



DPM Heng Swee Keat at the President's Science and Technology Awards 2022

DPM Heng Swee Keat | 9 December 2022

Speech by Deputy Prime Minister and Coordinating Minister for Economic Policies Heng Swee Keat at the President's Science and Technology Awards on 9 December 2022.

President Halimah Yacob,
Ladies and Gentlemen,

A very good evening. It is my pleasure to be here at the President's Science and Technology Awards as we honour our best and brightest in science, technology, and innovation.

These Awards were first presented in 2009. Over the years, the Awards have recognised many outstanding scientists and the significant impact that they have made to the economy and society, in Singapore and abroad.

I am grateful for Madam President's unwavering support for the advancement of science and technology in Singapore, and for gracing the Awards ceremony every year.

Role of S&T in Singapore

Science and technology play a critical role in Singapore's development. Our S&T journey started more than 30 years ago, with our first technology plan in 1991. Over the three decades, we have built up a vibrant research and innovation eco-system.

Today, our institutes of higher learning, A*STAR and academic medical centres have established a global standing. We have developed research peaks of excellence – in infectious diseases, quantum technologies, 2D materials, photonics, and more.

We are also increasingly recognised as a global innovation node. Singapore has consistently ranked among the top ten most innovative economies by the Global Innovation Index. We are home to nearly 4,000 tech start-ups, supported by a network of over 200 incubators and accelerators, and over 400 venture capitalists.

The COVID-19 pandemic is yet another reminder of the importance of building deep capabilities in research. The scientific community in Singapore contributed to the global fight – from developing diagnostic kits to contributing to the global COVID-19 database.

There are many factors that have contributed to the impact that science and technology has made in Singapore. For one, Singapore has remained steadfast in our R&D investment through the economic cycles. Another factor is the strong triple helix – companies, academia and the public sector working closely together – to develop innovative products and new solutions.

Scientific Talent

But the most critical factor is people. Even with the most generous resourcing, the best equipment, and the most well-defined problem statements, there will be no new ideas and breakthroughs if we do not have good people to work on them.

The pursuit of science and technology is by nature a global endeavour because knowledge knows no boundaries. However, global talent is in global shortage.

For a small nation like Singapore to make an impact, we must continue to attract and retain a critical mass of top scientific talent here. At the same time, we are redoubling our efforts to nurture our scientists, providing them with the opportunities to shine on the global stage.

So, we need both. We need to welcome and anchor global talent from abroad. We also need to grow our own timber and make them global. With a strong community of scientists, Singapore can propel the next waves of breakthroughs and innovation.

And we must do so as part of the global scientific network. All scientists – those based here and around the world – must continue to work together and build on one another's research. I am glad that our researchers have built many strong international partnerships. When I visit research institutions overseas, I often see researchers from Singapore or who have spent time here.

In fact, our national R&D effort is guided by a group of eminent global individuals on the Research, Innovation and Enterprise Council or RIEC. The RIEC met physically in Singapore last week for the first time since the start of the pandemic. They affirmed Singapore's progress in building up a strong research base and encouraged Singapore to continue building on our strengths to be a special node in global networks, that is attractive to talent from around the world.

Tonight, we celebrate and honour four of our most outstanding scientists as we confer them with the highest scientific honour in our country – the President's Science and Technology Awards.

Young Scientist Awards

First, the Young Scientist Awards recognises promising scientists under the age of thirty-five, who have achieved significant results and shown great potential in their chosen fields. I congratulate our two Young Scientist Award winners this year.

Dr Bi Ren Zhe from A*STAR is recognised for his development of novel bio-optical technologies, which are then deployed in biomedical devices for disease

diagnostics. His research will help clinicians more effectively determine the most suitable treatment for patients with cardiovascular disease and cancers.

The other young scientist, Dr Koh Ming Joo from NUS, is recognised for his research in sustainable catalysis and radical chemistry. His work has led to the discovery of cheaper and more energy-efficient catalysts and reagents. These can potentially revolutionise the way important chemicals are prepared in areas ranging from agriculture to plastic waste upcycling.

I hope our Young Scientists Award winners can inspire more of our youths to pursue a career in STEM, where they can potentially make a significant impact to the lives of people and to the world around them.

President's Technology Award

Second, the President's Technology Award recognises those who have made outstanding contributions in R&D resulting in significant new technology or innovative use of established technology.

The President's Technology Award this year goes to Prof Wang Rong from NTU. She is world-renowned for her contributions to the field of membrane science and technology.

Prof Wang joined NTU's Institute of Environmental Science and Engineering in 1999. She has made many pioneering contributions in the development of novel membranes for use in desalination, water reclamation, wastewater treatment, liquid purification, and gas separation.

Her achievements include the development of a novel membrane that can operate at lower pressures for NEWater production. This has saved up to 50% of the energy needed for pumping.

Water resilience is critical to our survival and national security. In the course of her work, Prof Wang has not only advanced the frontiers of membrane science, she has also strengthened our water resilience and sustainability. Congratulations Prof Wang!

President's Science & Technology Medal

Third, the President's Science and Technology Medal is the nation's top scientific honour. This Medal is awarded to individuals who have made exceptional contributions while playing a strategic role in the development of Singapore through R&D.

This year's Medal recipient is Prof Hong Wan Jin, a professor from NUS and the Executive Director of A*STAR's Institute of Molecular and Cell Biology.

Prof Hong joined IMCB in 1989 and went on to receive the National Science Award—the predecessor of the President's Science Award—a decade later for his work in protein transport. Congratulations Prof Hong! You are a role model for our past award winners, who can aspire towards another award.

As the Executive Director of IMCB since 2011, Prof Hong has sustained the scientific excellence of Singapore's oldest life sciences institute. He established strong collaborative relationships with other parts of academia and the clinical research community to translate upstream discoveries into tangible benefits for patients.

Under his leadership, IMCB has spun off 15 start-ups in the last seven years. For example, one of them, Biocheetah, is undertaking clinical trials in the US, China, and Singapore for their non-invasive diagnostics for bladder cancers. These start-ups have collectively raised around \$30 million to date.

In addition, Prof Hong has also played an active role in nurturing young scientists in A*STAR and the wider ecosystem. Under his watch, 17 IMCB researchers have received the Young Scientist Awards, the NRF Fellowship, or the NRF Investigatorship.

Conclusion

Once again, my heartiest congratulations to all four winners for your exceptional achievements. These awards are a recognition of your achievements so far, but I look forward to much more to come. Just as important, I hope you will pay it forward by mentoring younger scientists and inspiring the next generation to follow your footsteps.

Talent lies at the heart of what has made our science and technology community vibrant. With a strong community of scientists, we can build a better future for Singapore and the world. Thank you.

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