

Spurring researchers to transform modern medicine

Trust, teamwork and strong collaboration at Duke-NUS Medical School enable staff to drive healthcare innovations and breakthroughs

From installing life-saving devices at Housing Board void decks to discovering new cancer treatments, innovation at Duke-NUS Medical School extends beyond the lab.

In March 2025, in collaboration with SingHealth, the school launched its Artificial Intelligence in Medicine Institute (AIMI) with the aim to equip healthcare professionals with the tools and support to develop and apply AI solutions in the real world.

There is tremendous use for AI, from finding new drugs to understanding complex biological pathways, to detecting patterns in the emergence of diseases, says Professor Patrick Tan, Duke-NUS' senior vice-dean for research.

A Stanford-trained MD (Doctor of Medicine)-PhD holder, the 56-year-old was one of the school's pioneer faculty members. He has also been appointed the next and fourth dean of the school, from Jan 1, 2026.

"The character of Duke-NUS is very special," he says. "We're a medical school that produces doctors who do more than clinical care, researchers who do more than publish papers, and administrators who lean into our mission of innovative education and impactful research."

This shared purpose is echoed by Associate Professor Shiva Sarraf-Yazdi, who sums it up succinctly: "Our role is about service."

A former Duke-trained surgeon, she joined Duke-NUS more than a decade ago to focus on medical education. "The act of surgery itself measures impact in days, weeks or months but education measures impact in decades," says the 53-year-old vice-dean for education overseeing the Duke-NUS MD programme.

Duke-NUS was established in 2005 as a partnership between Duke University and the National University

of Singapore. Ranked as one of Singapore's best employers for five years running, faculty members and staff cite trust, diversity and clear expectations as factors that make Duke-NUS stand out as an employer.

Creating real-world impact

Prof Tan says the scale and success of the work of Duke-NUS researchers is made possible because of the institution's collaborative model and access to Singapore's broader healthcare ecosystem.

That includes his own groundbreaking contributions to stomach cancer research. Prof Tan's work in gastric cancer won the American Association for Cancer Research Team Science Award in 2018, a first for a team from Asia. His team – comprising researchers from the National Cancer Centre Singapore, the Genome Institute of Singapore and collaborators from Japan, Taiwan and Thailand – identified key genetic abnormalities in stomach cancers and translated those findings into targeted clinical trials.

Another example is the installation of AEDs (Automated External Defibrillators) across Singapore, prompted by Duke-NUS' research on out-of-hospital cardiac arrest survival rates.

"It wasn't a drug, but it saved lives. That's the impact," says Prof Tan.

Prof Sarraf-Yazdi credits the school's innovation-friendly culture for encouraging bold ideas. This support has enabled her team to embark on new projects that continually enhance the school's education programme to better prepare students for clinical practice.

One of her earlier initiatives was the MD Programme Longitudinal Integrated Clerkship. It was piloted to expose students to multiple clinical disciplines in a holistic way and help



◀ A dynamic and diverse community at Duke-NUS Medical School brings together researchers, educators and administrators to advance medicine and improve lives. (Seated, from left) Professor Patrick Tan, senior vice-dean for research; professor Thomas Coffman, dean; and Dr Zhou Jin, principal research scientist. (Standing, from left) Mr Anirudh Sharma, director, communications and strategic relations; and associate professor Shiva Sarraf-Yazdi, vice-dean for education. PHOTO: DUKE-NUS MEDICAL SCHOOL

“Many of us stay for quite a long time because we're all attracted to this very dynamic place that tackles some of the key and important questions of the future that affect Singapore and the world.”

PROFESSOR PATRICK TAN
Senior vice-dean for research,
Duke-NUS Medical School

them form stronger connections with patients, mentors and peers.

Insights from the pilot helped reshape the MD curriculum, such as the longitudinal C.A.R.E. (Connect, Assimilate, Reflect, Explore) Programme, which now spans the entire curriculum. It complements

students' capabilities for practice by progressively incorporating essential skills, while exploring emerging healthcare priority areas such as Population Health and AI in medicine.

At Duke-NUS, professional growth is not limited to students. With a supportive environment that includes flexible work arrangements to encourage lifelong learning, faculty and staff can deepen their expertise. Prof Sarraf-Yazdi herself pursued two additional degrees – a Master of Health Professions Education from Johns Hopkins University and a Master of Business Administration from NUS – while working.

Prof Tan says: "There is an ethos and culture to Duke-NUS that has sustained me. Here, you will find that many of us stay for quite a long time because we're all attracted to this very dynamic place that tackles some of the key and important questions of the future that affect Singapore and the world."

Medical breakthroughs

FIGHTING CANCER

From developing Singapore's first home-grown cancer drug (ETC-159) to mapping stomach tumours for personalised therapies, scientists at Duke-NUS are leading advances in cancer treatment.

PIONEERING COVID-19 RESPONSE

Duke-NUS was among the first globally to isolate, culture and characterise the Sars-CoV-2 virus, driving innovations in Covid-19 testing, vaccines and therapeutics – including the world's first FDA-approved neutralising antibody test kit.

DRIVING LONGEVITY RESEARCH

Researchers at Duke-NUS discovered how the IL-11 protein is linked to ageing and excess scar tissue build-ups in organs or tissues, paving the way for new treatments.

BROUGHT TO YOU BY

