



Over the years, NUS has been consistent in pushing out impactful research that benefits both Singapore and the world

With more than 2,400 active research faculty and over 9,700 publications and 350 patents to their names, NUS has garnered international respect for its high-quality multidisciplinary research over the years. Investing in research developments to benefit the nation, the University is home to three of the five Singapore Centres of Research Excellence — the [Cancer Science Institute of Singapore](#), the [Centre for Quantum Technologies](#), and the [Mechanobiology Institute](#) — and is a partner in a fourth one — the Singapore Centre for Environmental Life Sciences Engineering. The University has also built strong relationships with commercial entities, collaborating for high-impact research, most recently with [Wilmar International Limited](#) and [Grab](#).

The drive towards impactful research is not a new development. NUS researchers have long been working on technology and discoveries that bring important benefits to both the Singapore society and the world. One example was Professor S Shan Ratnam, who was head of the [Department of Obstetrics & Gynaecology](#) at the Yong Loo Lin School of Medicine at the then University of Singapore from 1970 to 1995. Considered a pioneer and leader in the field, he is the founder of the in-vitro fertilisation programme in Singapore, and led a medical team to produce Asia's first test-tube baby in 1983. His team of clinicians and scientists continued to achieved various breakthroughs over the years, including Asia's first live birth from a frozen embryo in 1987 and the world's first live birth after microinjection in 1989.

In more recent times, NUS researchers continue to push the boundaries in healthcare and diagnosis research. One example is [NUS Engineering](#) Professor Lim Chwee Teck's work in microfluidics. Microfluidics refers to the study of the behaviour of fluids in very tiny channels. Prof Lim has used his understanding of this behaviour to develop multiple technologies that have the potential to majorly improve lives. Two of his more recent innovations are a [microfluidic chip that can isolate selected tumour cells for single cell analysis and potentially improve cancer diagnosis](#); and a [first-of-its-kind liquid-based tactile sensor that can be used for multiple applications](#), including soft robotics, wearable consumer electronics, smart medical prosthetic devices and real-time healthcare monitoring.

In the field of environmentalism and sustainability, another technology making waves is the [New Smart Water Assessment Network](#) (NUSwan). Developed by two NUS Institutions — the [Tropical Marine Science Institute](#) and the [NUS Environmental Research Institute](#) — the NUSwan is a robotic swan that can efficiently collect real-time data about water. It is aimed to be a less laborious and more affordable alternative for water-sampling. After completion of a battery of tests, the Public Utilities Board of Singapore has recently deployed five such swans to be used at various reservoirs to monitor water quality.

Looking to the future, the University aims to continue to produce integrated, multidisciplinary research, particularly in key areas such as ageing, Asian studies, biomedical science and translational medicine, finance and risk management, integrative sustainability solutions, materials science, maritime, and Smart Nation, in order to address critical and complex issues in Asia and the world.

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