of change and transformation. Given our modest beginnings, it has indeed been a remarkable journey.

Today, Singapore is a leading global city: a vibrant centre of trade, innovation and culture in a dynamic Asia. NUS has also developed into a globally-ranked university, with peaks of world-class excellence in various fields of research and education.

These tremendous achievements have been possible because successive generations dedicated their effort and talent to building a more prosperous, stable and forward-looking society. Their most profound legacy however, extends beyond the excellence of our infrastructure and institutions. It lies, deeply embedded, in our culture and ethos: the spirit of persistence, the drive to excel, and the courage to take bold risks. These three attributes – determination, excellence and innovation – will continue to be invaluable as we continue to adapt to new challenges and seek out new peaks of achievement.

The recipients of this year’s University Awards exemplify those attributes. Their passion, creativity and spirit of service have opened exciting new vistas, and will inspire the NUS community to aim higher and go further. In so doing, they uphold NUS’ tradition of creating impact and improving the community, and give impetus to our continuing drive to be a leading global university, centred in Asia.

My heartiest congratulations to all award recipients.

Professor Tan Chorh Chuan
President
National University of Singapore

"The will to win, the desire to succeed, the urge to reach your full potential ... these are the keys that will unlock the door to personal excellence.

Confucius
Educator and Philosopher
551 – 479 BCE"
Criteria

OUTSTANDING EDUCATOR AWARD
Acknowledges faculty members who have excelled in engaging and inspiring students in their quest for knowledge.

YOUNG RESEARCHER AWARD
Commends researchers whose works show promise in extending the frontiers of knowledge in their respective fields.

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

OUTSTANDING SERVICE AWARD
Honours individuals who have distinguished themselves by their sustained contributions in serving the University and society.
Awards Recipients

**OUTSTANDING EDUCATOR AWARD**
Prof Brian FARRELL
Assoc Prof Ben LEONG Wing Lup

**YOUNG RESEARCHER AWARD**
Dr Goki EDA
Dr ZHANG Rui

**OUTSTANDING RESEARCHER AWARD**
Prof Neal CHUNG Tai-Shung
Prof GAN Wee Teck

**OUTSTANDING SERVICE AWARD**
Mr Gopinath PILLAI
Dr SEEK Ngee Huat
Outstanding Educator Award
If I meet a former student 10 years after they graduate and they do not remember much of the content of what we discussed, I am not bothered – provided they remember how to frame the questions they need to ask, critically analyse the relevant evidence and express independent analytical views of their own. When a student learns how to learn, a teacher can feel some sense of accomplishment.

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**Prof Brian FARRELL**  
PhD, MA, BA (McGill University)  
Department of History

**CURRENT TEACHING PORTFOLIO**  
- Modern military history  
- Modern European history  
- Imperialism and empires

**TEACHING ACHIEVEMENTS**  
- Made significant contributions to the educational landscape of Singapore and NUS through leadership appointments in university, faculty and national initiatives  
- Served on the Faculty of Arts and Social Sciences’ Teaching Excellence Committee, helping raise the Faculty’s evaluation and enhancement of teaching and learning  
- Scores consistently high ratings and glowing reviews from students and participants across different modules and programmes

**TEACHING STRENGTHS**  
- Makes history come alive by organising comprehensive and enriching field trips, a learning experience many students have found to be illuminating and fruitful  
- Designs innovative re-enactment and role-playing scenarios that help students imagine the past and analyse it for the present, promoting their appreciation and interpretation of history  
- Offers substantial, personalised and critical feedback in multiple forms, on essays, presentations to online discussions, to help students reach higher and do better  
- Adept at turning content relevant and accessible to different people, from students, the armed forces, fellow military historians to museum staff and volunteers

**PUBLICATION CREDITS**  
- Published two single-authored books, two co-authored books, three edited books, and numerous journal articles, book chapters, handbook, dictionary and encyclopaedia entries, and book reviews  
- Contributed articles on teaching to university publications

**INTERNATIONAL STANDING**  
- Regional Coordinator, Pacific region (Asia, Australia), Society for Military History, the world’s largest professional society of military historians (since 2009)  
- Member, Editorial Advisory and Review Board, Global War Studies (since 2008)  
- Member, Publishing Committee, NUS Press (since 2006)  
- Presented at numerous international conferences and symposia, including 11 invited papers

**AWARDS AND ACCOLADES**  
- Honour Roll, Annual Teaching Excellence Award, NUS (2009)  

**TEACHING ASPIRATION**  
“I want my students to be a different person at the end of the semester from the person they were when our journey began, and to see that difference for themselves.”
It is important for our students to learn how to learn. We have to keep in mind that we are preparing students for a future we cannot predict and for jobs that do not presently exist.

There are two things that I believe really matter in education: mindset and values. With the right mindset, our students will likely find success in life, but without the right values, there is a danger that the success may come at the expense of society at large.

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**Assoc Prof Ben LEONG Wing Lup**

**PhD, MEng, SB (Massachusetts Institute of Technology)**

**Department of Computer Science**

**CURRENT TEACHING PORTFOLIO**

- Programming methodology
- Practical software engineering and software development

**TEACHING ACHIEVEMENTS**

- Created the open source, online education platform Coursemology, which adds gaming elements to assignments, that has been widely acknowledged as making learning fun and engaging, and has been adopted in NUS modules, secondary schools and foreign universities, including Princeton University
- Developed four new modules over the years – one on Facebook application development in 2008; one on iPad programming in 2011; an experimental global software engineering education project module created in collaboration with Stanford University and Facebook in 2013; and an experimental online teaching module for returning national servicemen in 2014
- Appointed by Singapore’s Ministry of Education to train teachers to teach Computer Science, which is to be offered as a Singapore-Cambridge GCE ‘O’ Level subject from 2017
- Achieved consistently high student feedback scores across modules of different levels and complexity

**TEACHING STRENGTHS**

- Promotes the bridging of theory and practice by encouraging the building of products for the real world, with many projects making it to the market, including two games launched on Apple’s App Store
- Eschews spoon-feeding in favour of interactive problems solved in collaboration with students while guiding them to be active learners and creative in analysing issues
- Crafts meticulously designed assignments and assessments to stimulate new thinking and illustrate concepts and applications
- Goes the extra mile for weak students by holding additional remedial classes and a peer teaching programme for the more able students to help tutor those who fall behind

**PUBLICATION CREDITS**

- Published 33 articles in peer-reviewed academic journals and conferences
- Contributed articles on teaching to university publications

**INTERNATIONAL STANDING**

- Faculty Thought Leader Council, Facebook Inc (2013)
- Served on the programme committees for numerous international conferences
- Presented at numerous international conferences and symposia
- Invited annually to teach at the Sichuan University Summer Immersion Programme

**AWARDS AND ACCOLADES**

- Honour Roll, Annual Teaching Excellence Award, NUS (2011)
- Communications Society and Information Theory Society Joint Paper Award (2009)

**TEACHING ASPIRATION**

“A malaise affecting the world and society at large is that many people live rather uninspired and insipid lives. I hope that my students will grow up to live inspired lives and become outstanding citizens. By encouraging curiosity and a love for learning, and also by inculcating habits of hard work and grit, my goal is to kindle the intrinsic motivation in my students to work towards becoming the best versions of themselves that they can be.”
Young Researcher Award
Research is about wrestling with the intricate language of nature. It is also a process through which we appreciate and celebrate the wonders of nature.

Dr Goki EDA

PhD (Rutgers University); MSc (Worcester Polytechnic Institute); BA (International Christian University)
Departments of Chemistry and Physics

RESEARCH INTERESTS
- Two-dimensional nanomaterials
- Optoelectronics and photonics
- Mesoscopic charge transport
- Interkalation chemistry

RESEARCH ACHIEVEMENTS
- Demonstrated the unusual optical conductivity of atomically thin semiconductors and the unique relaxation dynamics of their optically excited states, shedding light on their potential for applications in novel photovoltaic devices
- Successfully unravelled the complex atomic structure of semiconducting two-dimensional crystals based on intercalated transition metal dichalcogenides, a subject of debate for over two decades
- Achieved efficient electrocatalytic generation of hydrogen using atomically thin sheets of chemically exfoliated tungsten disulphide, a novel nanomaterial that can be produced in mass quantities at low cost
- Demonstrated chemically assisted exfoliation of layered compounds as a means to large-scale synthesis of two-dimensional materials, paving the way for scalable, cost-effective production for novel sensing and thin-film electronics
- Provided explanations for the origin of charge scattering in semiconducting two-dimensional materials, which are emerging, promising materials for next-generation electronics

RESEARCH STRENGTHS
- Innovative, creative and interdisciplinary research effort with a strong focus on nanoscale device applications
- Highly collaborative in nature and ability to organise large-scale multidisciplinary research
- Strong manufacturing acumen in technologies for industrial-scale fabrication and processing of two-dimensional semiconducting thin films

PUBLICATION CREDITS
- Authored invited reviews and perspectives of the field in top-tier journals such as Nature Chemistry, Accounts of Chemical Research, ACS Nano, Chemical Society Reviews and Advanced Materials
- Over 7,000 citations received, with an average of 135 citations per paper

INTERNATIONAL STANDING
- Delivers invited and keynote talks regularly at international conferences and symposiums, such as the Optical Society of America meetings as well as the Institute of Electrical and Electronics Engineers Photonics Society, Complementary Metal-Oxide-Semiconductor Emerging Technologies Research and Materials Research Society conferences

AWARDS AND ACCOLADES
- Young Scientist Award, NUS Faculty of Science (2014)
- Omicron Nanotechnology Medal and Prize, Institute of Physics Singapore (2013)
- National Research Foundation Fellowship, National Research Foundation, Singapore (2011)
- The Royal Society Newton International Fellowship (2009)
- Young Scientist Award, European Materials Research Society (2009)

RESEARCH ASPIRATION
“To translate the fundamental physical interactions between light and matter into disruptive and transformative technologies in optoelectronics and photonics.”
Fascinated by the beauty and power of both physical and mathematical laws, I am humbly seeking a perfect blend of them in solving engineering problems elegantly and rigorously.

Dr ZHANG Rui
PhD (Stanford University), MEng, BEng (NUS)
Department of Electrical and Computer Engineering

RESEARCH INTERESTS
- Wireless communication
- Wireless energy transfer
- Optimisation theory
- Signal processing
- Information theory

RESEARCH ACHIEVEMENTS
- Contributed important findings in three areas – receiver architectures, multiple-input and multiple-output transmitter optimised designs, and the rate-energy region for characterising performance trade-offs – in making the performance of radio signals for simultaneous wireless information and power transfer (SWIPT) possible and feasible, as well as devised a first-ever integrated information and energy receiver design
- Overturned the conventional view that wireless interference is detrimental to wireless information transmission in SWIPT, proving instead it could be a beneficial energy source
- Pioneered studies on optimally managing wireless communications with intermittent environmental energy sources, including the development of a “staircase” structure as an ideal power allocation scheme
- Built on his work on wireless communications with unstable energy sources to authenticate a significant “separation principle” for reducing the complexities involved

RESEARCH STRENGTHS
- Innovative and highly collaborative in pioneering interdisciplinary research on a promising unified study of wireless information and power transfer

PUBLICATION CREDITS
- More than 3,500 citations received for over 50 papers, a phenomenally high figure among the world’s researchers in his field
- Several high-impact papers published in prestigious Institute of Electrical and Electronics Engineers (IEEE) journals rank among the journals’ top three most-cited
- Holds a Hirsch index of 40, indicating high research quality and impact

INTERNATIONAL STANDING
- A well-respected reviewer for over 10 of IEEE’s journals and 15 of its conferences
- Appointed as associate editor of IEEE Transactions on Wireless Communications and IEEE Transactions on Signal Processing
- A regular invited speaker at established and prestigious conferences worldwide

AWARDS AND ACCOLADES
- 6th IEEE Communications Society Asia-Pacific Best Young Researcher Award (2011)
- Young Investigator Award, NUS (2011)

RESEARCH ASPIRATION
“To develop a theoretical foundation for optimising the efficiency of coexisting wireless information and power transfer to help build the next-generation wireless infrastructure capable of supporting both data and energy access over the air.”
Outstanding Researcher Award
A researcher needs aspiration, determination, patience and God’s blessing to achieve the ultimate goals.

Prof Neal CHUNG Tai-Shung  
PhD (State University of New York); MSc (National Taiwan University); BSc (Chung Yuan Christian University)  
Department of Chemical and Biomolecular Engineering

RESEARCH INTERESTS
✓ Membrane science and technology for clean water and clean energy applications, pharmaceutical separation and carbon dioxide capture
✓ Nanotechnology and nanocomposites

RESEARCH ACHIEVEMENTS
✓ Designed at the molecular level the world’s most advanced forward osmosis, pressure-retarded osmosis and membrane distillation membranes for water reuse and desalination
✓ Co-invented and commercialised the award-winning Hyflux Kristal 600™ ultra-filtration membranes for water recycling and wastewater treatment, an innovation offering reliable and consistent strict filtration used in among the world’s largest water plant projects
✓ Pioneer in designing membranes with aquaporin – proteins that allow water to pass through but not large molecules and salt – a promising technology that could raise the viability of desalinated water
✓ Created novel membranes far more superior at separating hydrogen and carbon dioxide than existing ones, opening up immense possibilities for the production of clean energy from hydrogen and the capture of greenhouse gas carbon dioxide
✓ Seminal findings have been translated into 30 patents, including eight US patents
✓ Consistently secures generous funding from governments, industry and universities

RESEARCH STRENGTHS
✓ Innovative, creative and unafraid of venturing into uncharted territory to discover new membrane materials and applications
✓ Outstanding ability to bridge academic research and real-world needs

PUBLICATION CREDITS
✓ Published over 560 original papers in internationally refereed journals with a staggering 16,600 citations received, as well as 350 conference papers, 18 book chapters and one book

INTERNATIONAL STANDING
✓ Serves as Subject Editor of Chemical Engineering Research and Design, and as an editorial board member of more than 16 leading journals, such as Journal of Membrane Science and Chemical Engineering Journal
✓ External reviewer of 250 papers each year for international journals, including prestigious journals like Nature and Science
✓ Sought-after expert by governments and universities around the world
✓ Presented numerous keynote and invited talks at multiple international and prestigious conferences around the world

AWARDS AND ACCOLADES
✓ Underwood Medal for Exceptional Research in Separations, Institution of Chemical Engineers in the United Kingdom (2014)
✓ Global Innovation Award, TechConnect World 2014
✓ Fellow, Academy of Engineering Singapore (2012)
✓ Provost’s Chair Professorship, NUS (2011)
✓ Engineering Research Leadership Award, NUS Faculty of Engineering (2011)
✓ Award for Excellence and Innovation in Sustainable Technology, Institution of Chemical Engineers in Singapore (2010)
✓ Hyflux-Singapore National Institute of Chemistry Award in Environmental Chemistry (2010)
✓ Prestigious Engineering Achievement Award, Institution of Engineers Singapore (2010)
✓ Innovation and Excellence Award in Energy (Highly Commended), Institution of Chemical Engineers in the United Kingdom (2009)
✓ Innovation and Excellence Award in Water Management and Supply (Highly Commended), Institution of Chemical Engineers in the United Kingdom (2009)

RESEARCH ASPIRATION
“To develop novel membranes for separations for the benefit of society.”
It is a privilege to be involved in the enterprise of mathematical discovery, which is the pursuit of both beauty and truth. I am driven by simple passion, curiosity and the sincere belief that mathematics is easier than most real-life problems and governed by a few underlying principles.

Prof GAN Wee Teck
PhD (Harvard University), BA (University of Cambridge)
Department of Mathematics

RESEARCH INTERESTS
- Number theory
- Representation theory

RESEARCH ACHIEVEMENTS
- Formulated precise conjectures for answers in terms of local root numbers and the central value of L-functions for an important class of restriction problems for representations and automorphic forms of all classical groups
- Established the precise behaviour of the formal degrees of discrete series representations under the local theta correspondence, leading to many other findings and breakthroughs
- Successfully validated the well-known 40-year-old Howe duality conjecture, which lies at the very foundation of the theory of theta correspondence
- Conceived the general Siegel-Weil formula and the Rallis inner product formula, an advancement that sparked many applications in the theory of automorphic forms and L-functions

RESEARCH STRENGTHS
- Strong ability to work with and inspire others who complement his strengths
- Attention to detail and willingness to question

PUBLICATION CREDITS
- Published several papers in leading mathematical journals resolving a number of longstanding conjectures

INTERNATIONAL STANDING
- Invited to deliver a lecture in the Number Theory section of the International Congress of Mathematicians in 2014
- Serves on the editorial boards of leading international journals, such as *International Mathematics Research Notices* and *International Journal of Number Theory*, and acts as a referee for many others, including *Annals of Mathematics* and *American Journal of Mathematics*

AWARDS AND ACCOLADES
- Provost’s Chair Professorship, NUS (2013)
- Sloan Research Fellowship (2003)
- American Mathematical Society Centennial Fellowship (2002)

RESEARCH ASPIRATION
"On a non-technical level: To achieve a balance between solving problems and opening up new avenues of research."
Outstanding Service Award
Mr Gopinath Pillai
BA (University of Malaya)
Chairman, NUS Institute of South Asian Studies
Ambassador-at-Large and Special Envoy to Andhra Pradesh, Ministry of Foreign Affairs, Singapore
Vice Chairman, Gateway Distriparks Limited and Snowman Logistics Limited, two public listed companies in India
Advisor, Singapore Malayalee Association and Singapore Malayalee Hindu Samajam

SERVICE TO NATION AND INTERNATIONAL COMMUNITY
- Contributed significantly to Singapore through his work as a diplomat for more than 25 years
- Past and continuing involvement in a number of organisations, including NTUC FairPrice Co-operative Limited, Ang Mo Kio-Thye Hua Kwan Hospital, Hindu Advisory Board, Indian Heritage Centre and the National University of Singapore Society, has impacted the social development of Singapore
- Played a leading role in fostering Singapore-India relations both as an investor in India as well as by building up deep knowledge on India through the Institute of South Asian Studies which benefits the business community, academia, government agencies and any other interested Singaporeans

AWARDS
- Padma Shri, Government of India (2012)
- Public Service Star (Bar), Government of Singapore (2009)
- Distinguished Alumni Service Award, NUS (2009)
- Friend of IT, Singapore Computer Society (2001)
- Friend of MCD, Ministry of Community Development, Singapore (1998)
- Meritorious Service Award, National Trades Union Congress, Singapore (1990)
- Friend of Labour Award, National Trades Union Congress, Singapore (1987)

FUTURE ASPIRATION
“It is my prayer that when I finally ‘shuffle off this mortal coil’, I will leave behind a little more than my skeletal remains.”

The University gave me an education, not in terms of a string of degrees but in terms of being able to cope with life without compromising on human values. It also gave me a sense of achievement in being part of a great institution. Though it is more than half a century since I graduated, I have continued my close association with the University. I count this as one of my blessings.
NUS gave me the break to build a rewarding and challenging career in real estate, for which I am grateful. I am also fortunate and privileged to have worked through a period of transformational changes in the global real estate industry, which gave me the opportunity to help shape the business models of the organisations I was involved with. I hope to continue to contribute to real estate education and research at NUS by sharing my global experience and knowledge, and strengthening the linkages between academia and industry.

LIFETIME ACHIEVEMENTS

- A highly regarded and influential expert in real estate investment with more than 30 years of experience in real estate around the world
- Headed the Government of Singapore Investment Corporation (GIC) Real Estate Private Limited as President for 15 years, turning it into one of the world’s leading sovereign wealth funds and institutional investors in real estate with assets in over 30 countries
- Prominent thought leader and keynote speaker at numerous leading international forums, including the Cambridge University Land Society’s Annual Alastair Ross Goobey Lecture and the NUS Institute of Real Estate Studies-Urban Land Institute Forum
- Pioneered and established real estate research as an integral service provided by leading consulting firms in Asia-Pacific when he was a partner at Jones Lang LaSalle in Sydney

SERVICE TO NATION AND INTERNATIONAL COMMUNITY

- Leads the strategic direction and growth for the Institute of Real Estate Studies as Chairman since its inception, serving with dedication and distinction to shape it into a global knowledge centre on Asian real estate through promoting research excellence, international partnerships and industry collaborations
- Widely credited for formulating an investment business model at GIC for the asset class now regarded as the inspiration for the strategies of other sovereign wealth funds
- Contributes expertise and experience as a board director to Brookfield Asset Management Inc in Canada and Chongbang Holdings (International) Limited in Shanghai, China, as well as being a senior advisor to Frasers Centrepoint Limited
- Served on industry and government bodies in different countries, including as board director of the Pension Real Estate Association in the US, the founding chairman of the Property Council of Australia Property Index Committee and a member of the Land Sub-committee of the Singapore Economic Strategies Committee
- Served on the international advisory councils of Peking University’s Guanghua School of Management and Fundação Dom Cabral in Brazil as well as the real estate advisory boards of the University of Cambridge and Harvard University

AWARDS AND ACCOLADES

- Distinguished Alumni Service Award, NUS (2011)
- Public Administration Medal (Gold), Government of Singapore (2007)

FUTURE ASPIRATION

“To the two organisations I now chair: I hope to help develop the Institute of Real Estate Studies as the pre-eminent centre of excellence in real estate education and research in Asia, if not the world, and to help build Global Logistic Properties into the world’s leading developer, operator and fund manager of modern logistics facilities.”
Award Recipients
The NUS Teaching Academy was established on 24 April 2009 to promote excellence in teaching and learning, and to enhance the teaching environment within the University. Envisaged to function as a think tank on education, the Academy brings fresh ideas and insights on education, and contributes to educational policies and processes at NUS.

**Vision**
- Pursuing teaching and learning innovations
- Fostering a balanced culture of educational and research excellence

**Mission**
To engage every section of the NUS community in transforming the educational landscape of the University.

Its aims and purposes are as follows:
- To foster a balanced culture of educational and research excellence, and to underscore the University’s commitment to quality education
- To provide a platform to engage outstanding teachers, enabling them to share their expertise and develop new pedagogies
- To recognise members of the NUS community who have maintained a high level of teaching excellence and have helped raise the quality of NUS education
- To enhance quality assurance and serve as a benchmark for excellence in teaching and learning

The Teaching Academy is composed of excellent teachers who have made significant contributions to education in NUS. Known as Fellows, they work together to further the vision, mission and aims of the Academy. Fellows engage in the scholarship of teaching and learning; serve on university-level committees; review existing processes related to teaching and learning; advise university management; organise various programmes, including masterclasses, mentorship schemes and outreach activities; and act as ambassadors and connectors for teaching and learning matters within and beyond NUS.
Dr NGA Min En  
Department of Pathology  
Yong Loo Lin School of Medicine

Assoc Prof Lakshminarayanan  
SAMAVEDHAM  
Residential College 4  
Department of Chemical and Biomolecular Engineering  
Faculty of Engineering

Dr SEOW Teck Keong  
Department of Biological Sciences  
Faculty of Science

Assoc Prof TEO Chiang Juay  
Department of Mechanical Engineering  
Faculty of Engineering

Prof WONG Nyuk Hien  
Department of Building  
School of Design and Environment