NTU
At a Glance
2014

World’s fastest rising young university

College of Engineering
College of Science
College of Humanities, Arts, and Social Sciences
Nanyang Business School
National Institute of Education
S Rajaratnam School of International Studies
Earth Observatory of Singapore
Singapore Centre on Environmental Life Sciences Engineering
Lee Kong Chian School of Medicine
Vision & Mission

A great global university founded on science and technology, nurturing leaders through research and a broad education in diverse disciplines.
Established in 1991, Nanyang Technological University (NTU Singapore) has roots that go back to 1981 when its predecessor institution, Nanyang Technological Institute, was set up on the grounds of the former Nanyang University as a teaching university. Today, NTU is a research-intensive institution bridging the best of the East and West, and the world’s fastest-rising young university, according to Times Higher Education.

Joint medical school with Imperial College London
Combining NTU’s core strengths in engineering and business with Imperial College London’s world-renowned medical expertise, the Lee Kong Chian School of Medicine is preparing the brightest minds to meet the demands of 21st-century healthcare and introduce innovations to medical education. The School has received philanthropic support of about S$260m. It admitted its first cohort in August 2013.

A rich heritage: National monuments on campus
Gazetted as a national monument in 1998 and now housing the Chinese Heritage Centre for research on Chinese overseas, the former Nanyang University Administration Building overlooks the historical Yunnan Garden.

The Nanyang University Memorial and original Nanyang University Arch were also declared national monuments of Singapore in 1998.
Deep links with Asia, global connections
NTU’s international outreach is broad and strong and includes more than 400 academic and research partnerships with institutions across the United States, Europe and the Asia-Pacific, particularly China and India.

NTU is one of the seven founding members of the Global Alliance of Technological Universities (GlobalTech), a network of top technological universities united in addressing global issues through leading-edge science and technology.

Global Alliance of Technological Universities
- California Institute of Technology
- Eidgenössische Technische Hochschule Zürich
- Georgia Institute of Technology
- Imperial College London
- Indian Institute of Technology Bombay
- Nanyang Technological University
- Shanghai Jiao Tong University
- Technische Universität München
- University of New South Wales

Governance
The 19-member NTU Board of Trustees is a key pillar of university governance and sets the broad strategic directions for the University. The President of the University is the principal executive. He is assisted by the Deputy President and Provost, Chief of Staff, Vice Presidents, Associate Provosts, Directors/Deans of autonomous institutes, College Deans, School Chairs and heads of administrative departments/institutes.

Chancellor
The President of the Republic of Singapore is the Chancellor of the University.

Colleges
College of Engineering
The largest engineering college in the world with six schools focused on technology and innovation; 4th most-cited university for engineering research output that is among the top six universities globally; ranked 9th globally for Engineering and Technology and 2nd in Asia by QS 2014/15 World University Rankings; ranked 12th globally and 1st in Asia by Shanghai Jiao Tong University; home to Singapore’s preferred engineering programme for top A-level students

Schools:
- School of Chemical and Biomedical Engineering
- School of Civil and Environmental Engineering
- School of Computer Engineering
- School of Electrical and Electronic Engineering
- School of Materials Science and Engineering
- School of Mechanical and Aerospace Engineering

College of Science
Award-winning faculty, Olympiad medal winners and world-class laboratories; ranked 12th globally for Chemistry and 39th for Physical Sciences (Nature Index); offers Singapore’s first double degree programme in Biomedical Sciences and Traditional Chinese Medicine in partnership with Beijing University of Chinese Medicine

Schools:
- Asian School of Environment
- School of Biological Sciences
- School of Physical and Mathematical Sciences
Nanyang Business School
(College of Business)
Consistently ranked among the world’s premier business schools, with an MBA programme that is rated top in Singapore and one of the best in Asia; home to leading faculty including The Economist’s Business Professor of the Year and the world’s top researcher for accounting (Brigham Young Accounting Research Rankings 2013); first business school in Singapore, and the third in Asia, to be accredited by both the European Quality Improvement System and Association to Advance Collegiate Schools of Business

College of Humanities, Arts, and Social Sciences
Home to the Wee Kim Wee School of Communication and Information, the top school in Singapore and the Asia-Pacific for Communication and Media Studies; a fast-growing humanities and social sciences school with special strengths in research on Asia; and Singapore’s first professional art school offering degree courses in art, design and interactive digital media

Schools:
• School of Art, Design and Media
• School of Humanities and Social Sciences
• Wee Kim Wee School of Communication and Information

Interdisciplinary Graduate School
A graduate school that supports PhD research in the University’s interdisciplinary research centres in sustainability, new media and future healthcare

Autonomous institutes
National Institute of Education
Singapore’s main teacher-training institute that provides educational consultancy to countries from Abu Dhabi to Vietnam; ranked 14th in the world and 1st in Asia

S Rajaratnam School of International Studies
An autonomous graduate institution of NTU and a world authority on strategic and international affairs; ranked among the world’s top 30 university-affiliated think tanks in the 2013 Global Go To Think Tank Rankings

Lee Kong Chian School of Medicine
Combines NTU’s core strengths in engineering and business with Imperial College London’s world-renowned medical expertise; first intake in 2013

Earth Observatory of Singapore
Established in 2008 with S$150m in state funding; a leading resource centre in understanding environmental threats and the first Asian organisation to receive a S$5m endowment from the global AXA Research Fund

Singapore Centre on Environmental Life Sciences Engineering
Set up in 2010 to harness microbial biofilms for water and environmental sustainability; awarded S$120m in government funding over 10 years

Home to top students, faculty and researchers
NTU develops leaders who are multidisciplinary and well-prepared for the global workplace. The University:
• counts among its students top scholars and Olympiad medallists from the region and beyond
• has world-acclaimed scientists led by biochemist and NTU President Bertil Andersson, former Trustee of the Nobel Foundation and former Chief Executive of the European Science Foundation; and materials science and engineering pioneer and NTU Provost Freddy Boey
• regularly welcomes Nobel laureates and eminent academics brought in under various visiting professorship and fellowship schemes
Recruiting the best
Exceptional young international faculty from diverse disciplines are drawn into the university’s academic and research enterprise through the Nanyang Assistant Professorship scheme, which awards grants of up to S$1m over three years for cutting-edge research, as well as the prospect of tenure-track appointments.

Outstanding young researchers may also apply for prestigious fellowships in science and technology under a scheme promoted by the Singapore National Research Foundation, which could lead to an offer of a faculty position at NTU and research funding of up to S$3m over five years.

NTU is committed to attracting the brightest post-doctorates and PhD students locally and globally. Quality graduate programmes, including joint PhD programmes with top overseas universities, and attractive scholarships, such as the Nanyang President’s Graduate Scholarship, NTU Research Scholarship and Singapore International Graduate Award, help draw the very best research talent from all over the world.

Residential community
The Yunnan Garden campus provides a serene backdrop to 18 halls of residence housing more than 10,400 students and a variety of lodging options, including accommodation for about 1,300 graduate students. All new undergraduates are guaranteed a place in a hall of residence.

About 37% of full-time undergraduates and 66% of international undergraduates live on campus. Some 600 housing units are set aside for international academics and staff members. By 2016, there will be new hostels for 3,750 more students as well as 102 new apartments for faculty.

A town called NTU
• NTU has the largest on-campus residence infrastructure in Singapore.
• Under an exciting Campus Master Plan, new learning, living, research and recreational spaces are being created to foster multidisciplinary pursuits and a collegiate culture. Two large learning hubs that support collaborative learning and a trendy lifestyle hub will be part of this transformed landscape.
• About 33% of NTU’s full-time student population and 59% of faculty call NTU home.

RESEARCH
NTU performs cutting-edge research through various strategic national and international research programmes. The University hosts two out of five national Research Centres of Excellence (RCEs) – the Earth Observatory of Singapore and Singapore Centre on Environmental Life Sciences Engineering, both conducting research aligned with the long-term strategic interests of Singapore. NTU is also the lead local partner in eight out of 14 national CREATE centres, set up with elite international universities.

Research in NTU is carried out within and across the colleges/schools and RCEs, supported by 12 university-level research institutes with 22 research centres under the institutes, 70 research centres under the colleges/schools, and 17 joint centres with external organisations.

Key Research Centres of Excellence and Institutes
• Earth Observatory of Singapore
• Singapore Centre on Environmental Life Sciences Engineering
• Nanyang Environment & Water Research Institute
• Institute for Media Innovation
• Energy Research Institute @ NTU
• Nanyang Institute of Technology in Health & Medicine
• Centre for Research and Development in Learning
• The Photonics Institute
• Institute of Catastrophe Risk Management
• Institute on Asian Consumer Insight
• Maritime Institute @ NTU
• Nanyang Institute of Structural Biology
• Nanomedicine Institute @ NTU
• Singapore Centre for 3D Printing
Funding success
From 2005 to 2013, NTU won about S$3.17b in competitive research funding. In FY13, the most significant research grant went to the Rolls-Royce @ NTU Corporate Lab, the first partnership to be supported with S$75 million from NTU, Rolls-Royce and Singapore’s National Research Foundation.

Five Peaks of Excellence
NTU's five-year strategic plan, **NTU 2015**, maps out how it will become a great global university by 2015. Under this, NTU has been building on its current strengths and heritage to make its mark internationally in five interdisciplinary areas – sustainability, healthcare, new media, the best of the East and West, and innovation.

The areas leverage NTU’s diverse strengths, particularly its longstanding expertise in engineering and business, and the interfaces these have with various disciplines such as healthcare, science and the humanities. With more than S$1.3b of research funding in the area of sustainability from 2005 to 2013, NTU is already a global leader in this area.

A new strategic plan, NTU 2020, will provide an updated blueprint for the University’s continued success.

NTU has set up a medical school jointly with Imperial College London to meet the challenges of ageing and healthcare in Singapore. The Lee Kong Chian School of Medicine has an integrated research strategy for a healthy society and will pioneer innovations to bring about enhancements to the healthcare system.

Some of our international partners

**Europe**
- Centre National de la Recherche Scientifique
- Eidgenössische Technische Hochschule Zürich
- Fraunhofer-Gesellschaft
- Imperial College London
- Karolinska Institutet
- Technische Universität München
- University of Cambridge
- University of Loughborough
- University of Southampton

**North America**
- California Institute of Technology
- Carnegie Mellon University
- Cornell University
- Georgia Institute of Technology
- Massachusetts Institute of Technology
- Stanford University
- University of British Columbia
- University of California, Berkeley
- University of North Carolina at Chapel Hill

**Asia and beyond**
- Hebrew University of Jerusalem
- Indian Institute of Technology Bombay
- Peking University
- Shanghai Jiao Tong University
- Technion-Israel Institute of Technology
- Tokyo Institute of Technology
- University of New South Wales
Competitive Research Grants Awarded (in S$m)

<table>
<thead>
<tr>
<th>Year</th>
<th>Funding Source</th>
<th>Amount (S$m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2009/10</td>
<td>MOE, AcRF Tier 2</td>
<td>296.4*</td>
</tr>
<tr>
<td>FY2010/11</td>
<td>MOE, AcRF Tier 3</td>
<td>436.1</td>
</tr>
<tr>
<td>FY2011/12</td>
<td>MOE, AcRF Tier 1</td>
<td>440.6</td>
</tr>
<tr>
<td>FY2012/13</td>
<td>Research Scholarship Block (RSB)</td>
<td>487.7</td>
</tr>
<tr>
<td>FY2013/14</td>
<td>NRF</td>
<td>522.5</td>
</tr>
</tbody>
</table>

* Excludes S$120m for the Singapore Centre on Environmental Life Sciences Engineering.

Above figures include RSB and Tier 1.

Breakdown of S$522.5m Competitive Research Grants Awarded (FY2013/14)

- National Agencies: 34%
- MOE, AcRF Tier 2: 16%
- MOE, AcRF Tier 3: 6%
- MOE, AcRF Tier 1: 3%
- Research Scholarship Block (RSB): 14%
- NRF: 13%
- Defence: 13%
- Others: 7%
- A*STAR: 3%
- Others: 3%

MOE AcRF: The MOE Academic Research Fund (AcRF) funds research projects on a competitive basis across Singapore-based universities (NTU, NUS, SMU). Two grant calls are planned each year, in February and August.

NRF: The National Research Foundation’s (NRF) Competitive Research Programme (CRP) Funding Scheme aims to encourage high-impact research and enhance intellectual and human capital development for R&D. The CRP scheme funds a broad base of research ideas at the programme level through a competitive bottom-up approach.

Creating excellence
NTU has established a strong presence in CREATE (Campus for Research Excellence and Technological Enterprise), an initiative of Singapore’s National Research Foundation to foster ties between elite universities and Singapore-based institutions.

Singapore-MIT Alliance for Research and Technology (SMART)
MIT’s largest international research programme involving NTU researchers, focused on solving societal problems through interdisciplinary research.

Singapore-ETH Centre for Global Environmental Sustainability (SEC)
Launched to spearhead research in sustainable design, planning and construction to meet urban challenges.

Technion-Israel Institute of Technology, NTU and NUS Centre for Regenerative Medicine
A collaboration to advance the field of cardiac restoration therapy.

TUM CREATE Centre for Electromobility
Set up by NTU and Technische Universität München to develop sustainable transport solutions, including electric cars for Asian cities.

Berkeley Education Alliance for Research in Singapore (BEARS)
A tie-up between NTU and University of California, Berkeley, to enhance the efficiency of buildings in the tropics.

Collaboration between NTU, Ben-Gurion University of the Negev and Hebrew University of Jerusalem
A CREATE alliance focused on using nanomaterials to improve energy and water management technologies.

Singapore-Peking University Research Centre for a Sustainable Low-Carbon Future
A tie-up to harness carbon capture technologies to mitigate carbon emission.

Cambridge Centre for Carbon Reduction in Chemical Technology (C4T)
A partnership with the University of Cambridge to help minimise the carbon footprint of industrial-scale chemical processes.
Strong links with industry
NTU has a long record of cooperation with industry and is a partner of choice for leading commercial organisations and national research institutions.

Strategic priority areas

**Sustainable Earth**
- Sustainability
- Earth Sciences
- Clean Energy
- Water Technology
- Environmental Life Sciences Engineering
- Nanotechnology and Nanoscience
- Security
- Photonics
- Complexity

**Future Healthcare**
- Biomedical Engineering
- Healthcare
- Structural Biology
- Neuroscience
- Bioengineering
- Nanotechnology and Nanoscience
- Microelectronics
- Food Science
- Ageing

**New Media**
- Interactive and Digital Media
- Infocommunications Technology
- Microelectronics
- Research and Pedagogy in Education

**New Silk Road**
- Chinese Culture and Language
- Human Language Processing
- Research relevant to Asian Culture

### Major industrial research partners

- AXA*
- Alstom
- BMW*
- Carl Zeiss*
- CNRS*
- Crystalsol GmbH
- Det Norske Veritas
- DRTech (Defence Research and Technology Office)*
- Dyesol Limited
- European Aeronautic Defence and Space Company*
- Fraunhofer-Gesellschaft*
- German Aerospace Centre (DLR)*
- Infineon*
- Inspur
- Kemira Oyj
- Lockheed Martin*
- Johnson Matthey*
- LightLab Sweden AB
- Lushang*
- MediaTek Inc
- MicroVision*
- Nitto Denko Corporation
- Robert Bosch*
- Rolls-Royce*
- Royal Philips Electronics
- Sembcorp Industries
- SGL Carbon
- Siemens Pte Ltd*
- Singapore Power
- SLM Solutions*
- Sportmaster*
- ST Kinetics*
- ST Microelectronics*
- SOLID ASIA*
- SONY
- Tencent*
- Thales*
- The International Table Tennis Federation (ITTF)*
- Toray Industries Inc
- Toshiba*
- Vestas*
- Volvo
- World Entrepreneurship Forum
- Xenon Technologies (XT)

*with laboratories/centres at NTU

### Research Revenue (in S$m)

<table>
<thead>
<tr>
<th>Year</th>
<th>National Agencies</th>
<th>Industries and Others</th>
<th>Total Research Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2009/10</td>
<td>117.4</td>
<td>22.2</td>
<td>139.6</td>
</tr>
<tr>
<td>FY 2010/11</td>
<td>219.0</td>
<td>33.1</td>
<td>252.1</td>
</tr>
<tr>
<td>FY 2011/12</td>
<td>245.3</td>
<td>40.7</td>
<td>286.0</td>
</tr>
<tr>
<td>FY 2012/13</td>
<td>279.6</td>
<td>50.0</td>
<td>329.6</td>
</tr>
<tr>
<td>FY 2013/14</td>
<td>324.1</td>
<td>56.1</td>
<td>380.2</td>
</tr>
</tbody>
</table>

* with laboratories/centres at NTU
UNDERGRADUATE EDUCATION
NTU offers 36 single bachelor’s degree programmes. Students can also choose from 15 double degree programmes and six integrated programmes.

NTU Education, a strategic blueprint for undergraduate education, caters to new ways of learning and embeds the latest teaching practices, including the use of flipped classroom teaching in combination with blended learning.

NTU is the world’s first university to allow credits from Massive Open Online Courses hosted on Coursera to be used to fulfil degree requirements.

Bringing together top professors, the Teaching Excellence Academy fosters research to produce innovations that improve learning outcomes. The new Centre for Research and Development in Learning at NTU is also advancing best practices in tertiary learning.

NTU Education includes:

University Scholars Programme (USP)
A challenging multidisciplinary academic programme for the brightest students; offers a wide range of extracurricular and overseas opportunities and sessions with distinguished professors and Nobel laureates.

Renaissance Engineering Programme (REP)
An elite fully-residential multidisciplinary programme that aims to groom leaders and engineers of the highest calibre who can lead interdisciplinary teams; students graduate with a Bachelor of Engineering Science degree and an MSc in Technology Management in 4.5 years; includes a full year of studies at Imperial College London or University of California, Berkeley, and access to technology hubs in these regions.

CN Yang Scholars Programme
Prepares science and engineering talents for top graduate schools; accelerated PhD track.

Undergraduate Research Experience on CAmpus (URECA)
For students with a passion for research; gives access to more than 1,200 projects campus-wide.

Global Education and Mobility (GEM)
NTU offers enriching student mobility programmes with more than 100 leading companies and 160 partner universities across more than 25 countries through its Global Education and Mobility (GEM) initiatives such as GEM Explorer and GEM Discoverer.

- **GEM Explorer** enables students to take courses and conduct research in an overseas partner university for one full semester while exploring a new country and culture.

- **GEM Discoverer** offers various programmes (ranging from 2 to 20 weeks) that place students overseas on study-cum-internship programmes, language immersion programmes and short-term study trips; academic units earned count towards the NTU degree.

Currently, 1 in 2 NTU students participate in the University’s overseas immersion programmes on a yearly basis. More information about these programmes can be found at: [www.ntu.edu.sg/global](http://www.ntu.edu.sg/global).

A range of assistance schemes is available to help students defray the cost of their overseas education.
GRADUATE EDUCATION
NTU is the first university in the world to start a joint doctoral programme with Imperial College London. It conducts 21 joint/dual PhD programmes and 12 master’s programmes with overseas universities, as well as six master’s programmes for Chinese government officials, including vice-mayors. The Interdisciplinary Graduate School offers programmes in areas within the University’s Peaks of Excellence, such as sustainability, healthcare and new media.

EXECUTIVE AND CONTINUING EDUCATION
NTU offers professional development courses, regional executive programmes and tailored training programmes for corporate clients through its Centre for Continuing Education (CCE). Executive classes are conducted at the University’s one-north campus and at the Nanyang Executive Centre, a modern on-campus facility with 50 conference facilities and 170 guestrooms.

Besides the programmes offered by CCE, customised executive training programmes are also conducted by the Nanyang Business School, College of Engineering, College of Humanities, Arts, and Social Sciences, Nanyang Centre for Public Administration, and Confucius Institute. 351 programmes were conducted in AY2011-12, and 360 programmes in AY2012-13. These programmes attracted approximately 9,800 and 10,200 participants respectively.

STUDENTS
Admissions
NTU welcomes applications from qualified individuals all over the world. Please visit http://admissions.ntu.edu.sg for admission details and contacts.

Enrolment by College (AY2014-15)

<table>
<thead>
<tr>
<th>College</th>
<th>Undergraduates¹</th>
<th>Graduate Students¹</th>
<th>Graduate Diploma¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>10,434</td>
<td>1,305</td>
<td>2,147</td>
</tr>
<tr>
<td>Science</td>
<td>4,011</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nanyang Business School</td>
<td>3,763</td>
<td>458</td>
<td>91</td>
</tr>
<tr>
<td>Humanities, Arts &amp; Social Sciences</td>
<td>4,372</td>
<td>556</td>
<td>255</td>
</tr>
<tr>
<td>NIE</td>
<td>1,001</td>
<td>1,462</td>
<td>271</td>
</tr>
<tr>
<td>Medicine</td>
<td>132</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Others¹</td>
<td>301</td>
<td>304</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>23,713</td>
<td>4,082</td>
<td>3,785</td>
</tr>
</tbody>
</table>

¹ Others include the Interdisciplinary Graduate School, Nanyang Technopreneurship Centre and S Rajaratnam School of International Studies.
² There are 692 part-time undergraduates and 12 part-time graduate diploma students. A total of 749 graduate research and 2,293 coursework students take part-time programmes.

Figures are correct as at 8 Sep 2014.

Graduates from 2010 to 2014

- Bachelor’s
- Master’s
- Doctorate
- Total

Student life
About 120 student organisations on campus

Student services
- Psychological and professional counselling
- Career services
- Services for international students
- Sports and recreation
- Student clubs and communities
• Health care
• Medical and insurance schemes
• Internal shuttle bus services

More information on these student services can be found at:
http://www.ntu.edu.sg/students
http://www.ntu.edu.sg/isc (services for international students)

FACULTY AND STAFF
NTU has a total faculty and staff population of 7,004 (as at 1 Jul 2014).*

ALUMNI
• 190,200 university alumni representing 139 nationalities
• 44 overseas alumni associations: China (Anhui, Beijing, Chongqing, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Heilongjiang, Henan, Hong Kong SAR, Hubei, Hunan, Inner Mongolia, Jiangsu, Jiangxi, Jilin, Liaoning, Ningxia-Qinghai-Xizang, Shanxi, Shaanxi, Shandong, Shanghai, Sichuan, Tianjin, Xinjiang, Yunnan and Zhejiang), India (Northern, Central and Southern), Indonesia, Malaysia, Philippines, Thailand, Vietnam (Hanoi and Ho Chi Minh City), the United Kingdom, Taiwan, Europe and the United States (East and West)

**LYON, OUR MASCOT**
“Lyon the lion” symbolises the University’s values of strength, courage and fearlessness. As the embodiment of the NTU spirit, it not only brings the University community together, but also inspires student teams to give their best performance at inter-varsity and other competitions. Designed by an NTU student, it made its debut in August 2013.

**THE NTU FLOWER**
*Dendrobium Nanyang* is a pristine white orchid with a burst of purple at the heart of the bloom, signifying pure energy and a caring heart. The hybrid was created by students and teachers of Temasek Primary School as part of an orchid hybridisation programme developed at NTU’s National Institute of Education. The exquisite white petals represent the qualities that embody the university spirit – passion, tenacity, fortitude, leadership, innovation and entrepreneurship.

*Figures exclude adjunct faculty.*