

WORLD SKILLS S'PORE DUO TO BE TESTED IN NEW CATEGORIES B9

EDUCATION

How NTU climbed the rankings

University's stunning rise up the charts didn't come overnight, says its 'talent magnet'



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Nanyang Technological University's (NTU) stunning rise up the international ranking charts evokes a range of reactions – depending on who you talk to – says its president Bertil Andersson.

University leaders from around the world ask him: How did a 26-year-old institution manage to make such impressive leaps?

People in Singapore ask: How did you game the system?

"I tell these people that if they know how to game the rankings, please let me know," says Professor Andersson.

NTU has created waves under his watch. It even overtook the flagship National University of Singapore (NUS) in the Quacquarelli Symonds (QS) World University Rankings released in June.

It achieved the highest ranking any Asian university has ever reached at 11th position, surpassing NUS which was placed 15th.

But what was remarkable was that NTU had climbed 63 places on the QS world rankings since 2010.

NTU's success did not come overnight, says the 69-year-old Swedish biochemist who will be passing the baton to eminent American scientist Subra Suresh next year.

In fact, the push to remake NTU into a world-class research and teaching institution started more than 10 years ago.

University leaders identified areas where NTU had inherent strengths, such as water and energy sustainability, and set out to draw in academic talents who would



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NTU.

"We are now seeing the fruits of our labour after having invested in and ramping up on research in the last few years," says Prof Andersson.

He adds with pride: "Today, young and up-and-coming scientists make up 8 per cent of our 4,000-strong faculty, but they account for almost 40 per cent of NTU's citations in top research journals. And citation counts are key to doing well in international rankings."

But he is eager to list NTU's achievements outside of research as well – its expansion into disciplines beyond engineering and business, and its innovations in teaching and learning.

A fellow of Imperial College London, Prof Andersson spearheaded the establishment of NTU's joint medical school with Imperial College, whose first batch of medical students will graduate in July next year.

In teaching and learning, he points to NTU's target for 2020, to convert half of the degree courses to the flipped classroom model, where students access course content on their own before class so lesson time is spent on discussions.

"The next-generation professor is Professor iPad or Professor Smartphone. Digital devices and online media have changed the way the young acquire knowledge, so universities have no choice but to reinvent the learning experience," says Prof Andersson.

The centrepiece of the university's new learning pedagogy is The Hive, designed by UK designer Thomas Heatherwick, the man behind the London Olympic Cauldron.

The building, which opened two years ago, has done away with traditional classroom layouts. Instead there are 56 curvilinear smart classrooms, with flexible clustered seating, multiple LCD screens and wireless communication tools to facilitate group discussions.

"This is a university building like no other. It defies the norms of traditional university buildings and redefines them with its iconic shape and unusual use of space."

"Here lies the future of learning in Singapore," says Prof Andersson, adding that a second learning hub with more smart classrooms is being built and will be ready in a few months' time.

Also, in a few months, he will hand over the baton to Professor Suresh, who takes over on Jan 1. Prof Andersson says he is likely to spend his time in Sweden, Israel and London where he will take on various advisory roles. Other than that, he will always be a goodwill ambassador for NTU and Singapore.

He gives his successor a vote of confidence. "NTU is going to have a very strong leadership for the future," he says of the eminent American scientist who was picked by former US president Barack Obama to head the US National Science Foundation from 2010 to 2013.

Prof Andersson notes the fact that he shares his birthday with Prof Suresh – May 30.

"You see, the stars are aligned," he says, predicting that NTU is destined to go from good to great.

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help the university shoot for the stars in these areas.

Bringing in Prof Andersson as provost in 2007 was part of the plan. He had served as chief executive of the European Science Foundation and chaired the chemistry committee of the Nobel Foundation. He was well connected in the research community and expected to be a "talent magnet" for NTU.

The plan worked. He recruited several star professors into NTU in a short time.

These included geneticist Stephan Schuster, who is famous for his work in unravelling the genomic sequence of the woolly mammoth, and biologist Daniela Rhodes, who heads an interdisciplinary research team that last year clinched a research grant worth \$23.8 million to study telomeres, the structures that cap the ends of human chromosomes.

NTU also started its own scheme in 2007 called the Nanyang Assistant Professorship scheme to attract young research stars. The university has so far received almost 4,000 applications worldwide and given out 62 assistant professorships.

It also helped that NTU's "hyper-drive" in research coincided with the Singapore Government's increased investments in research and innovation.

"We seized the opportunity to ride the wave," Prof Andersson says, giving the example of how

NTU leveraged on the National Research Foundation (NRF), set up in 2006 to transform Singapore into a knowledge-intensive economy.

Besides making available more funds for universities to tap, NRF also woos research talents from abroad with a fellowship scheme. Half of the 70 or so fellows have chosen to pursue their research at

THE FUTURE OF LEARNING

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PROFESSOR BERTIL ANDERSSON,
president of Nanyang Technological
University, on The Hive.