“To accomplish great things, we must not only act, but also dream; not only plan, but also believe.”
Anatole France, Nobel Laureate, 1844 – 1924

This year’s award recipients remind us, once again, that outstanding achievements are founded upon a fierce commitment to excellence, an unwavering dedication to service, and a bold, ceaseless spirit of enterprise and innovation. Through these qualities, they serve as beacons that inspire and motivate the entire NUS community.

For NUS to distinguish itself, and to excel in a higher education landscape undergoing rapid transformation, we must continue to set ourselves even more challenging goals, push ourselves to be even better and to reach even higher than ever before. By so doing, our University will continue to thrive and make outstanding contributions in teaching, research and thought-leadership. Very importantly, we will further enhance the value that we create for Singapore and the wider community, even as we advance NUS as a leading global university centred in Asia.

My warmest congratulations to this year’s award recipients!

Tan Chorh Chuan
NUS President
OUTSTANDING EDUCATOR AWARD
Acknowledges faculty members who have excelled in engaging and inspiring students in their quest for knowledge

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

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

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

Emeritus Professor
Conferred in recognition of distinguished scholarship and outstanding service to the University
OUTSTANDING EDUCATOR AWARD
Assoc Prof Johan GEERTSEMA
Assoc Prof Willie TAN

OUTSTANDING RESEARCHER AWARD
Prof OOI Beng Chin

YOUNG RESEARCHER AWARD
Assoc Prof LIU Bin
Dr Barbaros ÖZYILMAZ

OUTSTANDING SERVICE AWARD
Mr NG Yat Chung
Prof John Eu Li WONG

Emeritus Professor
Prof LING Eng Ang
“What is important is that students learn; if technology integrated into the syllabus and class activities can help that process, then I am all for it – but only then.”

CURRENT TEACHING PORTFOLIO
- Writing and critical thinking
- Literary studies

TEACHING ACHIEVEMENTS
- Contributed significantly to the establishment of the NUS Teaching Academy that enriches teaching and learning at NUS as well as shapes its education policy and practice, and provides leadership as Vice Chair of its Executive Council
- Plays a key role in the NUS Teaching Academy’s extensive studies on leveraging information technology to enhance education at NUS and re-making the University’s teacher peer review system
- Appointed as one of five inaugural Residential Fellows of Cinnamon College at University Town, creating and shaping a living and learning experience that is rich and meaningful

TEACHING STRENGTHS
- Coordinates the University Scholars Writing and Critical Programme, overseeing quality assurance and curriculum reform
- Served on the University Scholars Programme’s Faculty Teaching Excellence Committee, adding value and insight to the faculty’s evaluation, development and quality of teaching

PUBLICATION CREDITS
- Published 17 articles in peer-reviewed academic journals and essay collections
- Contributed articles on teaching to university publications

INTERNATIONAL STANDING
- Member, Editorial Board, Journal of Commonwealth Literature (since 2006)
- Deputy Editor, Journal of the NUS Teaching Academy (since 2010)
- Presented at numerous international conferences and symposia, including eight invited papers

AWARDS AND ACCOLADES
- Honour Roll, Annual Teaching Excellence Award, NUS (2011)

TEACHING ASPIRATION
“I aim to guide students to discover ways of approaching topics critically, ask their own questions in order to identify problems, and come up with hypotheses that will enable them to move towards solving the problems and questions they have identified.”

Assoc Prof Johan GEERTSEMA
PhD (University of Cape Town); MA (North-West University)
University Scholars Programme

NATIONAL UNIVERSITY OF SINGAPORE
OUTSTANDING EDUCATOR AWARD

My approach to teaching consists of two parts: continuous self-development, and in-depth appreciation of what motivates students to learn. Then I use this understanding to design my modules to educate the minds and inspire.

Assoc Prof Willie TAN
PhD (Architecture) (University of Sydney); MSc (Estate Management) (NUS); BSc (Land Surveying) (First Class Honours and University Medal) (University of Newcastle, Australia)
Department of Building

CURRENT TEACHING PORTFOLIO
- Development finance
- Research methods
- Integrated project

TEACHING ACHIEVEMENTS
- Led the successful transformation of the Master of Science (Project Management) programme to expand its scope and appeal to different industries, leading to a five-fold increase in the number of applications for admission
- Contributed to developing the Master of Science (Integrated Sustainable Design) programme that is vital for nurturing talent in integrating design and sustainability beyond the building scale in the School of Design & Environment
- Key designer of the Bachelor of Science (Project and Facilities Management) programme
- Possesses keen eye for identifying strategic areas for curriculum development to respond to and meet emerging industry requirements
- Helped shape a range of the University’s education programmes by serving on different university-level committees

TEACHING STRENGTHS
- Widely sought-after expert by tertiary institutions as well as industry for expertise in project management and research methods
- Outstanding ability to explain and present complex and abstract concepts clearly, simply and effectively, making them easy to understand and grasp
- Promotes the understanding and appreciation of concepts by sharing case studies from different disciplines drawn from a wealth of industry experience
- Designs creative and challenging assessments that accurately measure students’ depth of understanding and their ability to apply knowledge in unfamiliar contexts

PUBLICATION CREDITS
- Published seven books on project finance, research methods and housing that are found in many university libraries worldwide and used as main or supplementary texts
- Published 40 papers in reputable international journals such as International Journal of Project Management, Construction Management and Economics, and Journal of Spatial Science
- Contributed articles on teaching in university publications

INTERNATIONAL STANDING
- Editor, Journal of Spatial Science (since 2004)
- First Rotational Chair, International Project Management Education Union (2005)
- Chair, Project Management Institute Global Accreditation Centre site visit team to accredit master and doctoral programmes at universities in Asia (2007 – 2008)
- Member, Editorial Review Panel, International Journal of Construction Project Management (since 2008)
- Member, Editorial Board of - International Journal of Project Management (since 2005)
- Australasia Journal of Construction Economics and Building (since 2010)
- Certified Professional, Spatial Sciences Institute (since 2005)
- Spatial Sciences Institute, Australia (since 2004)

AWARDS AND ACCOLADES

TEACHING ASPIRATION
“When my students tell me I have fundamentally changed the way they think – that is my goal.”
Research demands a great deal of curiosity, creativity, focus, discipline and perseverance. To do well, it is important to always stay foolish and stay hungry.”

RESEARCH INTERESTS
- Database system architectures
- Performance issues, indexing techniques and query processing of multimedia, spatiotemporal, distributed, parallel, peer-to-peer (P2P), and cloud database systems and applications
- Developed efficient mechanisms for managing large data in large-scale parallel and distributed systems, advancing many forms of decentralised data management such as database integration and P2P data management
- Consistently secured generous competitive research funding from government and industry

RESEARCH ACHIEVEMENTS
- Led groundbreaking research in P2P data management, making effective database functionality possible over P2P networks while addressing fundamental system and data management issues, that has culminated in the BestPeer system which enjoys an unsurpassed reputation for technological superiority, quality and reliability
- Conceived an innovative elastic power-aware data intensive Cloud (epiC) system capable of accommodating analytical processing and transaction processing that was widely regarded as unattainable

RESEARCH STRENGTHS
- Collaborates closely with researchers from laboratories of leading companies such as AT&T and Microsoft, and universities from around the world
- Strong ability to bridge scientific research and industry needs, build usable large systems and solve novel research problems

PUBLICATION CREDITS
- Published over 70 journal articles and 120 conference papers with over 9,000 citations received and most of which appear in the world’s top journals in computer science
- Current Hirsch index of 52, signifying high quality of research and impact

INTERNATIONAL STANDING
- Programme Committee Co-Chair, 28th Institute of Electrical and Electronics Engineers International Conference on Data Engineering (IEEE ICDE) Conference (2012)
- Editor-in-Chief, IEEE Transactions on Knowledge and Data Engineering (TKDE) (2009 – 2012)
- Fellow, Association for Computing Machinery (ACM) (2011)
- Fellow, IEEE (2009)
- Programme Committee Chair, Core Data Bases Track, 34th International Conference on Very Large Data Bases (VLDB) Conference (2008)
- Programme Committee Chair, ACM Special Interest Group on Management Of Data (SIGMOD) Conference (2007)
- Editor, Distributed and Parallel Databases Journal (since 2008)

AWARDS AND ACCOLADES
- IEEE Computer Society Kanai Award (2012)
- President’s Science Award, Singapore (2011)
- ACM SIGMOD Contributions Award (2009)
- Member, Editorial Board of
  - GeoinFORMATICA (1997-2005)
- Secretary, VLDB Endowment Inc. (2010-2013)
- Co-Chair, ACM SIGMOD Jim Gray Doctoral Dissertation Award Committee (2008-2011)
- Highly regarded expert sought after by industry and governments around the world

RESEARCH ASPIRATION
“To invent disruptive technology and build large-scale data processing systems capable of transforming the business world and influencing the way it operates.”
Assoc Prof LIU Bin
PhD (NUS); MSc, BSc (Nanjing University)
Department of Chemical & Biomolecular Engineering

“Enjoy everything you do and be happy every day.”

RESEARCH INTERESTS
• Design and synthesise organic molecules and organic-inorganic hybrid materials with applications in chemical and bio-sensors and optoelectronic devices

RESEARCH ACHIEVEMENTS
• Created a novel polymer amplified bead array technology for DNA and protein detection that outperforms commercial microarray techniques, with US and Patent Cooperation Treaty (PCT) patents filed and its licence granted to a UK company
• Opened up new possibilities in instrument-free, fluorescence-based detection and analysis by pioneering the use of conjugated polymers to detect and quantify biomolecules in solution
• Demonstrated the capability of conjugated polymers as signal amplifiers in the solid state that are applicable across a wide range of analyses, a technology that has a PCT patent filed and its licence granted to a US company
• Devised a new principle for designing fluorescent probes for real-time detection of protein markers in solution and in living cells, a breakthrough that brings wide-ranging impact to the monitoring of biological processes and was granted a US patent
• 12 out of 21 patents filed have been licensed to companies across the US, UK and Asia

RESEARCH STRENGTHS
• Strong ability to identify research directions with both high scientific impact and commercial value
• Relentless in realising promising ideas
• Focuses on research originality and fundamental understanding
• Keen to explore by crossing boundaries between different research areas through collaboration

PUBLICATION CREDITS
• Over 150 papers published in top international journals with over 4,500 citations received
• Invited by reputable international journals and scientific publishing houses to contribute research articles and reviews as well as edit books

INTERNATIONAL STANDING
• Associate Editor, Journal of Molecular and Engineering Materials (since 2012)
• Member, Editorial Board of
  - Polymer Bulletin (since 2011)
  - Particles (since 2012)
  - American Journal of Nuclear Medicine and Molecular Imaging (since 2011)
• Serves as reviewer of 15 top international journals and external reviewer for Singapore’s Agency for Science, Technology and Research, Ministry of Education and National Research Foundation

AWARDS AND ACCOLADES
• Young Faculty Research Award, NUS Faculty of Engineering (2012)
• L’Oreal Singapore for Women in Science National Fellowship (2011)
• Young Scientist Award, Agency for Science, Technology and Research (2008)
• NUS Young Investigator Award (2006)

RESEARCH ASPIRATION
“To develop innovative functional materials for applications in biotechnology and organic electronics.”
“The discovery of graphene has shown that basic, curiosity-driven research has the potential to not only revolutionise science but also entire industries. It is a great privilege to be part of this exciting adventure, to be able to pursue my passion and to be able to work with my amazingly talented and motivated PhD students towards pushing the frontiers of graphene research even further.”

RESEARCH INTERESTS
- Spin transport and spin transfer torque in nanoscale magnets
- Charge, spin and heat transport properties of nanoscale graphene devices
- Applications of graphene in the areas of data storage, data processing, flexible electronics, spintronics, displays, touch panels, batteries, supercapacitors and tissue engineering

RESEARCH ACHIEVEMENTS
- Founded a world-leading graphene research group at NUS
- Broke new ground with the creation of a graphene-based transparent, flexible electrode that delivers superior performance over the commercial indium tin oxide electrode, significantly impacting the development of a broad spectrum of devices, from solar cells to touch screens
- First to establish the fundamental spin transport properties of large-scale graphene, proving the feasibility of large-scale graphene for spintronics applications
- Pioneered the use of graphene as a biomaterial in tissue engineering and stem cell therapies, promising to advance many areas in biomedicine
- First to produce in collaboration with scientists from Samsung and Sungkyunkwan University graphene on an industrially relevant scale and first to demonstrate its potential for touch panel applications
- Achieved the breakthrough of being the first to demonstrate the feasibility of ultra-fast graphene-based non-volatile memory devices

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 technical acumen in manufacturing technologies for industrial-scale fabrication of 2D graphene films and 3D graphene foams

PUBLICATION CREDITS
- Contributed over 30 papers in top international journals with more than 5,000 citations received since 2008
- Hirsch index of 22
- Discoveries have led to over 12 patents filed

INTERNATIONAL STANDING
- Highly sought-after expert by the world’s industry giants, including Samsung, LG Display and Badische Anilin und Soda-Fabrik (BASF)
- Delivered over 40 invited talks at leading conferences and workshops around the world
- Member of international advisory panels and programme committees of key graphene meetings and graphene symposia, such as the American Materials Research Society Spring Meeting, the American Physical Society March Meeting and the Recent Progress in Graphene Research Conference series

AWARDS AND ACCOLADES
- Young Scientist Award, NUS Faculty of Science (2012)
- NUS Young Investigator Award (2010)
- Singapore Millennium Foundation-National University of Singapore (SMF-NUS) Research Horizons Award (2010)
- National Research Foundation Research Fellowship, Singapore (2008)

RESEARCH ASPIRATION
“To employ our knowledge of the fundamental properties of graphene to build the next-generation, ultra-light, high-density and flexible energy storage devices to power everything from smart phones to electric cars.”
Mr NG Yat Chung

MBA (Stanford University);
MMAS (General Studies)
(US Army Command and General Staff College);
MA (Mathematics),
BA (Engineering) (Hons)
(Cambridge University)

Group President and Chief Executive Officer,
Neptune Orient Lines Ltd (NOL)
Board Member, World Shipping Council
Member, International Advisory Panel,
Singapore Maritime Institute
Chairman, Board of Trustees,
Singapore Institute of Technology

LIFETIME ACHIEVEMENTS

- Carved a distinguished career spanning almost three decades in the Singapore Armed Forces (SAF) serving in senior command and staff positions in planning, operations and logistics, including Chief of Staff (Joint Staff), Chief of Army and Chief of Defence Force
- Laid the transformational blueprint for the third-generation SAF and oversaw its execution as Chief of Defence Force, bolstering SAF’s full-spectrum capabilities to meet new security challenges, such as terrorism and low-intensity conflicts, as well as carry out peacetime and conventional operations more effectively
- Commanded the deployment of SAF in peace support operations in East Timor and in humanitarian and disaster relief operations in Aceh and Phuket following the 2004 Indian Ocean earthquake and tsunami, as well as in Yogyakarta and Phitsanulok, Northern Thailand in 2006 following natural disasters
- Helped broaden and deepen SAF’s extensive network of professional relationships with other armed forces, furthering Singapore’s role as a constructive partner in regional security

SERVICE TO NATION AND INTERNATIONAL COMMUNITY

- Provided strategic leadership at NUS at the highest level as a member of its Board of Trustees, contributing expertise and experience to the university management in diverse areas from audit, remuneration to campus planning and development
- Made invaluable contributions as Chairman of the NUS Board of Trustee’s Campus Planning and Development Committee, providing strong stewardship of the campus precinct master plans and strong oversight for the University’s large and complex infrastructure enhancement programme, which included the building of substantial new spaces and large-scale regularisation of existing spaces for teaching, research, housing, amenities and co-curricular activities. These include the development of University Town which has transformed the NUS education landscape, the Mochtar Riady Building at the NUS Business School, Temasek Laboratory for research, Kent Vale 2 for staff housing and the Biomedical Complex
- Served on the board of directors of several government-linked agencies, including Singapore Technologies Engineering Limited, Defence Science and Technology Agency, Singapore Power Limited and Seatown Holdings Private Limited

AWARDS AND ACCOLADES

- Meritorious Service Medal (Military) (2007)
- Public Administration Medal (Gold) (Military) (1998)

FUTURE ASPIRATION

“I have been blessed with the privilege to work alongside, learn from and influence many talented and interesting people.”
I try to make the most of each day such that I have as few regrets as possible. Life is fragile and it would be nice to do something meaningful.

LIFETIME ACHIEVEMENTS
• Contributed to conceiving, promoting, and launching Singapore’s Biomedical Sciences Initiative as a pillar of Singapore’s overall development
• Served as NUS Vice President (Research – Life Sciences); Founding Director, NUS Office of Life Sciences; and Founding Chairman of the Board, NUS Graduate School of Integrative Sciences and Engineering to promote multidisciplinary life science research and graduate education
• Served as Dean of the NUS Yong Loo Lin School of Medicine and involved in restructuring the admission process, curriculum, infrastructure, faculty development and composition, strategic collaborations, launch of the Centre for Biomedical Ethics and Alice Lee Centre for Nursing Studies, and developing a close working relationship with government ministries
• Development of an academic cancer programme at the National University Hospital (NUH) and NUS as Founding Head of the NUH Department of Haematology and Oncology, the Founding Director of the National University Cancer Institute, Singapore, and the recruitment of the Directors of the NUS Oncology Research Institute and the Cancer Science Institute, Singapore
• Contributed to the development of Singapore’s first unified academic health science system, bringing together the NUH Yong Loo School of Medicine (including the Alice Lee Centre for Nursing Studies), the Saw Swee Hock School of Public Health, and the Faculty of Dentistry with the National University Hospital to form the National University Health System

SERVICE TO NATION AND INTERNATIONAL COMMUNITY
• Chairs the Board of Directors, Health Sciences Authority, Singapore; co-chairs the Board, Singapore Clinical Research Institute; serves on the Board, National Medical Research Council; serves on the Singapore Medical Council
• Serves on the Board, the Hastings Center, and represents Singapore in the M8 Alliance of Academic Health Centers, the Association of Academic Health Centers International, and the Southeast Asian Ministers of Education Tropical Medicine and Public Health (SEAMEO TROPHEM) Network
• Jointly founded the Cancer Therapeutics Research Group and served as a member of the International Education Council for Molecular Targeted Therapy for Cancer, the American Society of Clinical Oncology International Affairs Committee, and the International Oncology Foundation Advisory Board

AWARDS AND ACCOLADES
• Friend of MedSoc Award, NUS Medical Society (2011)
• SASS Foundation Award, in conjunction with MD Anderson Cancer Center and The Medal Group (2010)
• Singapore Medical Association Lecture (2010)
• National Outstanding Clinician Award, Ministry of Health, Singapore (2009)
• Fellow, American College of Physicians (2008)
• Public Administration Medal (Silver) (2005)
• Fellow, Royal College of Physicians, London (2005)
• Fellow, Royal College of Physicians, Edinburgh (1999)
• Fellow, Academy of Medicine, Singapore (1996)
• Special Letter of Commendation, Singapore Armed Forces (1983)

FUTURE ASPIRATION
“To help the next generation fulfil their true potential, and for Singapore to continue to be one of the best places in the world to live in.”
LIFETIME ACHIEVEMENTS

SCIENTIFIC ACHIEVEMENTS

• Published several seminal papers which have defined the functional significance of microglia
• Pioneer in demonstrating that microglial cells in the brain are derived from monocytes, a finding that sparked enthusiasm in microglial research and profoundly impacted the field of neuropathology
• Devised different experimental models to study the response and functions of microglial cells in the brain, furthering understanding of microglial cells now known to be implicated in many neurodegenerative diseases and disorders
• Outstanding contributions to the field of neuroscience with over 350 publications and a sought-after reviewer and editorial board member of leading international journals

ACADEMIC AND SERVICE ACHIEVEMENTS

• Distinguished scholarship, competent academic leadership and sustained service to the University spanning more than four decades since joining NUS in 1972
• Raised the level of achievement and visibility of the Department of Anatomy to new heights as Head of Department, developing it to become known for quality research and growing the Anatomy Museum into one of the world’s leading learning resource centres

SERVICE TO NATION AND INTERNATIONAL COMMUNITY

• Member, National Medical Research Council Neuroscience Subcommittee, Singapore (2002 – 2006)
• Member, Advisory Editorial Board of Current Medicinal Chemistry, Journal of Anatomy
• President, Singapore Neuroscience Association (1994 – 1998)

NUS PORTFOLIO

• Member, Senate Delegacy (since 2009)
• Member, University Senate (since 1990)
• Head, Department of Anatomy (1998 – 2008)
• Member, Yong Loo Lin School of Medicine’s
  - Faculty Teaching Excellence Committee
  - Electron Microscopy Committee
  - Graduate Programme Committee
  - Department Evaluation Committee
  - Panel of Research Scholarship Selection Committee
• Member, Faculty Promotion and Tenure Committee, Faculty of Dentistry

AWARDS AND ACCOLADES

• Long Service Award, Yong Loo Lin School of Medicine (2013)
• Lifetime Achievement Award, Singapore Neuroscience Association (2012)
• Research Excellence Award, Yong Loo Lin School of Medicine (2006)
• Honorary Professor, Kunming Medical University, China (2003)
• National Day Long Service Award (2009)

FUTURE ASPIRATION

“To dedicate more time to teach and teach well, so that all medical and dental undergraduate students are fully equipped with a sound knowledge in human anatomy and a solid foundation in basic medical sciences before they move on to their clinical training.”

“I am privileged to have contributed to undergraduate medical and dental education in Singapore. I was able to accomplish what I did because I had the good fortune to be at the right places at the right time. The turning point was when I was appointed Head of NUS’ Department of Anatomy in 1998. This appointment which spanned over a period of 10 years has given me a lot of opportunities to serve the NUS community in the development of medical education and research.”
Winners 2013
The NUS Teaching Academy was established in April 2009 to serve the following aims and purposes:

- To foster a balanced culture of educational and research excellence, and underscore the University’s commitment to offering quality education.
- To provide a platform to engage our outstanding teachers, enabling them to share their expertise and develop new pedagogies.
- To confer recognition and enhance visibility of members of the NUS community who have maintained a high level of teaching excellence and 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 comprises winners of the University’s Outstanding Educator Award as well as elected faculty who have contributed significantly to education in NUS. Known as Fellows, they spearhead efforts in promoting excellence in teaching and learning at NUS, and provide leadership in educational initiatives such as teaching and learning masterclasses and mentorship schemes. Other roles the Fellows play include engaging actively in research in pedagogy, serving in university-level committees, helping to review existing processes, providing input to university management on education initiatives/policies, as well as acting as ambassadors and connectors for teaching and learning matters within and beyond NUS.

Envisaged to be a think-tank in education matters, the Teaching Academy drives various projects, including developing new educational thinking and initiatives aligned with the University’s vision and mission. It also contributes to key educational processes within the University and helps to provide a unique and stimulating educational experience for our students.
Teaching Academy

New Fellows

Dr HENG Cheng Suang
Department of Information Systems
School of Computing

Dr Stephen LIM Wee Hun
Department of Psychology
Faculty of Arts & Social Sciences

Dr Damith Chatura RAJAPAKSE
Department of Computer Science
School of Computing

Assoc Prof Willie TAN
Department of Building
School of Design & Environment

Assoc Prof Ravi Chandran s/o THIAGARAJ
Department of Strategy & Policy
NUS Business School
Reflections