



(From left) President's Science Award (PSA) recipient Wang Linfa; President's Science and Technology Medal recipient Ivy Ng; PSA recipient Chen Xiaodong; and President's Technology Award recipient Too Heng-Phon at the 2021 President's Science and Technology Awards event at the Istana yesterday. ST PHOTOS: KEVIN LIM

President's Science Award

Scientist who traced Sars virus to bats gets top accolade

Zoonotic disease expert also worked on Covid-19 antibody test kit

Shabana Begum

A "batman" who helped to trace the severe acute respiratory syndrome (Sars) outbreak in 2003 to bats and is now involved in the Covid-19 fight has bagged the President's Science Award.

Professor Wang Linfa, 61, a top zoonotic disease expert, is a faculty member at Duke-NUS Medical School's emerging infectious diseases programme.

The award is part of the annual President's Science and Technology Awards (PSTA) given to scientists whose work has led to significant scientific, technological or economic benefits for the country.

Five researchers received this year's PSTA from President Halimah Yacob at the Istana yesterday.

Soon after the 2003 Sars outbreak, Prof Wang led an interna-

tional team of experts who traced the Sars-CoV-1 virus that caused the disease to bats.

For decades now, Prof Wang has been figuring out how the winged mammals can carry a pool of deadly viruses without falling ill.

"I hope the award will further highlight the importance of basic research in viruses and bats in combating current and future pandemics," he said.

In the areas of Covid-19 research, Prof Wang and his team developed a test kit last year that detects whether someone has antibodies that neutralise the coronavirus.

The cPass test kit can also be used to see if vaccines work, check what proportion of the population has been infected, help with contact tracing and detect infections in animals. It was the first of its kind to receive authorisation from the United States Food and Drug Administration in November last year.

"We are working very hard on a cPass specific for Omicron (or oPass) as the current cPass is unlikely to be able to measure Omicron-specific neutralising antibodies accurately enough. We are hopeful to have the data in a few weeks," added Prof Wang.

A few months ago, he and his team found that people who both

recovered from Sars and received the Pfizer-BioNTech vaccine were able to produce antibodies to neutralise all known Covid-19 variants.

Tapping this finding, the team is developing a booster jab that protects against future variants of Covid-19 and other coronaviruses.

The President's Technology Award went to a life sciences expert who pioneered non-invasive cancer detection methods so that patients with gastric cancer can be diagnosed early.

For more than a decade, Associate Professor Too Heng-Phon, 62, developed ways to identify cancer and other diseases by drawing on the smallest pieces of genetic material - called microRNA - as biomarkers.

His microRNA detection technology was later licensed by a biotech company called MiRKES, which he co-founded, to develop a blood test kit that can accurately detect gastric cancer in its early stages.

The test was a game changer since gastric cancer is usually diagnosed at later stages and detected through endoscopy - an invasive procedure that involves inserting a tube with a camera through the mouth and into the stomach.

"More than 10,000 patients have been tested with Gastroclear (the



Professor Wang Linfa receiving his award from President Halimah Yacob at yesterday's ceremony at the Istana.

test kit) in hospitals and clinics in Singapore, neighbouring South-east Asian countries and China," said Prof Too, who is also a faculty member at the National University of Singapore's (NUS) Yong Loo Lin School of Medicine.

It was previously reported that Prof Too's involvement in the biomedical sciences in Singapore started when he educated political leaders about the life sciences at NUS in 2000, at the onset of the nation's life sciences push.

The other President's Science Award recipient is Professor Chen Xiaodong, 46, from Nanyang Technological University's (NTU) School of Materials Science and Engineering, for his foray into flexible electronics.

Three Young Scientist Awards were also given out by Deputy Prime Minister Heng Swee Keat at the event. The awardees are: Agency for Science, Technology and Research's Dr Sarah Luo, 35, for her research into brain and metabolic diseases; NUS' Dr Yvonne Gao, 33, for her work towards developing quantum computers; and NTU's Dr Zhang Hanwang, 34, for his research into next-generation artificial intelligence.

nshab@sph.com.sg

SingHealth and A*Star leaders lauded for advancing research

Two scientific "architects" who helped to mould and advance the research landscape in their respective institutions received medals under the 2021 President's Science and Technology Awards.

Professor Ivy Ng, SingHealth's group chief executive since 2012, has played a key role in transforming the nation's largest healthcare cluster into an academic medical centre - a network that aims to excel in patient care while delving into a trove of research to uncover new insights in medicine.

Professor Peter Gluckman from the Agency for Science, Technology and Research's (A*Star) Singapore Institute for Clinical Sciences is the mind behind the development of long-term studies that investigate how pregnancy and early childhood shape the health of mother and child.

They received the President's Science and Technology Medal from President Halimah Yacob at the Istana yesterday.

Prof Ng, 63, orchestrated the formation of the SingHealth Duke-NUS Academic Medical Centre in 2014. Among the numerous academic clinical programmes, institutes and the 13 disease centres that were born from the academic medical centre, Prof Ng has a soft spot for the Genomic Medicine Centre. This is because she started out as a specialist who treated children with genetic disorders.

Prof Gluckman, 72, who joined A*Star in 2007, worked with institutes to develop a research plan to address the rising rates of metabolic disease in Singapore, including diabetes during pregnancy.



Professor Peter Gluckman is behind Singapore's largest and most comprehensive birth cohort study. PHOTO: UNIVERSITY OF AUCKLAND

Originally trained as a paediatrician, he proposed the idea to develop Singapore's largest and most comprehensive birth cohort study, called Growing Up In Singapore Towards Healthy Outcomes.

The study, which started in 2008, tracked the health and development of about 1,000 children over a decade, from when they were foetuses.

"What happens to us as a foetus affects our development as an infant, which affects our journey through childhood, adolescence, adulthood, and ageing.

"Inadequate development can appear as learning and emotional or mental health problems in young people with consequences for adulthood in terms of employment and relationships," added Prof Gluckman, who is the chief scientific officer at the Singapore Institute for Clinical Sciences.

With the children in the study now entering adolescence, youth mental health will be a major focus in the next phase of the long-term research, he noted.

Shabana Begum