



*University  
Awards 2020*

**RECOGNISING EXCELLENCE**



# *University Awards 2020*

Recognising Excellence in  
**Education, Research and Service**

**Friday, 4 December 2020**  
Shaw Foundation Alumni House

*President's  
Message*



**2020** is an unprecedented year of change and challenge for countries and communities across the world. The spread of COVID-19 has necessitated a range of extraordinary responses by education institutions, which have had to rethink and adjust the way we teach and learn, how we conduct research, and organise ourselves as a university fraternity.

NUS' response to COVID-19 is testament to our enduring core value of excellence. The University has been at the forefront, harnessing technology to implement safety solutions, and transitioning to online modes of teaching, learning and working. In the fight against COVID-19, we are engaging in breakthrough research ranging from rapid diagnostics to case connections and vaccine development, as well as harnessing information and technology solutions for modelling public health to fight false online rumours.

At NUS, we strive together for excellence. Even in this time of crisis, the University will continue in the path of excellence in education, research and service. We are forging ahead in our efforts to champion interdisciplinary education and research, and to transform our organisation to become resilient and future-ready. New, exciting plans are underway to traverse disciplinary boundaries, and to unleash blue ocean thinking, bold ambitions and interdisciplinary collaborations among our faculty and researchers that will deliver even greater impact to society.

University Awards 2020 may be held in an untraditional setting this year, but this does not detract from how proud the NUS community is of our award winners. Each of you has exemplified the spirit of excellence. You are truly esteemed individuals – beacons and pathfinders who inspire us to better ourselves and to scale new heights.

My heartiest congratulations to the University Awards 2020 winners. The NUS family is pleased to celebrate and honour your distinguished accomplishments.

**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 HO Han Kiat  
Assoc Prof LIM Wee Hun Stephen



**YOUNG RESEARCHER AWARD**

Asst Prof FENG Jiashi  
Assoc Prof Ashley ST JOHN



**UNIVERSITY RESEARCH RECOGNITION AWARD**

Prof Dario CAMPANA  
Prof DONG Jin Song



**OUTSTANDING SERVICE AWARD**

Prof Ivy NG Swee Lian





*Outstanding  
Educator  
Award*

## OUTSTANDING EDUCATOR AWARD

### TEACHING ACHIEVEMENTS

- Spearheaded the content design and useful hands-on exercise for a unique and interdisciplinary module on Forensic Toxicology and Poisons (SP4363) for the Forensic Science Summer School in 2019
- Elected Vice Chair of the NUS Teaching Academy Executive Council (2018 to 2020)
- Expanded the elective space as the department's Deputy Head of Education to enable Pharmacy students to embark on broad-based learning, and promulgated a new Pharmaceutical Science degree programme
- Developed Hormesis and Life (UBM2201) as an inquiry module for University Scholars Programme (USP) students to extrapolate toxicological principles into various fields, and to advocate the life skills of growing through stress (2017)
- 2009 to 2019: Supervised a total of 45 PhD, MSc and undergraduate honours students, as well as 11 undergraduate students under the Undergraduate Research Opportunities Programme in Science

### PUBLICATION CREDITS

- Published 91 papers in international refereed journals including *Nanotoxicology*, *ACS Applied Materials & Interfaces* and the *Journal of Tissue Engineering and Regenerative Medicine*

### INTERNATIONAL STANDING

- Appointed to an international expert panel for accreditation of Pharmacy programme in Mauritius (2019)
- Achieved professional accreditation as a diplomate of the American Board of Toxicology (2018)
- Editorial advisory board member of *Biochemical Pharmacology* (since 2016)

### AWARDS AND ACCOLADES

- Annual Teaching Excellence Award (2009/10 to 2011/12) and Honour Roll (2012/13), NUS
- Teaching Excellence Award (2015/16 to 2017/18 and 2009/10 to 2011/12) and Honour Roll (2018/19 and 2012/13), NUS Science
- Teaching Excellence Award, NUS USP (2018)



**Assoc Prof HO Han Kiat**  
PhD (University of Washington)  
BSc (NUS)

Department of Pharmacy

### CURRENT TEACHING PORTFOLIO

- Pharmaceutical biochemistry
- Toxicology
- Hormesis and life

## OUTSTANDING EDUCATOR AWARD

### TEACHING ACHIEVEMENTS



**Assoc Prof**  
**LIM Wee Hun Stephen**  
**PhD, BSocSci (Hons) (NUS)**

**Department of Psychology**

- Chair of the NUS Teaching Academy (NUSTA) (July 2018 to June 2020). Established NUSTA's teaching mentoring mandate. Inventions include the NUSTA Flipped Meeting Room®, NUSTA Teaching Mentoring Clusters Concept, and NUSTA Strategic Asian Partnership Network
- Founding Director of Cognition and Education Laboratory@NUS (since July 2013). Best known for his work on counterintuitive cognitive-educational strategies
- Demonstrated evidence-based effectiveness of his signature learning-by-teaching pedagogy in enhancing classroom learning and student research outcomes
- Supervised projects that were conferred the international Association for Psychological Science Student Research Award (2020), Singapore Psychological Society Student Research Award (2012, 2013, 2015, 2016 and 2020), and the NUS Outstanding Undergraduate Researcher Prize (2012, 2016, 2019 and 2020)

### PUBLICATION CREDITS

- Published 20 papers in international refereed journals including *Educational Psychologist*, *Journal of Experimental Psychology: Applied*, and *Psychology of Music*
- Discovered retrieval effects in learning-by-teaching, as highlighted by British Psychological Society (2018) and referenced in Wikipedia (2018)

### INTERNATIONAL STANDING

- Advisor of the Brunel Academy for Transformation of Teaching, Brunel University London (since 2018) and the Asian Universities Alliance (since 2020)
- Associate Editor of *Frontiers in Psychology: Educational Psychology* (since 2015)
- Invited speaker of educational inquiry and teaching best practices at top institutions across the US, UK, and Asia

### AWARDS AND ACCOLADES

- Annual Teaching Excellence Award (2010/11 to 2012/13) and Honour Roll (2013/14 to 2017/18), NUS
- Dean's Inspiring Mentor Award (inaugural), NUS FASS (2018)
- Asian Universities Alliance Scholars Award (2018)
- Fulbright Researcher Award (2015)

### CURRENT TEACHING PORTFOLIO

- Founding President of the Singapore National Academy of Higher Education (since 2020)
- Lecturer of psychology undergraduate education, and advisor of research at masters-, doctoral-, and postdoctoral-levels
- Mentor for teaching excellence at university-, national-, regional-, and international-levels





*Young  
Researcher  
Award*

## YOUNG RESEARCHER AWARD

### RESEARCH ACHIEVEMENTS



#### Asst Prof FENG Jiashi

PhD (NUS)

MD (Chinese Academy of Sciences)

BEng (University of Science and Technology of China)

Department of Electrical and Computer Engineering

- Among the first in the world to develop a novel technique capable of recognising faces under challenging scenarios which was deployed in Panasonic's FacePRO and Ministry of Home Affairs' video analytics system
- Developed the world's first AI model for multiple-person parsing and first dataset for facilitating research in this field. The finding was accorded the Best Student Paper Award at the ACM Multimedia Conference 2018
- Pioneered the development of a visual search artificial neural network model that presents similar performance and behaviour as the human brain for visual search tasks. The finding was published in *Nature Communications* in September 2018
- Revived distribution-alignment based domain adaptation techniques that are key in enabling the deployment of AI models in various domains of different characteristics. The finding was accorded the Best Paper Award from the 'Transferring and Adapting Source Knowledge in Computer Vision' workshop of the Association for the Advancement of Artificial Intelligence (AAAI) 2016
- Co-Principal Investigator for Singapore's first autonomous bus; raised \$7 million funding from the National Research Foundation's Competitive Research Programme and Land Transport Authority
- Secured \$5 million funding from global technology giants such as Adobe and Snap, as well as other agencies

### PUBLICATION CREDITS

- Published more than 280 articles and conference papers in leading journals and prestigious conferences
- Obtained over 12,000 total citations with a Hirsch index of 58

### INTERNATIONAL STANDING

- Reviewer for more than 10 journals by the Institute of Electrical and Electronics Engineers, the Research Grants Council of Hong Kong and international conferences
- Area Chair for the International Conference on Learning Representations (2020), Neural Information Processing Systems (2020), British Machine Vision Conference (2019) and ACM Multimedia Conference (2017 to 2019)
- Technical Program Chair for the International Conference on Multimedia Retrieval (2017)
- Keynote/invited speaker at several international conferences and workshops

### AWARDS AND ACCOLADES

- Top 10 'Innovators under 35' in Asia, *MIT Technology Review* (2018)
- Winner Award, Computer Vision and Pattern Recognition (2017); International Conference on Computer Vision (2017); and International Conference on Multimodal Interaction (2016)
- Early Career Research Award, NUS (2017)

### RESEARCH INTEREST

- Machine learning and their applications in computer vision, big data analytics and artificial intelligence (AI)

## YOUNG RESEARCHER AWARD



**Assoc Prof Ashley  
Lauren ST JOHN**  
PhD (Duke University)  
BSc (Georgia Institute of  
Technology)

**Programme in Emerging  
Infectious Diseases,  
Duke-NUS Medical School  
Department of Microbiology  
and Immunology, NUS  
Medicine**

### RESEARCH INTEREST

- Viral immunology, including understanding how mast cells contribute to immune responses to viral pathogens

### RESEARCH ACHIEVEMENTS

- Identified promising therapeutic targets for preventing immune pathology that occurs during viral haemorrhagic fever
- Identified a mechanism through which maternal Immunoglobulin E is translocated from the mother to the foetus, which could promote immune responses during allergic and infectious diseases
- Unveiled a novel mechanism of vertical transmission of Zika virus infection and demonstrated that maternal immunity and antibodies to dengue virus can lead to enhanced infection in the foetuses of Zika-infected mothers
- Determined the mechanisms leading to protective cross-reactive immune responses to viral pathogens and their vaccines
- Identified a class of drugs that can block vascular leakage during dengue infection, that has progressed into a clinical trial to test the novel therapeutic strategy for dengue
- Pioneered the discovery of the role of mast cells in immunosurveillance of dengue virus
- Garnered \$8.8 million research grants from the National Research Council of Singapore, Ministry of Education, US Department of Defense and other funding agencies
- Discoveries have led to six patents and patent applications filed, with one licensed to industry on the diagnosis of severe dengue

### PUBLICATION CREDITS

- Published 44 papers in peer-reviewed biomedical research journals under Duke-NUS Medical School, with over 3,000 citations. These publications include *Science*, *Science Advances* and *Nature Communications*

### INTERNATIONAL STANDING

- Co-editor for the 2020 “host-pathogens” section in *Current Opinion in Immunology* (2019)
- Consulting Editor for the *Journal of Clinical Investigation* (since 2012)
- Reviewer for more than 45 peer-reviewed journals, and funding agencies including the Research Grants Council of Hong Kong, Qatar National Research Fund, French National Research Agency, the US Department of Defense, and Wellcome Trust
- Regular speaker at international conferences and lectures

### AWARDS AND ACCOLADES

- Recipient of New Investigator Grant, National Medical Research Council of Singapore (2011)



The background features a stylized silhouette of a person in a dynamic, athletic pose, possibly a dancer or athlete, rendered in a light tan color. The background is composed of a complex, low-poly geometric pattern in various shades of tan and beige, creating a textured, crystalline effect. The overall aesthetic is modern and sophisticated.

*University  
Research  
Recognition  
Award*

### RESEARCH ACHIEVEMENTS



#### **Prof Dario CAMPANA**

**PhD (Cum Laude)**  
**(University of Milano)**  
**MD (Cum Laude)**  
**(University of Torino)**

**Department of Paediatrics,**  
**NUS Medicine**

- Pioneered work on chimeric antigen receptor (CAR)-T cells that has revolutionised the treatment of acute lymphoblastic leukaemia, the most common form of cancer in children
  - \* For this discovery, Prof Campagna was conferred the international Jacob and Louise Gabbay Award in Biotechnology and Medicine in October 2019. The prestigious award recognises scientists in academia, medicine or industry whose work hold outstanding scientific content and significant practical consequences in the biomedical sciences
- Developed new methods for therapeutic targeting of T-cell leukaemia and lymphoma
- Developed new methods to increase the anti-cancer capacity of natural killer cells and to engineer immune cells
- Developed original methods for detecting minimal residual disease in acute lymphoid and acute myeloid leukaemias, and demonstrated their prognostic impact
- Scientific founder of three NUS spin-out biotechnology companies—MediSix Therapeutics, Nkarta Therapeutics and Unum Therapeutics
- Discoveries have led to 20 patents and patent applications filed, with 14 licensed to industry

### PUBLICATION CREDITS

- Published more than 300 papers, including 67 peer-reviewed articles and 10 book chapters since 2012
- Obtained more than 35,000 citations (exceeding 15,000 citations in the last five years)

### INTERNATIONAL STANDING

- Chair, Scientific Advisory Board, Nkarta Therapeutics (since 2016)
- Reviewer for several leading journals in his research areas, and for funding agencies worldwide
- Widely sought-after speaker at international seminars and lectures

### AWARDS AND ACCOLADES

- Researcher of the Year, NUS Medicine (2020)
- Jacob and Louis Gabbay Award in Biotechnology and Medicine (2019)
- Top 100 – Medicine Maker Power List (2018, 2019 and 2020)
- Mrs Lee Kong Chian Chair in Advanced Cellular Therapy (2013)

### RESEARCH INTERESTS

- Leukaemia
- Lymphoma
- Cancer immunotherapy



**Prof DONG Jin Song**  
PhD, BSc  
(University of Queensland)

**Department of Computer  
Science**

## RESEARCH INTERESTS

- Design analysis and model checking
- Trusted machine learning and verified decision making
- Formal methods for safety/security critical systems

## RESEARCH ACHIEVEMENTS

- Developed the Process Analysis Toolkit (PAT), a multi-domain model checker applied internationally to verify highly complex algorithms and to find unknown security flaws in web systems with millions of users
  - \* PAT has over one million lines of C# (programming language) source code with its innovative features described in over 100 refereed publications (with citations in the thousands) and 12 PhD theses
  - \* PAT has over 4,000 registered users from more than 1,000 industries/organisations in 150 countries
  - \* For this invention, Prof Dong and his former PhD students, Prof Liu Yang (at NTU) and Prof Sun Jun (at SMU) were conferred the 20 Years' Most Influential System Award at the 20th International Conference on Formal Engineering Methods in 2018
- Co-founded Dependable Intelligence which provides advanced software and professional services for high-performance machine learning applications; and Semantic Engineering which specialises in web ontology and formal verification
- Supervised 25 PhD students and many of them have become tenured faculty members in leading universities around the world

## PUBLICATION CREDITS

- Published more than 200 papers in leading peer-reviewed journals/proceedings and two books
- Won a number of Best Papers Awards in international journals and conferences

## INTERNATIONAL STANDING

- Editorial board member of several scientific journals such as *ACM Transactions on Software Engineering and Methodology*, *Formal Aspects of Computing Journal*, *Innovations in Systems and Software Engineering: A NASA Journal*
- Advisory board member of Formal Methods Europe
- Steering committee member of IEEE Pacific Rim International Symposium on Dependable Computing and International Conference on Engineering of Complex Computer Systems series
- Panel member of the Australian Research Council's Excellence in Research for Australia Evaluation Committee (2018 University Rating), and reviewer for funding agencies worldwide
- Widely sought-after speaker at international symposiums

## AWARDS AND ACCOLADES

- Fellow of the Institute of Engineering Australia (2018)
- Young Researcher Award, NUS (2004)





*Outstanding  
Service  
Award*



**Prof Ivy NG Swee Lian**  
MBBS, MMed (Paed) (NUS)

*“Singapore must continue to aspire to be among the world’s best in every field. We are a small country that needs to be brimming with talented, tenacious and innovative people, unafraid to push boundaries and challenge norms. NUS plays a key role towards each generation of graduates being better than the last. I am deeply honoured and humbled by this Award.”*

## OUTSTANDING SERVICE AWARD

### CURRENT PORTFOLIO

- Group CEO, SingHealth
- Clinical Professor, Duke-NUS Medical School (Duke-NUS)
- Clinical Professor, NUS Medicine
- Senior Consultant, Department of Genetics, KK Women's and Children's Hospital (KKH)
- Director, National Thalassaemia Registry, Ministry of Health
- Chair, KKH Fund Committee
- Member, Boards of SingHealth Fund; Duke-NUS; Singapore Management University; Integrated Health Information Systems; National Medical Research Council; and Health and Biomedical Sciences Committee

### LIFETIME ACHIEVEMENTS

- Prof Ng has been the Group CEO of SingHealth since January 2012, and the chief steward of SingHealth's four hospitals, eight polyclinics, three community hospitals and five national speciality centres
- Under her stewardship as Group CEO, SingHealth's health system has grown exponentially. It is currently the largest public healthcare cluster in Singapore, accounting for 50 per cent of total patient visits to the public sector and providing the full spectrum of care from community to quaternary services
- Prof Ng served as CEO of KKH from 2004 to 2012; Chairman of KKH's Medical Board from 2003 to 2004; and the Head of KKH's Department of Paediatric Medicine from 2002 to 2003

### SERVICE TO NATION AND INTERNATIONAL COMMUNITY

- Prof Ng oversaw KKH's transformation from a hospital known for specialising in paediatrics, neonatology, obstetrics and gynaecology to one that encompasses most aspects of women's healthcare, as well as tertiary services to manage high-risk conditions in women and children
- As a long-standing member of the Duke-NUS governing board, Prof Ng has played a major role in the growth and development of Duke-NUS, and the strategic leadership of their Academic Medicine programmes
- She is known for her work in thalassemia, and has published extensively in the area of genetic counselling and thalassemia
- Her professorship roles at NUS Medicine and Duke-NUS enable her to contribute actively to the education of medical students and Residents

### AWARDS AND ACCOLADES

- NTUC May Day Medal of Commendation (Gold) Award (2020)
- Her World Woman of the Year (2012)
- Public Administration Medal (Gold) (2011)
- 7th International Management Action Award, Chartered Management Institute Singapore (2010)
- NTUC May Day Medal of Commendation Award (2009)
- Leading CEO Award, Singapore Human Resources Institute (2008)
- Fellow, Royal College of Paediatrics and Child Health (London) (2003); Royal College of Physicians (Edinburgh) (2001); and Academy of Medicine, Singapore (1992)





*Award  
Recipients*

# *Award Recipients*



**Prof Ivy NG Swee Lian**  
**OUTSTANDING SERVICE AWARD**



**Asst Prof FENG Jiashi**  
**YOUNG RESEARCHER AWARD**



**Assoc Prof Ashley Lauren ST JOHN**  
**YOUNG RESEARCHER AWARD**

# *Award Recipients*



**Prof Dario CAMPANA**  
UNIVERSITY RESEARCH RECOGNITION  
AWARD



**Prof DONG Jin Song**  
UNIVERSITY RESEARCH RECOGNITION  
AWARD



**Assoc Prof HO Han Kiat**  
OUTSTANDING EDUCATOR AWARD



**Assoc Prof LIM Wee Hun Stephen**  
OUTSTANDING EDUCATOR AWARD





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**SHAPING**  
**THE FUTURE**