Prof’s ‘dating approach’ to get scientists to collaborate

Initiatives must be less prescriptive and start from bottom up, he says

BY CHAN AI-LEEN SENIOR CORRESPONDENT

If a university president asks for something, it won’t get done, but if a junior rector makes the same request, people say yes,” says NTU President Stephen Smith. Professor Smith relates this to a senior’s joke: “underneath the anti-authoritarian ethos of many academic institutions is to emphasise that a top-down initiative simply will not work.”

The new head of Nanyang Technological University’s (NTU) research office says he wants to create an environment that makes scientific excellence and interest prevail in working together.

“The top-down approach doesn’t work in this setting because researchers are individuals. It leads, at best, to incremental change,” he says.

The 60-year-old was recently promoted to one of the top jobs at Imperial College London – Pro Rector of Health, but gave up the position to become NTU’s vice-president of research this month. He was wowed by NTU president Bernard Anderson a month ago.

And now he has big plans for NTU.

“When we are looking for a catalysing development, the kind that allowed British to unseat IBM as the tech company to beat and for Google to rise to become the world’s most popular search engine. These seemingly unfounded ideas can’t be created by a committee.”

He adds: “I can bring doctors, scientists and engineers together but you can’t go talking unless I create an environment where they can discuss topics of shared interest.”

At Imperial, interdisciplinary research is promoted through institutes such as the Grantham Institute for Climate Change and the Energy Futures Lab. Researchers are given shared space, time and resources to work together.

Similarly, at NTU, he wants collaborations to be centre on broad areas such as diabetes or cancer, backed up by the best facilities and equipment.

With two startup-ups under his belt, the gynaecologist by training who had first-hand experiences in taking products to market, he says Imperial could do more in this area.

“One company, based in China and in Japan, is testing drugs to combat fibrosis – the thickness and scar tissue that can happen after injury.

Another startup was founded after 10 years when the technology to develop aflibercept (Eylea) was not as successful as initially expected.

When it comes to commercialising discoveries, he says, the big challenge is to recognise the difference between research and innovation. Investors, for example, involve the creation of new ideas, the latter represents turning ideas into products or devices, and improving current systems.

To take discoveries into the commercial arena, he says Imperial spun off its own company, Imperial Innovations, which helps researchers build businesses of their own or license their business ideas to industry.

Likewise here, he intends to set up such supporting networks to help researchers in technology transfer and innovation. He says the first NTU is upping its research game in this area and has a plan to quadruple the number of people working on innovation.

“On the back of its strong engineering expertise, for collaborations to work, he stresses: “The idea is not to be too prescriptive about how people get together.

“Like a dating agency, you won’t force people to love each other, but if there are social spaces and environments with the available facilities, it’s possible love could blossom.”

He is confident that such a tree-wheeling, bottom-up approach can work, and will allow researchers to realise their potential to the fullest.

However, he concedes that developing the end product, taking it through clinical trials and putting it into the business space calls for much more structured approach.

“The ability in the region to create business opportunities has created the size of Asia. So we need a bit of the West for the first part, and a bit of the East for the other,” he says.

Working together will extend beyond Singapore as well, where global partnerships are now critical to building up big science, he adds.

“We must be open to international collaborations as well as with other organisations within Singapore. There’s a place for competition and a place for cooperation. But big science can no longer succeed in isolation,” he says.

He points out that modern biologists, for instance, involve so much diverse technology and expertise that even big pharmaceutical companies, with their formidable resources, can no longer develop drugs on their own.

“One is forced to do alone, such innovation needs academic, industry and health-care systems to come together,”

This ties in with his other hat as founding dean of NTU’s medical school, where he will focus on research areas such as infectious diseases, ageing and mental health.

The school is a collaboration between NTU and Imperial, with the National Healthcare Group as its primary clinical training partner. It has been named the Lee Kong Chian School of Medicine after the Lee Foundation – founded by the late philanthropist - donated $150 million.

Applying the university’s research efforts, the school plans to draw on NTU’s expertise in engineering and Singapore’s talent to train students’ skills in developing medical devices or better ways to use and improve health-care systems, for example. It also plans to tap Singapore’s and electronic medical databases to look at the impact of drugs on a broad scale.

For instance, Prof Smith says data could bestripped to study the outlook of an individual drug, on a single patient, or on how this drug works in other people, or other drugs - and how this affects the patient.

“We have our sights set on being a beacon for much more people will be on combinations of drugs. No company can do it. It’s up to the government to take the lead,” he says.

Another major area he will be looking at is how to keep costs down to make patient, through approaches such as telemedicine, wireless monitoring devices and medical phone apps.

“There are all sorts of ways to lower costs, and make treatment better and more individualised,” he says.

“The new medical school is a wonderful opportunity to carefully look at doing things better for the patient,”

Q&A: Changing doctor-patient dynamic

I: One of the medical startup-ups you are involved in is CurePost. Can you tell me more about it?

A: At a personal level I personally have the scars to show for it. One of my companies eventually succumbed to financial pressure after 10 years. But the process was also exciting and fun, and good well-being. You need to accept failure because every single time there’s a failure, failure is an integral part of it. Picking yourself up is another. If you don’t try, you’ll never know.

B: What motivated you to come to Singapore?

A: This was a very exciting opportunity to build research within the university and the broader Singapore context. I have been a research professor for all of my life, and my personal love has been research. One of the pleasures of working in higher education is the whole idea of creating new knowledge and the opportunity for innovating, whatever it be the way people think, or a device or product or the way something happens. The other part is working with others and allowing individuals to grow and realise their potential. I have always found that fascinating.

B: What kind of doctors do you plan to produce at the new medical school?

A: We need doctors who understand the disease, and work in partnership with the patients. It’s a doctor-patient relationship is no longer simple prescribing. Patients want to be engaged in the decision-making process, not just sitting and staring side-by-side, rather than the doctor standing and talking above the patient’s head.

Doctor and innovator

PROFESSOR Stephen Smith, 60, is vice-president of research at Nanyang Technological University and founding dean of the Lee Kong Chian School of Medicine. He has a long track record of collaboration between the university and Imperial College London.

Long before the Health Service Journal in its 2009 rankings of the top 100 most influential people in National Health Service trust and support networks in England, Prof Smith pioneered the establishment of the Health of Imperial College London and chief executive of the Imperial College Healthcare NHS National Service Trust to take up his new role in Singapore last week.

The West of Hospital Medical School Alumnus started out as a gynaecologist in 1974 and went on to do research, teach, and lead research teams and medical start-ups. Before his appointment at Imperial, he was head of the department of obstetrics and gynaecology at the University of Cambridge.

As the principal of the medical faculty from 2004 to last year, he headed the largest research-funded medical faculty in Europe with an annual turnover of $125 million (S$146 million). This paved the way for his appointment as Imperial’s Pro Rector (Health) in December last year.

In 2007, he was the first chief executive of the largest acute National Health Service Trust in London, with a turnover of £700 million. He also led the need to integrate research, education and clinical services to improve the lit of patients, and spearheaded Britain’s first Academic Health Science Centre to do so.

There are now five such centres across the country. For this effort, he was named Innovator of the Year at England’s National Health Service Leadership Awards in 2006.

He is, with Clarks, a surgeon, and the father of three young-up children.

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