

University Awards 2022

RECOGNISING EXCELLENCE





University Awards 2022

Recognising Excellence in
Education, Research and Service

President's Message



The NUS University Awards is an important annual event where we recognise and celebrate with individuals in our community who have scaled peaks of excellence in education, research and service.

Excellence is an enduring core value and a hallmark of NUS. As a leading global university and Singapore's flagship public university, NUS is committed to the continual pursuit of excellence.

The post-pandemic world is a different one from what we have known, presenting new challenges, opportunities and possibilities. The NUS 2023 – 2027 Strategy articulates how NUS will build strong foundations in *Talent, Leadership & Governance*, and *Mindset Alignment*, setting out refreshed goals that will position us in good stead to strive for excellence across the four interconnected mission domains of Education, Research, Innovation and Enterprise, and Administration. Together and as *OneNUS*, we will challenge ourselves to do better, seek out new methods and knowledge, and scale greater heights.

The recipients of the University Awards 2022 have exemplified excellence in spite of the changes and challenges brought about by the pandemic. Undeterred, they pressed on towards the high mark of excellence in their respective spheres. They are trailblazers and have flown the NUS flag high. I extend my highest regard and heartiest congratulations to all the award winners!

Professor Tan Eng Chye
President
National University of Singapore

Awards



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



UNIVERSITY RESEARCH RECOGNITION 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

Award Recipients



OUTSTANDING EDUCATOR AWARD

Assoc Prof HENG Cheng Suang
Mr Donn KOH



YOUNG RESEARCHER AWARD

Assoc Prof John HO
Assoc Prof LU Jiong
Assoc Prof Jessica PAN



UNIVERSITY RESEARCH RECOGNITION AWARD

Prof CHUA Tat Seng
Prof LIU Bin



OUTSTANDING SERVICE AWARD

Mr Peter HO



*Outstanding
Educator
Award*



**Assoc Prof HENG
Cheng Suang**

PhD (Stanford University)
MSc, BSc (NUS)

Department of Information
Systems & Analytics,
School of Computing

TEACHING ACHIEVEMENTS

- Chair (since 2020), Cluster Lead (2018 – 2020) and Fellow (since 2013) of the NUS Teaching Academy. Championed initiatives such as creating a dedicated NUSTA geNiUSchannel to showcase best teaching pedagogies and practices, and digital project portfolios to recognise students' performance and potential beyond traditional assessment indicators. Engaged adjunct professors in drawing out their roles, experiences and strengths so as to achieve NUS Quality Assurance For University (QAFU) goals
- Led the structuring and formalisation of the Department's mentorship programme which seeks to aid faculty members in module design, content delivery, assessment approaches and the exploitation of new technologies
- Integrates theory and practice in the design of modules with real life applications – by bridging the past and the present with timely examples, linking the fundamentals to critical thinking and creativity for digital solutions modules, and injecting awareness of social causes into projects to cultivate social responsibility
- Leverages diverse instructional methodologies and pedagogies (such as animations and visualisations), multiple sources of content, as well as new materials and engaging class activities that overcome the challenges of online teaching
- Member, NUS Computing's Faculty Teaching Excellence Committee (2013 – 2019)

PUBLICATION CREDITS

- Published over 30 papers in internationally refereed journals and conferences including *Management Information Systems (MIS) Quarterly*, *Information Systems Research*, *Journal of MIS*, *Journal of the Association for Information Systems* and *Research Policy*

INTERNATIONAL STANDING

- Associate editor, editorial board of *MIS Quarterly* and editorial review board member of *IEEE Transactions on Engineering Management*
- Track Chair, International Conference on Information Systems (ICIS) (2021 – 2022) and Pacific Asia Conference on Information Systems (PACIS) (2013 – 2015; 2020 – 2021)
- Associate editor, ICIS (2011 – 2012; 2014 – 2019); European Conference on Information Systems (2016; 2020); and PACIS (2016 – 2017)

AWARDS AND ACCOLADES

- Long Service Medal, Singapore National Day Award (2021)
- Annual Teaching Excellence Award (2010/11 – 2012/13; 2019/20) and Honour Roll (2013/14 – 2018/19), NUS
- Faculty Teaching Excellence Award (2009/10 – 2011/12; 2018/19 – 2020/21) and Honour Roll (2012/13 – 2017/18; 2021/22), NUS Computing
- Best Reviewer Award, China Summer Workshop on Information Management (2018)
- Best Associate Editor Award, ICIS (2016)



CURRENT TEACHING PORTFOLIO

- Social media network analyses
- Digital engagement and new media marketing
- Qualitative and quantitative methods for information systems research

TEACHING ACHIEVEMENTS

- Created the Launchpad design entrepreneurship platform project which, through crowdfunding, launched and sold more than 280,000 units of student-created products and resulted in nine spin-off start-ups
- Developed pedagogical approaches to creativity and idea creation that are demystified and systematic, even for “non-creatives”. This was deployed for Design Fundamentals modules, and has now been extended to the CDE Common Curriculum under the Design Thinking module
- Module lead for Design Entrepreneurship and Creative Leadership. Developed a unique type of “responsive” module for final-year students, where the teaching content is re-curated yearly based on learner demand (through polls and interviews), faculty-judgement, and industry advice. These six to eight timely workshops are in high demand by final-year students, as they create a link to relevant career pathways
- Steered the final-year Design Thesis Project through the incorporation of increasing variety in topic areas and teacher specialisations. This fostered an environment of exchange and mutual learning among the teachers who were involved, while preserving the synergistic identity of the combined final-year output
- Deploys an innovative method of high-touch, bi-directional video messaging with students for disarming, coaching and feedback. This was shared at the Design Teaching Symposium in 2021, organised by the Department of Architecture and supported by the NUS Teaching Academy

INTERNATIONAL STANDING

- Inventor of the bend-and-snap mechanism of the Microsoft Arc Touch Mouse, one of the most iconic input devices and commercially successful tech products that has been a bestseller for more than a decade
- TEDx invited speaker for “How can good design impact our future”, at TEDx Inaugural SE Asia Collaboration
- Juror for the Taiwan International Student Design Competition 2019; International Design Excellence Awards (IDEA) 2020; IDEA 2021; and the Singapore Good Design (SG Mark) Award 2021
- His work titled “MATr” was selected by Lidewij Edelkoort—one of the world's most famous trend forecasters—for Rado's “Designing Lightness” Exhibition in Basel

AWARDS AND ACCOLADES

- Annual Teaching Excellence Award (2012; 2015) and Honour Roll (2021), NUS
- Teaching Excellence Award Honour Roll (2012 – 2018), School of Design and Environment
- 2020 SkillsFuture Fellowship
- His works have won numerous accolades including the President's Design Award, Braun Prize (Grand Prize), The Chicago Athenaeum Good Design Award, IDSA IDEA Gold & Silver, iF Design, and multiple Red Dot Best of the Best awards. Notable works include the Leapfrog Cerebral Palsy Walker, the AIR+ Smart Mask, and the HTC Evo 4G



Mr Donn KOH
BA (Hons) (NUS)

Division of Industrial Design,
College of Design and
Engineering (CDE)



CURRENT TEACHING PORTFOLIO

- Lead and coordinator for final-year modules including Project Research and Design Thesis Project
- Lead and creator for final-year Design Entrepreneurship and Creative Leadership module
- Co-lead for Design Thinking module (CDE Common Curriculum)
- Lecturer and tutor for the Design Platforms modules



*Young
Researcher
Award*



Assoc Prof John HO

PhD, MS (Stanford University)
BEng (Hong Kong University
of Science and Technology)

Institute for Health Innovation
& Technology

Department of Electrical
and Computer Engineering,
College of Design and
Engineering



RESEARCH INTERESTS

- Bioelectronics
- Wireless technology
- Electromagnetics

RESEARCH ACHIEVEMENTS

- Led a team from the NUS Institute for Health Innovation & Technology (iHealthtech) to create a Bluetooth-enabled system for capturing pulse oximeter data and displaying the readings on an integrated dashboard. Within two months of development, the team deployed the system in a workers' dormitory and demonstrated that a combination of user training and text alerts could achieve a user compliance rate of 85 per cent in taking measurements four times a day as part of a precautionary measure to identify new cases of COVID-19 infection
- Led a team from iHealthtech to develop a smartphone-powered suit capable of providing athletes with physiological data such as their posture, running gait and body temperature while they are out on the field. The technology and its research findings were published in *Nature Communications* in January 2020
- Garnered research grants of over \$11 million from the National Research Foundation, Ministry of Education and NUS
- Discoveries have led to nine patents and patent applications filed, with four licensed to industry

PUBLICATION CREDITS

- Published more than 80 articles and conference papers in leading journals and prestigious conferences, and co-authored four book chapters
- Obtained more than 2,700 total citations with a Hirsch index of 25

INTERNATIONAL STANDING

- External consultant to medical device companies at Cambridge Consultants (since 2021)
- Member of the US Food & Drug Administration's Network of Digital Health Experts (since 2020)
- Reviewer for leading journals including *Nature*, *Science*, *Physical Review* and *Advanced Materials*
- Invited speaker at international conferences and workshops

AWARDS AND ACCOLADES

- Young Scientist Award, Singapore National Academy of Science (2020)
- IES Prestigious Engineering Achievement Award (Team), Institution of Engineers Singapore (IES) (2020)
- Forbes 30 Under 30 Asia: Healthcare & Science (2017)
- MIT Technology Review: Innovators Under 35 Asia (2017)
- National Research Foundation Fellow (2017)
- NUS Young Investigator Award (2016)

RESEARCH ACHIEVEMENTS

- Developed a scalable and versatile two-step annealing method for preparing ultra-high-density single-atom catalysts (SACs) libraries, addressing the long-standing loading density issues in sustainable chemical transformations. The findings paved the way for the widespread application of atomically precise SACs in industrial applications
- Pioneered a general material platform for the synthesis of highly crystalline two-dimensional superconducting monolayers. This synthetic strategy offers tremendous technological potential for the development of new material properties beyond the reach of existing layered structures for large-area 2D and 3D printed electronics
- Established the scalable on-surface synthesis of large-sized magnetic triangulene molecule and the direct observation of their edge states, a goal that has eluded chemists for many years
- Recognised for his work in the special *Journal of Materials Chemistry A Emerging Investigators 2019* issue
- Secured research grants of about \$8.2 million as Principal Investigator and about \$10 million as Co-Principal Investigator from the Ministry of Education, Agency for Science, Technology and Research and National Research Foundation
- Discoveries have led to two patent applications filed

PUBLICATION CREDITS

- Published more than 70 peer-reviewed papers in top-tier journals including *Nature* series journals and *Science Advances*
- Two of his recent papers were selected for publication in *JACS (Journal of the American Chemical Society) Early Career Investigators 2021* virtual collection and *JACS Reader's Pick 2022*
- Obtained more than 6,100 total citations with a Hirsch index of 38

INTERNATIONAL STANDING

- Member of Non-contact Atomic Force Microscopy Steering Committee (since 2019)
- Reviewer for leading journals including *Nature* and *Science* series journals
- Keynote and invited speaker at more than 35 international conferences and symposiums
- Chair / co-chair of several local and international conferences and symposiums

AWARDS AND ACCOLADES

- Young Scientist Award, NUS Science (2021)



Assoc Prof LU Jiong

PhD (NUS)
BSc (Fudan University)

Department of Chemistry,
Faculty of Science
College of Humanities and
Sciences

Institute for Functional
Intelligent Materials



RESEARCH INTERESTS

- Atomic-scale quantum nanoscience and quantum materials design
- Single-atom catalysis and printable electronic materials



Assoc Prof Jessica PAN

PhD, MBA, BA
(University of Chicago)

Department of Economics,
Faculty of Arts & Social
Sciences
College of Humanities and
Sciences



RESEARCH INTERESTS

- Labour economics
- Gender
- Economics of education
- Immigration

RESEARCH ACHIEVEMENTS

- Her research on gender and the labour market focuses on relatively underexplored explanations for the persistent gender gaps in labour market outcomes. Selected studies include:
 - Awarded the H. Gregg Lewis Prize for the Best Paper in the *Journal of Labor Economics* in 2015 – 2016 for her sole-authored paper titled “Gender Segregation in Occupations: The Role of Tipping and Social Interactions”
 - Co-authored a paper titled “Gender Identity and Relative Income within Households” (*Quarterly Journal of Economics*, 2015), which provides one of the first empirical tests of the gender identity model and shows how adherence to these norms limits gender convergence in the labour market and affects family outcomes. This paper is highly cited and has been featured widely in numerous media outlets
 - Co-authored one of the few papers in the literature, titled “Social Norms, Labour Market Opportunities, and the Marriage Gap for Skilled Women” (*Review of Economic Studies*, 2021), that explores the marriage market implications of the interaction between gender norms and women’s economic opportunities. The findings from this paper have implications for understanding the drivers of particularly low marriage rates and fertility of college-educated women in East Asia
- Secured research grants of about \$1 million from the Ministry of Education, JY Pillay Comparative Asia Research Centre, Russell Sage Foundation and National Science Foundation
- Elected fellow of the prestigious Econometric Society in 2020

PUBLICATION CREDITS

- Published 17 articles, including one each in the well-respected *Quarterly Journal of Economics* and *Review of Economic Studies* as well as several papers in top field journals such as the *Journal of Labor Economics*, *Review of Economics and Statistics* and *American Economic Journal: Applied Economics*
- Obtained more than 2,500 total citations with a Hirsch index of 18
- Invited to write a handbook chapter on “Occupation and Gender” for the Oxford Handbook on the Economics of Women and the Economy and a review article on “Children and the Remaining Gender Gaps in the Labor Market” in the *Journal of Economic Literature*

INTERNATIONAL STANDING

- Associate editor of *Journal of Economic Behavior & Organization* (since 2020), *Journal of Population Economics* (since 2020), and *Journal of the European Economic Association* (since 2018)
- Advisory board member of the National Bureau of Economic Research’s (US) Study Group on “Gender in the Economy” (since 2020)
- Reviewer for more than 40 peer-reviewed journals, and for funding agencies worldwide
- Chair / co-organiser / programme committee member and keynote speaker for several local and international conferences
- Secretary, Asian and Australasian Society of Labour Economics (since 2019)

AWARDS AND ACCOLADES

- Dean’s Chair, NUS FASS (2019 – 2022)
- Excellence in Refereeing Award, *American Economic Review* (2018)
- Award for Promising Researcher, NUS FASS (AY2014/15)
- NUS Writing Fellowship (AY2014/15, Semester 1)
- Excellent Teacher Award, NUS FASS (AY2011/12)





*University
Research
Recognition
Award*



Prof CHUA Tat Seng
KITHCT (Kwan Im Thong Hood
Cho Temple) Chair Professor
PhD, BSc (University of Leeds)
Department of Computer
Science, School of Computing

RESEARCH ACHIEVEMENTS

- Attained leading global position on research in recommendation technologies and visual relation inference, which have paved the way for research on multimodal knowledge graph, video question-answering and multimodal conversational systems, as well as their applications
- Pioneered research on trustable AI and causal counterfactual framework to address the robustness issues in AI, as well as numeric and tabular data processing to target Fintech research
- Initiated research into multimodal conversational search and recommendation, with proactive capabilities that help users and systems learn and accumulate knowledge
- Garnered research grants of \$15.7 million since 2016 from the National Research Foundation, Sea Group, Defence Science and Technology Agency, Huawei Technologies India and Alibaba DAMO Academy
- Co-director of NExT++, a joint research centre by NUS, Tsinghua University and University of Southampton; and Sea-NEXT Lab, a joint Lab between Sea Group and NUS
- Co-founder of two technology start-up companies: ViSense and 6Estates
- Discoveries have led to eight patents awarded, with five licensed to industry

PUBLICATION CREDITS

- Published more than 133 peer-reviewed papers and obtained over 43,900 total citations with a Hirsch index of 99
- Won more than 10 Best Paper Awards in international journals and conferences

INTERNATIONAL STANDING

- Distinguished Visiting Professor, Tsinghua University (since 2017)
- Bao Yutang Chair Professor, Zhejiang University (since 2020)
- Associate editor of *ACM Transaction of Information Systems* (since 2007); *Foundations and Trends in Information Retrieval (FnTIR)* (2010 – 2017); *The Visual Computer (Springer-Verlag)* (1993 – 2018); and *Multimedia Tools and Applications* (since 1998)
- Steering committee chair of two international conference series
- General co-chair of several top international conferences in multimedia, information retrieval and the Web
- Widely sought-after keynote speaker at major international conferences

AWARDS AND ACCOLADES

- ACM SIGMM Technical Achievement Award (2015), in recognition of his outstanding contributions to multimedia computing, communications and applications



RESEARCH INTERESTS

- Trustable and robust artificial intelligence (AI)
- Heterogeneous data analytics
- Video understanding and retrieval
- Multimodal conversational search and recommendation

RESEARCH ACHIEVEMENTS

- Well-recognised in the field of organic functional materials for her contributions in polymer chemistry and applications of organic nanomaterials for biomedical research and energy devices
- Invented light-up molecular probes and nanoparticle probes for cancer cell detection, biological process monitoring and image-guided cancer therapy
- Raised research grants of over \$35 million as Principal Investigator
- Filed 30 patents with 16 of them licensed to different companies in the US, UK, and Asia
- Co-founded Luminicell, an NUS spin-off company that produces organic luminescent nanoparticles for biomedical applications

PUBLICATION CREDITS

- Published 510 peer-reviewed articles and edited / co-edited five books
- Obtained over 46,000 total citations with a Hirsch index of 109
- Achieved 36 world's Top 1% highly cited publications and 252 world's Top 10% highly cited publications from 2011 to 2020

INTERNATIONAL STANDING

- Deputy editor of *ACS Materials Letters* (since 2019) and associate editor of *Polymer Chemistry* (2014 – 2018)
- Member of editorial advisory boards of 18 peer-reviewed chemistry and materials journals
- Among the world's most influential scientific minds: Top 1% Highly Cited Researchers, in Chemistry, Materials or Cross-Field by Clarivate Analytics (2018 – 2021) and Thomson Reuters (2014 – 2017)

AWARDS AND ACCOLADES

- International Member, US National Academy of Engineering (2022)
- Kabiller Young Investigator Award in Nanoscience and Nanomedicine (2021)
- Centenary Prize and Medal, Royal Society of Chemistry (2021)
- Distinguished Woman Chemist Award, Singapore National Institute of Chemistry – Asian Crystallographic Association (2021)
- ACS Nano Lectureship Award, American Chemical Society (ACS) (2019)
- President's Technology Award (2016)
- Materials in Society Lectureship, Elsevier (2015)
- L'Oréal Women in Science National Fellowship (2011)
- National Science and Technology Young Scientist Award (2008)
- Fellow, Singapore National Academy of Sciences (2020); Asia-Pacific Academy of Materials (2017); Singapore National Academy of Engineering (2017); and Royal Society of Chemistry (2016)



Prof LIU Bin
Senior Vice Provost
(Faculty and Institutional
Development)
Distinguished Professor
PhD (NUS)
BS, MS (Nanjing University)
Department of Chemical and
Biomolecular Engineering,
College of Design and
Engineering



RESEARCH INTERESTS

- Design and synthesis of organic functional materials and exploration of their applications in energy and biomedical fields



*Outstanding
Service
Award*



Mr Peter HO

NUS has made tremendous progress in driving research, innovation and interdisciplinary education, establishing itself successfully as a comprehensive university of world-class standing. I hope NUS will hold fast to its sense of wonder about the world — to be always forward-looking and seeking new ideas. I'm very grateful and honoured to be bestowed this award.

CURRENT PORTFOLIO

- Senior Advisor, Centre for Strategic Futures
- Senior Fellow, Civil Service College
- Chairman, Urban Redevelopment Authority of Singapore; Social Science Research Council; Singapore Centre on Environmental Life Sciences Engineering; and National Gallery Singapore
- Chairman, National Supercomputing Centre Steering Committee; Campus for Research Excellence and Technological Enterprise Governing Council; Office for Space Technology & Industry Board; and Precision Health Research Singapore's Board Oversight Committee
- Board member, National Research Foundation
- Member, NUS Board of Trustees; and Board of Governors of the Lee Kuan Yew School of Public Policy (LKYSPP), and the S Rajaratnam School of International Studies

LIFETIME ACHIEVEMENTS

- As former Head of Civil Service, Mr Ho carved a distinguished 34-year career in the public service, including permanent secretary appointments at the Ministries of Defence and Foreign Affairs, and the Prime Minister's Office. He was also inaugural Chairman of the Maritime and Port Authority of Singapore. A strong believer in a networked government, he played an instrumental role in galvanising various agencies to work together on key national challenges
- At the Ministry of Foreign Affairs, Mr Ho steered a series of policy reviews that strengthened its ability to respond to new and emerging challenges of globalisation and a fast-changing geostrategic landscape
- Mr Ho also oversaw the setting up of the National Security Coordination Secretariat in the Prime Minister's Office to respond to transnational terrorism; and helped to set up the Centre for Strategic Futures, where he remains a senior advisor
- At the Ministry of Defence, Mr Ho initiated the process of transformation that led to the 3G SAF, the modernisation of Singapore's defence capability to enable SAF to harness new concepts and technologies to better deal with a new spectrum of threats

SERVICE TO NATION AND THE INTERNATIONAL COMMUNITY

- As a long-standing member of the NUS Board of Trustees since 2011, Mr Ho has provided invaluable guidance and perspectives in charting the University's growth and direction in education and research. He is concurrently Chair of the Campus Planning and Development Committee, and Nominating Committee; and is a member of the Executive Committee and Remuneration Committee
- A member of the LKYSPP Governing Board and Executive Committee, and Chair of the Finance Committee, Mr Ho provides strategic guidance and counsel to LKYSPP in various aspects, from strategic planning and school development, to finances and programme development
- Spearheaded a Scenarios Exercise in 2019, which identified opportunities and areas of competitive advantage for LKYSPP, charting its strategic direction amidst a fast-evolving and increasingly complex landscape. The results from that Scenario Exercise critically informed the follow-on Singapore Strategy Review Committee, whose work then closely guided the development of a Strategy Map now being used at LKYSPP
- Imparted knowledge on how LKYSPP could draw on Singapore's experience in policy, governance and strong international reputation to distil thought leadership and position itself as a leading school of public policy globally
- As Founding Chairman of the Faculty of Engineering Advisory Board from 2017 to 2021, Mr Ho pioneered a faculty framework termed the 3Rs—Rapid Change, the Real World and Relevance (to Industry)—to steer top-level discussions by faculty management and Board members on areas spanning curriculum revisions, student outreach and industry engagement

AWARDS AND ACCOLADES

- Distinguished Service Order (2016)
- Meritorious Service Medal (2007)
- Public Administration Medal (Gold) (1997)

EDUCATION

- MA, BA (University of Cambridge)

Award Recipients



Mr Peter HO
Outstanding Service Award



Prof CHUA Tat Seng
University Research
Recognition Award



Prof LIU Bin
University Research
Recognition Award



Assoc Prof John HO
Young Researcher Award



Assoc Prof HENG Cheng Suang
Outstanding Educator Award



Mr Donn KOH
Outstanding Educator Award



Assoc Prof LU Jiong
Young Researcher Award



Assoc Prof Jessica PAN
Young Researcher Award

