



NANYANG  
TECHNOLOGICAL  
UNIVERSITY

annual report 2008



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## Our Vision and Mission

A great global university founded on science and technology, nurturing creative and entrepreneurial leaders through a broad education in diverse disciplines.

# At a Glance

more than

119,000

NTU Alumni worldwide

more than

20,000  
undergraduates

students from

66 countries

study, research  
and play at NTU

over

8,700

graduate students

awarded

**\$150** million

to set up Earth Observatory  
of Singapore

Gifts to the University

**\$72** million

over 2,500  
teaching and  
research staff

our faculty  
members  
come  
from

**47**  
countries

# Chairman's Message





To be among the best,  
NTU is competing with the  
world's best universities  
for faculty and students.

Other than excelling in research, the top universities in the world provide a first-rate education enriched by the active research their faculty members are engaged in. NTU aspires to be in this league. Amidst the changes in Singapore's higher education landscape, there is strong endorsement and support from the government for our ambition. The recent decision to set up a fourth publicly funded university to provide more university places for Singaporeans underscores the recognition that NTU needs to focus on becoming a leading research-intensive university.

Competition among universities is increasingly global. While top-tier US universities with unmatched financial resources are racing ahead to maintain their lead, European institutions especially in the UK are moving to close the gap with their American counterparts. Asian countries like China and South Korea have ambitious plans to make their universities more competitive. Singapore has also become home to a number of world-class institutions and business schools seeking a foothold in Asia. To be among the best, NTU is competing with the world's best universities for faculty and students. Several initiatives that we have embarked on or are now undertaking will strengthen our competitive position.

In the past year, we have made considerable progress in our drive for research excellence. A major achievement is the winning of a \$150 million grant from the National Research Foundation and the Ministry of Education (MOE) to set up the Earth Observatory of Singapore. Staffed by eminent experts, this research institute will put Singapore on the world map in the earth sciences, creating knowledge that will help countries in Southeast Asia and elsewhere to meet the great environmental challenges of the 21st century. We have also won many more competitive research grants from agencies such as the Ministry of Education, Agency for Science, Technology and Research (A\*STAR) and the National Medical Research Council. Collaboration with global industry players like the Bosch Group and Rolls-Royce has also added significantly to our research scope, linkages and resources.

The Blue Ribbon Commission on Undergraduate Education that was formed a year ago has completed a fundamental, bottom-up review of undergraduate education in the University. The Commission identified the core attributes that the NTU graduate should possess as someone who has been educated in a holistic manner and recommended ways to impart such an education. Implementation of its recommendations will bring about far-reaching reforms to the way we educate our students, equipping them to thrive in the new knowledge-based economy.

With growth in our undergraduate student enrolment moderating from the rapid pace of the last few years, we have an opportunity to consolidate this growth and focus on improving our academic programmes. Our student profile will also change as we increase up our intake for PhD programmes to boost our research drive.

Having gone through two phases of campus development in the last two decades, the University has now reached a point where another major undertaking in physical development is necessary. Providing a holistic residential education is an important aspect of and is integral to our mission of nurturing creative and entrepreneurial leaders. We are developing a master plan to create a unique residential campus that will be a vibrant cultural and scientific hub, a draw for students from all over Singapore and beyond, faculty from all over the world and residents from western Singapore. Besides physical infrastructure, we will also look into enhancing the accessibility and connectivity of the campus and how to add buzz and vibrancy. We will leverage on technology to create a cool campus for our students and faculty. These are some exciting changes to look forward to in the future. Meanwhile, we are delighted that our Yunnan Garden campus has been chosen to be the inaugural Youth Olympic Village in 2010 and various facility enhancements will be made to prepare the campus for this important event.





The University is cognisant of its service role to the society from which its support and resources are drawn. We share our knowledge and expertise with industry and businesses by way of research collaboration and consultancy services. Our students and faculty have also been active in humanitarian projects and community work in Singapore and abroad. With funding from the Lien Foundation, we started the Lien Challenge this year, a competition that encourages innovative environmental solutions for China. This programme will provide a learning platform for participants to identify and structure real-world projects that will benefit the community in China. We have also been working with the Foundation on improving the living conditions of developing communities in Asia using technology, under the auspices of the Lien Foundation-NTU Environmental Endeavour.

Our alumni network has grown larger and wider. Eight new alumni associations were formed in China and Thailand during the year, bringing the total number of alumni associations to 34, which are scattered across Singapore, India, Indonesia, Thailand, the United Kingdom and Vietnam. We reach out actively to our alumni community, now 113,530 strong, through various avenues and events. I am pleased to see a higher level of engagement and support from our alumni. More alumni are making donations to the University and in larger amounts. Some have also contributed their time to serve the University community in various committees and as guest speakers at University events.

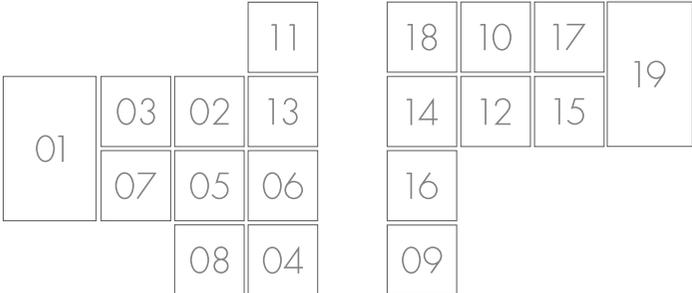
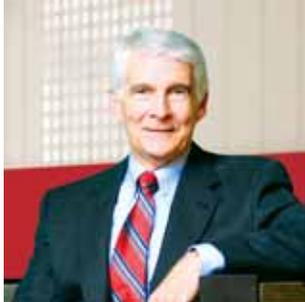
The University has made significant progress in the last few years. Focusing on becoming a great global university founded on science and technology has helped to align our strategies and efforts. Much of what we have done and are doing, notably in building up research capabilities and transforming our education offerings, is laying the foundation for future success. With the support of our stakeholders, the University will continue to grow, even in the face of ever-increasing competition and attain the high standards that we have set for ourselves.

**Mr Koh Boon Hwee**  
**Chairman, Board of Trustees**  
**Nanyang Technological University**

# Board of Trustees



Chairman





**01. Mr Koh Boon Hwee**  
Chairman  
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Managing Director,  
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**03. Mr Edmund Cheng**  
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**13. Prof Haresh Shah**  
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**19. Dr Su Guanng**  
President  
Nanyang Technological  
University

# President's Message



“The University aspires to produce graduates who are well educated and who have not just the knowledge and capabilities but also the moral character and leadership qualities to be a cut above others.”

The past year has been a fruitful and rewarding time for NTU. We have made great strides in research and education, as well as in attracting talent to the University.

We are pleased that a number of established, international academic figures joined the University in the past year. Professor Jitendra Singh, formerly Vice-Dean of Wharton School, University of Pennsylvania, now heads the Nanyang Business School as Dean. Professor Kerry Sieh, a world renowned seismologist, has also joined us to lead the Earth Observatory of Singapore, a research centre of excellence co-funded by the National Research Foundation, Ministry of Education and the University. The centre will study the fundamental tectonic, volcanic and climatic processes that are responsible for natural hazards in Southeast Asia and the world, and hence help communities to prepare for such environmental challenges.

Even as we bring in academic heavyweights to initiate and steer research and academic endeavours in the University, we have introduced initiatives to recruit young, outstanding researchers from all over the world who can develop to become future stars of NTU. Our Nanyang Assistant Professorship scheme has proved very successful in this regard. Our talent search extends to outstanding post-doctoral fellows at the University, the best of whom may be offered faculty positions. All these will serve to enhance the quality of our faculty, which is supported by a rigorous and multi-level process for faculty promotion and tenure review that we introduced this year.

The University aspires to produce graduates who are well educated and who have not just the knowledge and capabilities but also the moral character and leadership qualities to be a cut above others. We are embarking on some major changes to the way teaching and learning are conducted at the undergraduate level based on the recommendations of our Blue Ribbon Commission on Undergraduate Education, which has completed its study recently. Under the chairmanship of our Board member, Emeritus Professor Hareesh Shah, the Commission considered aspects such as the desired attributes of NTU graduates, the type of curriculum that would help develop such attributes, the pedagogies that will promote active and lifelong learning, and how the key strengths of the University can be tapped to enhance the undergraduate learning experience.





The recommendations of the Commission are wide-ranging and aim to enhance, among other things, the quality of faculty; excellence in teaching and effectiveness in learning; the undergraduate curriculum; learning beyond the classroom; campus life and residential education; lifelong learning and employability; as well as the support and services that the University administration provides. They form a blueprint for the development of undergraduate education within NTU. The benefits are significant and far-reaching: we will be able to pride ourselves as an institution that provides a total education that ensures the all-round development of an individual.

Three new undergraduate programmes were introduced in AY08. These are the double degrees in Engineering and Economics, Accountancy and Business, and the degree in Linguistics and Multilingual Studies.

In broadening our students' education, they are encouraged to take up minors not associated with their area of specialisation. An example is the offering of a Minor in Chinese Herbal Medicine in response to the heightened interest in this subject and its increasing relevance in the pharmaceutical industry.

NTU's graduate programmes have also seen considerable progress. Our MBA programme was ranked 46th in the 2008 Financial Times' 100 MBAs, jumping up from the 2007 ranking of 67. This is the first time that an MBA programme from a Singapore business school has been ranked among the top 50 worldwide and this puts NTU ahead of several world-renowned universities.

The University has continued to establish strategic alliances with leading institutions and with the industry, at both the multilateral and bilateral level. We led the creation of the Global Alliance of Technological Universities, which counts among its members reputable science and technology universities from the US, UK, Switzerland, India and China. This is in addition to our rich network of partnerships with world-class universities, which includes recent additions such as Georgia Institute of Technology, Karolinska Institutet, Indian Institute of Technology Kanpur, Shanghai Jiaotong University, just to name a few.

Collaboration with industry players is another area where we have been active. We have recently partnered with the Bosch Group, which opened its Asia-Pacific Research and Technology Centre at NTU. We are indeed honoured to be the only university besides Stanford University to host a Bosch research centre. Other recent collaboration partners include Rolls-Royce, European Aeronautic Defence and Space Company (EADS), Regency Steel Asia Pte Ltd, ST Kinetics, and Sembcorp Industries Ltd. The wide-ranging areas of co-operation include research in fuel cell technology, aeronautics, and water and waste management.



The University has won many more research grants on a competitive basis. We were awarded funding for 30 research projects by the Ministry of Education as part of the Academic Research Fund Tier 2 grant calls in FY07, a significant increase from the 11 we won in FY06. The latest round of grant calls in 2008 saw a further 16 grants awarded to NTU. Our funding from A\*STAR also increased from 36 projects in FY06 to 55 projects in FY07. On the biomedical front, we won funding for 4 projects in the November 07 grant call of the National Medical Research Council.

This year we introduced a prestigious award, the Nanyang President's Graduate Scholarship to attract talented graduates to pursue PhD studies at the University. The bond-free scholarship is open to outstanding students of all nationalities. We have so far received 112 applications for the award of which 38 have been successful.

Another milestone that was achieved is the establishment of the Academic Council as a consultative body comprising all tenure-track faculty. A 50-member Senate has been elected to represent and act on behalf of the Council. This new institution recognises the important role that the faculty traditionally plays in academic governance. As an official faculty body of the University, the Council provides ballast and stability and, most importantly, an independent voice for academic excellence.

Donations received by the University grew by 26 percent to \$41 million (\$72 million with government matching) in the year ended 31 March 2008 over the previous period. A larger proportion of alumni contributed and the average donation per person increased significantly. This was in part due to good response to our Graduation Class Gift programme and the Alumni Giving Campaign. Of the various fund-raising initiatives, a key one was the establishment of the \$20 million Lien Ying Chow Legacy Fellowship fund through a gift from the Lien Foundation. The joint initiative by NTU and Lien Foundation promotes trust between China and Singapore by grooming their emerging leaders through intellectual, cultural and social exchange.



Four distinguished international personalities have joined our alumni ranks as recipients of Honorary Doctorates from the University. The awards recognise their academic and professional achievements, as well as contributions to their respective fields and the University. Dr A P J Abdul Kalam (President of India 2002 – 2007) and Professor Jose Luis Encarnacao from Fraunhofer Institute for Computer Graphics were conferred the honorary degree of Doctor of Engineering. Professor Chua Nam Hai, Head of the Laboratory of Plant Molecular Biology of Rockefeller University, and Professor Yang Chen Ning, Nobel Laureate Physics (1957) were conferred the honorary degree of Doctor of Science.

To further support the growth of the University and facilitate its pursuit of academic excellence, an initiative is also underway to develop a strong and forward-looking university administration. This will be kicked off through a few high leverage projects aimed at faculty and students, with focus in the areas of finance, procurement and human resources.

“ Under the guidance of our Board of Trustees and with the combined effort of students, faculty, staff and other key stakeholders of the University, I am confident that NTU has what it takes to make the next leap, to become a research-intensive university in the first league, setting international benchmarks in research quality and educational standards. ”



We have made exciting progress this year and the future promises to be just as dynamic, full of new opportunities and interesting developments. A significant high profile event that we look forward to is the hosting of the inaugural Youth Olympic Games in 2010. Sports are a big part of the NTU experience for our students and faculty. Playing host to and interacting with world-beating athletes will be an exciting and meaningful experience for the NTU community.

We have built up a good momentum in pushing up the level of research, attracting world-class faculty, winning competitive research grants and establishing research partnerships. To continue with this drive to excellence, we look forward to anticipate and lead change. To stay at the forefront of teaching and educational standards, we have set in motion the revamp of our undergraduate education ahead of the time when change is required. We aim to transform the administrative structure and foster a shared understanding of the strategic goals of the University, and to build an organisation that is nimble and responsive. Under the guidance of our Board of Trustees and with the combined effort of students, faculty, staff and other key stakeholders of the University, I am confident that NTU has what it takes to make the next leap, to become a research-intensive university in the first league, setting international benchmarks in research quality and educational standards.

**Dr Su Guanng**  
**President**  
**Nanyang Technological University**

# Calendar of Events

AUGUST 2007 - OCTOBER 2007



The beginning of the academic year promises a new start for students, and for freshmen in particular, heralds the start of their undergraduate adventure. To celebrate this very special occasion, the Freshmen Welcome Ceremony was held to welcome new students to the NTU family.



The prestigious Lien Ying Chow Legacy Fellowship was established in September 2007, poised to further strengthen Sino-Singapore ties by grooming their emerging leaders through intellectual, cultural and social exchange. The fellowship was established through a gift of \$20 million (with government matching) from the Lien Foundation.



More than 550 alumni from the Classes of 1960, 1962, 1965, 1967, 1967, 1972, 1977, 1987, 1992, 1997 and 2002 celebrated their 49th, 47th, 42th, 40th, 35th, 30th, 20th, 15th, 10th and 5th anniversary reunions in separate events in September. In celebration of the homecoming, class plaques bearing their respective class years were laid in the NTU Quadrangle.



The official launch of the Temasek Laboratories at NTU (TL@NTU) and the Electromagnetic Effects Research Laboratory (EMERL) marked the momentous milestone of two decades of remarkable partnership between NTU and the Ministry of Defence.



The "Discover Europe 2007" bridged students and faculties in venturing and discovering the academic and professional opportunities in European Union.



NTU Alumni Night honoured 24 outstanding alumni and celebrated the special ties which bind the alumni and the University.



The Ministerial Forum 2007, organised by the NTU Students' Union, drew a packed audience with Minister Mentor Lee Kuan Yew as the invited speaker.

## NOVEMBER 2007 - JANUARY 2008



NTU spirit flew high as the NTU Alumni Association was launched in Beijing and Shandong, further strengthening the strong global alumni network.



Nobel Laureate Prof CN Yang and renowned Chinese artist Prof Fan Zeng delivered an inspiring talk on the interpretation of "beauty" at the public lecture organised by NTU and Lianhe Zaobao.



Pre-University students were given an unequalled opportunity to do research under the retooled Nanyang Research Programme.



NTU's film students embarked on a first-of-its-kind wildlife filming expedition in Shangri-la, China and filmed the Tibetan Mastiffs and the Black Necked Cranes.



Extending its global reach, NTU formed an alliance with the world-renowned Indian Institute of Technology Kanpur (IITK) in India to advance research and development.



Mr S Chandra Das received his appointment as NTU Pro-Chancellor from Mr S R Nathan, President of the Republic of Singapore and Chancellor of NTU.



The newly launched NTU Assessment Centre enabled students to make informed career choices by helping them discover their potential and capabilities at work.

## FEBURARY 2008 - APRIL 2008



The horizons for NTU's premier engineering programmes were broadened by the joint research agreement with the US Air Force Academy (USAFA), the first with a non-American university.

## FEBURARY 2008 - APRIL 2008

### Signing of Memorandum of Understanding



NTU and aerospace giant EADS sealed an R&D and training pact, with EADS sponsoring scholarships for top students from the School of Mechanical & Aerospace Engineering.



NTU's range of collaborative initiatives continued to grow with the addition of the Rolls-Royce Fuel Cell Systems (RRFCS) Process Engineering and Verification Facility to the Yunnan Garden campus.



NTU successfully raised \$200 million in its 21st Century Fund Campaign, made possible through the generous donations from the community: corporations, foundations and individuals.



NTU was awarded \$150 million to set up the Earth Observatory of Singapore which would proactively forecast and mitigate the triple threat of earthquakes, volcanoes and global warming.



Singapore's efforts in environmental and water technologies (EWT) received a boost with the official launch of the Nanyang Environment & Water Research Institute (NEWRI) at NTU.



The Institute of Media Innovation was launched in support of NTU and Singapore's drive to be at the forefront of interactive and digital media.

MAY 2008 - JULY 2008



NBS students won the International Undergraduate National Case Competition held at John Molson School of Business, University of Concordia, Canada. This remarkable win placed NTU and Singapore on the international case competition map.



50 Academic Council members were elected to the Senate at the university's inaugural Election of Senate 2008. This marked the start of a new Academic Governance in NTU.



Regency Steel Asia established a \$3 million fund at NTU to promote sustainable construction through steel research.



NTU's Debating Squad outperforms seven-time champion, Ateneo de Manila University (ADMU) from the Philippines as well as teams from our local universities, to win the 4th Asian Universities Debating Championship (AUDC) 2008.



European Union Centre opened the one-stop centre for research and exchanges at NTU @ one-north.



NTU Cultural Activities Club (CAC) Choir struck a chord with audiences at the Festival of Songs 2008 in Olomouc, the Czech Republic, and earned a coveted Gold medal. They were also named overall champion in the "Folklore a capella for youth and adult choirs" category.



Congratulations, Class of 2008! NTU celebrated the achievements of some 8,138 members of the Class of 2008, its largest ever graduating cohort.



Professor Chua Nam Hai accepted his honorary doctorate, Doctor of Science (Honoris Causa), from NTU Chancellor Mr S R Nathan, President of Singapore.



Professor Jose Luis Encarnacao accepted his honorary doctorate, Doctor of Engineering (Honoris Causa), from NTU Chancellor Mr S R Nathan, President of Singapore.



Dr A P J Abdul Kalam (President of India 2002-2007) accepted his honorary doctorate, Doctor of Engineering (Honoris Causa), from NTU Chancellor Mr S R Nathan, President of Singapore.



Professor Yang Chen Ning accepted his honorary doctorate, Doctor of Science (Honoris Causa), from NTU Chancellor Mr S R Nathan, President of Singapore.



As many as 233 China-based graduands from six China-focused executive programmes were conferred their master's degrees at NTU's third overseas convocation in Chongqing, China.

# Education





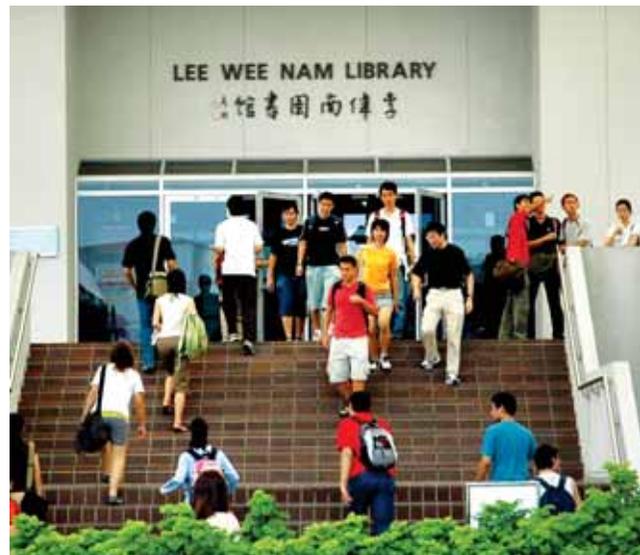
A transformational education experience that not only emphasises academic scholarship but also helps our graduates become entrepreneurial, creative and innovative intellectuals and leaders through character building and nurturing cultural intelligence.

### Class of 2007

Our 2007 graduates were in great demand by industry. In all, 81% of our 4,847 graduates secured employment even before graduation and 98% obtained full-time employment within four months of graduation. Apart from being able to secure employment earlier, our 2007 graduates were also able to command an 8% higher starting salary as compared to last year.

### Blueprint for the development of Undergraduate Education

The New Undergraduate Experience (NUE) launched in 2003 introduced many changes in the undergraduate experience. Students have a wide range of options and electives, as well as specialised programmes, double degrees and majors and minors to choose from. As these innovations were based on the existing structure and constraints, President NTU convened the Blue Ribbon Commission on Undergraduate Education in 2007 to review all aspects of undergraduate education in the university. The Commission was chaired by the Academic Affairs Committee Chairman and Board Member, Prof Hareesh Shah. After intense deliberations, interviews, consultations, comparative reviews and analyses, the Commission has made wide-ranging and far-reaching recommendations that would build on the NUE initiatives and fundamentally change the nature of undergraduate education when fully implemented.



### **New Undergraduate Offerings**

Our philosophy is to provide a broad-based quality education to all our students, challenge them to develop to their fullest potential and acquire high level skills and the desired attributes to excel and lead in a new environment upon graduation from NTU.

In line with our mission to nurture creative and entrepreneurial leaders through a broad-based education in diverse disciplines, we continue to provide new programme offerings and options.

Three new undergraduate programmes were introduced in AY08. These are the double degrees in Engineering and Economics, Accountancy or Business, and the degree in Linguistics and Multilingual Studies.

In broadening our students' education, they are encouraged to take up minors not associated with their area of specialisation. An example is the offering of a minor in Chinese Herbal Medicine in response to the growing interest in this subject and its increasing relevance in the pharmaceutical industry.

### **Global Immersion Programme (GIP)**

The GIP is initiated as a component of the New Undergraduate Experience in NTU. It aims to provide NTU students the experience of studying and working abroad.

Through this programme, NTU students will have the opportunity to gain an edge in their future careers, build a global network and achieve significant personal development by spending a semester abroad in countries such as China, India, France, Vietnam, Switzerland and the United States of America. Students going to China, India and Vietnam also have the opportunity to be professionally exposed to multinational companies, leading companies and start-ups in well known hi-tech parks. So far, about 1000 undergraduates have gone through the GIP.



### **Temasek Foundation – NTU Leadership Enrichment and Regional Networking (TF-NTU LEaRN) Programme**

The TF-NTU LEaRN programme, funded by Temasek Foundation, offers some 140 study awards to students in NTU and its partner universities in Asia on exchange programmes. Valued at almost a million dollars in total, the programme aims to develop the leadership capacity of the award recipients through inbound and outbound immersion opportunities, including overseas study, professional work and community service attachments.

### Graduate Education

Graduate education remains an integral part of our educational offering, not just in terms of its research component but also because of the emphasis placed on upgrading at the national level.

We have also made significant progress, particularly in our MBA programme. Our Nanyang MBA programme has been highly rated in terms of international mobility, student diversity, international exposure and value for money.

The MBA curriculum is constantly updated to reflect the latest industry practices. Some of the latest revisions include:

- a new specialisation in International Studies offered in collaboration with S. Rajaratnam School of International Studies.
- cross-listing of courses from ESSEC Asian Centre in Singapore, giving MBA students a wider choice of courses.

We are also reviewing the breadth, quality and cost-effectiveness of our Masters by coursework programmes, which are geared towards the needs of the industry, to ensure their continuing relevancy.

### Making Our Impact In China

With our heritage, we have established deep linkages with China. Our graduate programmes answer a call in China for graduate programmes and are attended by senior government officials and influential business people across all provinces and regions in China. Notable highlights include:

- 129 Senior Chinese officials attended our Master of Public Administration (MPA) and Master of Science in Managerial Economics
- The Nanyang EMBA offered in collaboration with Shanghai Jiaotong University is the top joint EMBA programme in China
- The Master of Science (Finance) focusing on finance professionals in investment banking and trading received much interest as demand is high for such talent in China.





### Service to the Community

Lien Foundation extended its funding for three years to establish and support the Lien Challenge – an initiative that leverages NTU’s technological know-how, and Lien Foundation’s experience in water and sanitation issues to encourage innovative environmental solutions for China.

Temasek Foundation and NTU teamed with Indonesia’s Universitas Andalas Padang university to bring earthquake-resistance technology to West Sumatra, Indonesia, an area prone to earthquakes. The project, which took place at Lasi Polyclinic in Candung Sub-district of Agam District in West Sumatra, consisted of three parts – strengthening Lasi’s main polyclinic to improve the building’s earthquake resistance, improving sanitation and clean water supply, and training the local masons in good construction practices.

The Lien Institute for the Environment organised the inaugural Waterloo Challenge at the Singapore International Water Week in June 2008 as part of our effort to rally the global community to come up with solutions to post-disaster water and sanitation problems.

Apart from efforts at the institutional level, our students have also been active in organising activities to help the less fortunate. Some of these activities include donation drives by the Hall of Residence 8 to raise funds for Asian Women’s Welfare Association School, fund-raising efforts by the Students’ Union for NTU Students’ Fund and MINDS charity, and a series of cooking workshops with local secondary schools and elderly citizens by Welfare Services Club.

Our faculty members also contribute to the community through consultancy services. These include serving as external examiners to polytechnics and other higher learning institutions in Singapore, advisory committee members of Junior Colleges and polytechnics, and panel members for research funding of external agencies.



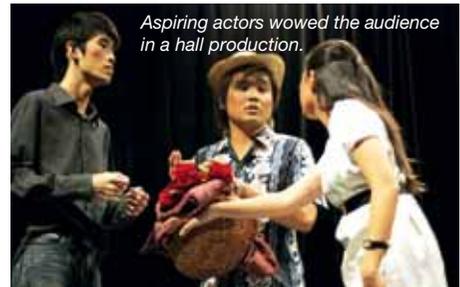
# Campus Life

We develop a close-knit community of students and faculty on campus, in an environment and setting rich in academic, intellectual, cultural and social pursuits and activities.

Students organised activities all year round, resulting in a strong sense of camaraderie and enduring bonds.



*Cyclists cruising along the picturesque campus.*



*Aspiring actors wowed the audience in a hall production.*



*Volleyball members celebrated their triumphant win at Inter-Hall Games.*



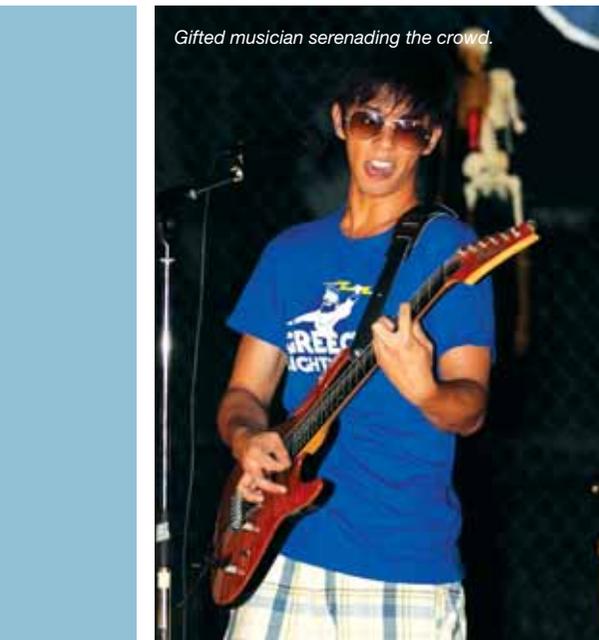
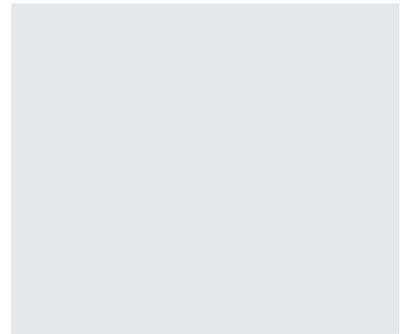
*Grooving to the music of youth.*



*Student talents strutted their stuff at Hall Pageant.*



*Much amusement and laughter at Hall Bash.*



*Gifted musician serenading the crowd.*



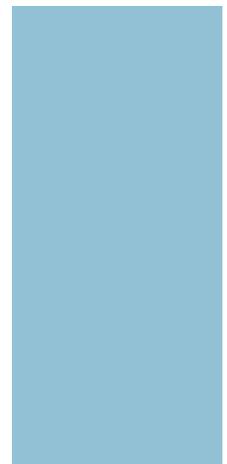
*Vibrant youths having fun.*



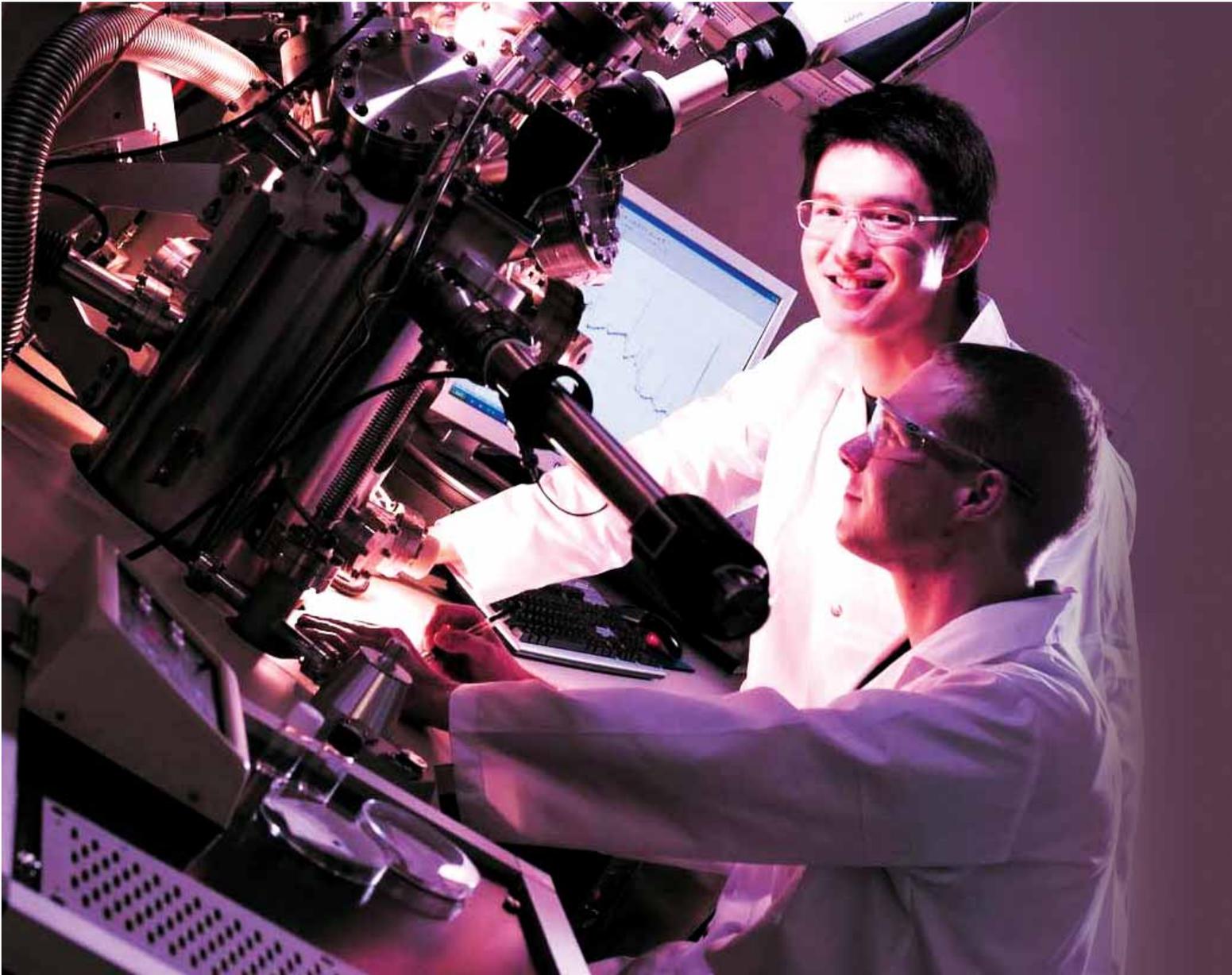
*Students building their physique and strength at taekwondo class.*

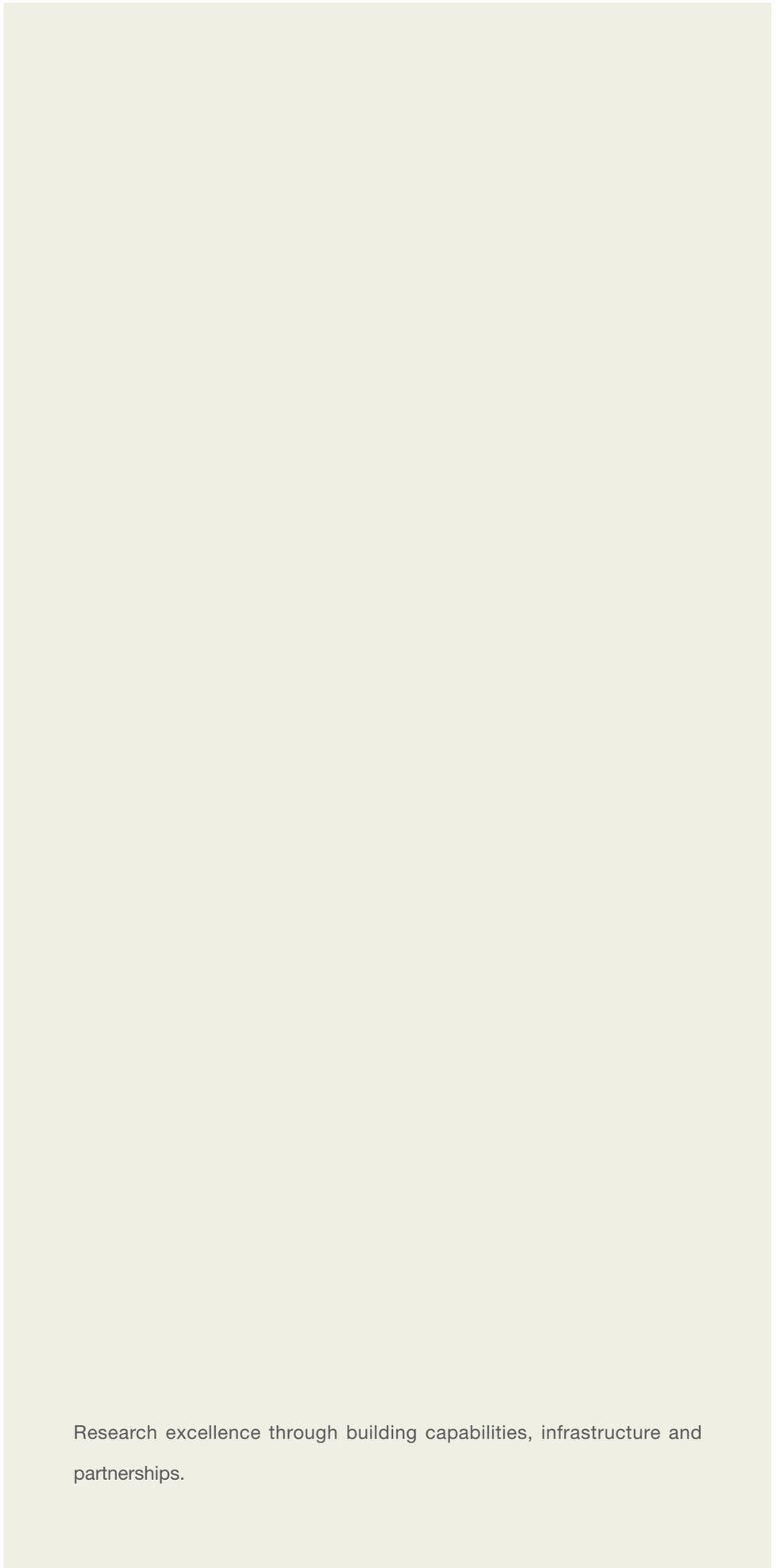
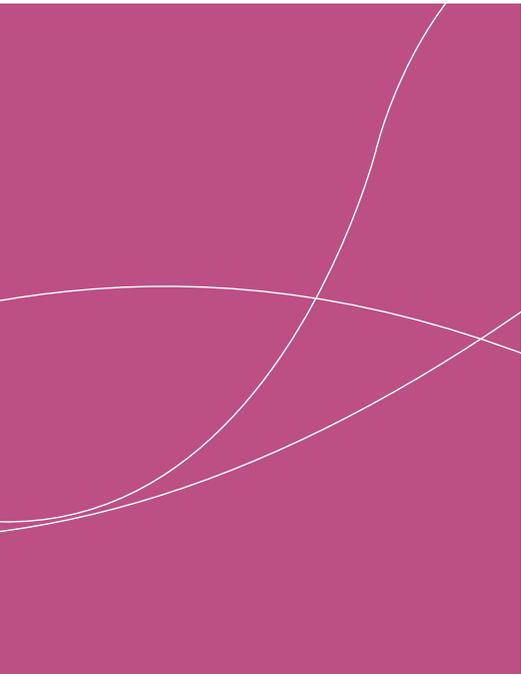


*Merry-making at Hall Anniversary cum Carnival.*



# Research





Research excellence through building capabilities, infrastructure and partnerships.



### **Huge Strides in Our Research Journey**

The period 2007-2008 has been one of significant change in the evolution of research at NTU. We have taken huge strides in several directions to benchmark NTU and compete at a World level.

### **Enhancing Research Quality**

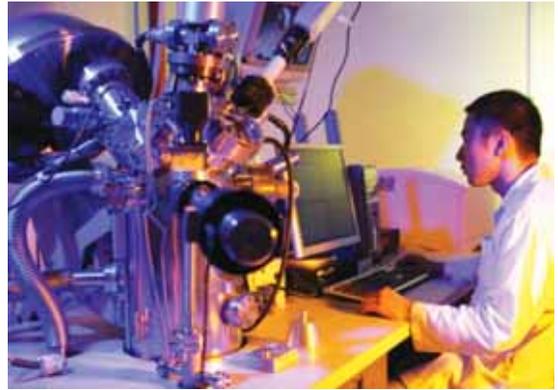
#### **Faculty**

The key to producing quality research is to have quality researchers. We have enhanced our system for appointment, promotion and tenure review of faculty. Standards have been raised to recruit quality faculty and researchers.

The University adopts a multi-pronged approach to building up research talent.

The University has embarked on a systematic world-wide recruitment of top faculty and researchers at senior and junior levels:

- Active recruitment of senior researchers: e.g. International figures that recently joined NTU include Prof Jitendra Singh, formerly Vice Dean at Wharton School, University of Pennsylvania, who heads Nanyang Business School, and Prof Kerry Sieh, world-renowned seismologist, who leads the new Earth Observatory of Singapore
- Nanyang Assistant Professorship (NAP) scheme, which is targeted at young researchers who are within 10 years of their PhD but have established track records in research in disciplines aligned to NTU's strategic interests. Successful candidates will receive up to S\$1 million over three years in research start-up grants to establish their research in NTU. The maiden launch was received with enthusiasm by many excellent researchers from 31 countries. NTU had to make the difficult choice of selecting 10 awards out of a pool of over 300 applicants. A further call launched in July 2008 has attracted nearly 600 applicants.
- 5 out of 10 recipients of the National Research Foundation (NRF) Fellowship chose NTU as the host institution, of which 4 have confirmed their commitment to pursue their research initiatives in NTU. The NRF Fellows can obtain a research grant of up to US\$1.5 million from the NRF over and above their salary.
- Review of the terms and conditions of post-doctoral fellows together with their career paths to attract young, promising PhD graduates to join NTU as researchers.



### Graduate Students

To help boost our research talent, our graduate education is also aligned with the University's research directions and priorities. The University has two new scholarship schemes to attract students to do research PhD programmes in NTU:

- The Nanyang President's Graduate Scholarship (NPGS) is a competitive and prestigious scholarship scheme designed to encourage outstanding graduates or final-year students to take their first step towards a leading research career by studying for a PhD degree programme. The NPGS is specially created with a preference given to local talent who have a First Class Honours degree or equivalent at Bachelor's level. The aim of this Scheme is to make PhD training a more attractive option for Singaporean students.
- The Singapore International Graduate Award (SINGA) programme offers opportunities to international students to pursue their PhD studies in science and technology. SINGA is a collaboration between A\*STAR, NTU & NUS, whose aim is to attract students from non-traditional source countries such as Eastern Europe, Russia and parts of the Middle East to pursue their further study in Singapore. The purpose is to create an internationally diversified community of research students, which will encourage and attract international faculty to work in Singapore. This aligns with the University's push towards research excellence, thus contributing to Singapore's science & technology landscape.

### Quantum Increase in Research Competitiveness

Our increasing competitiveness is evidenced by our success in winning external research grants. So far, we have won half of the 10 Competitive Research Programme (CRP) grants awarded by the National Research Foundation: 2 out of the 6 awarded in November 2007 (as well as a significant share in a collaborative CRP grant with the NUS) and 3 out of the 4 awarded in July 2008. Compared with last year, there has also been a significant increase of 26% in competitive grants awarded to the University by the Ministry of Education's AcRF Tier 2, A\*STAR and the National Medical Research Council.

The most significant of NTU's success in competitive research grants is that of securing its first Research Centre of Excellence (RCE) for the Earth Observatory of Singapore (EOS). This marks a big step forward for NTU in its efforts to become a world-class research-intensive university. Not only does the EOS bring influential and accomplished researchers to NTU and propel research to a higher level, it also introduces the earth and environmental sciences to the University portfolio.

The EOS is given funding of \$150 million over 10 years. It is helmed by world-famous seismologist, Kerry Sieh. He will be joined by Paul Tapponnier, a world-leading tectonicist from the University of Paris, and Chris Newhall, formerly of the US Geological Survey and the foremost authority on Southeast Asian volcanology.



### Strategic Research Directions

- The EOS is established to research several of civilisation's most serious environmental threats: tsunamis, volcanic eruptions, earthquakes, climate change and other natural processes. The Observatory will, among other things, develop new tools for forecasting and outreach, for use throughout Southeast Asia and the rest of the world, hence helping communities to anticipate and adapt creatively to environmental threats.
- We are also prioritising our focus areas to galvanise our resources towards areas in which we have particular strengths and which are in alignment with the national strategic thrusts with the establishment of the Nanyang Environment and Water Research (NEWRI) Institute. This will provide the platform for NTU researchers and other Singapore and international leaders in the environment and water technology. Its Director, Professor Ng Wun Jern, has also become the first Tan Chin Tuan endowed chair.
- We have also promoted inter- and multi-disciplinary style of research in the area of interactive digital media, where we have brought our research efforts together to create the Institute for Media Innovation (IMI). IMI will also serve as a conduit for potential collaborators and investors globally to access IDM efforts here at NTU.
- NTU already has significant research activity dedicated to energy, especially renewable and sustainable energy. This is now being expanded and developed further across all the Colleges and autonomous institutes, including our partnerships with industry, e.g. Bosch and Rolls-Royce Fuel Cells.

### External Peer Review Panel

To ensure the quality of our research proposals, a Research Advisory Committee has been established to function as the independent peer review structure for the University. Chaired by Professor Bengt Nordén from Sweden (the recent past Chair of the Nobel Chemistry Committee), the Committee has six external reviewers as members and comprises six sub-committees.

We have now established an external and independent review of all the research centres and clusters, as is the norm elsewhere and such periodic reviews will be built into their continuation and into any new initiatives.

The operational budget of the Schools is now based on research (and teaching) performance through a system of quantitative and qualitative research 'drivers'. This also applies to the allocation of research scholarships funded through the MoE Research Scholarship Budget.

All our major programmes will have international advisory groups to guide them and ensure that they benefit from the guidance of leading scientists worldwide.

Along with the pursuit of research excellence, NTU is committed to adhering to the highest standards of integrity and ethical behavior in all research endeavours. To this end, we have put in place a research integrity policy based on the highest international standards.

### Establishment of Collaborative Arrangements

We see substantial mileage to be gained from working with leading technologically-based multi-national companies and organisations.

As a global university, NTU actively pursues collaboration with top institutions and organisations in the world. We are leading the creation of the Global Alliance of Technological Universities, a global grouping of leading technologically-based universities that plays an advocacy role for technology in the world. The other members in the grouping are California Institute of Technology (USA); Georgia Institute of Technology (USA); ETH Zurich (Switzerland); Imperial College London (UK); IIT Bombay (India); and Shanghai Jiaotong University (China).

NTU partnered the European Commission, jointly with the National University of Singapore, to set up the first European Union (EU) Centre in ASEAN. The Centre aims to raise awareness of the important partnerships between the EU and Singapore, and the EU and ASEAN, and to boost knowledge and visibility of the EU in Singapore through outreach, education, research and publications.

On the bilateral front, we continued to build on our outreach to China and India. A project undertaken between Xiamen University and NTU's Asia Research Centre was the assessment of China's economic outlook for 2008. This attracted much interest from the Chinese government and the media. Following the Memorandum of Understanding signed with the Confederation of Indian Industry (CII), NTU has explored collaboration with CII centres of excellence and R&D centres.

NTU also gained much by forging partnerships with leading technologically-based industry partners. Some of these collaborative arrangements include:

- **Bosch Group:** Opening of the Group's Research and Technology Centre (Asia-Pacific) in organic photo-voltaics in NTU. This is the only such centre in the world besides the one set up at Stanford University.
- **Rolls Royce:** Opening of a Fuel Cell Facility in NTU with the scope for broadening this collaboration by providing additional funding for competitive research proposals amongst NTU faculty.
- **European Aeronautic Defence and Space Company (EADS), the parent company of Airbus:** Signing of an agreement for the support of scholarships in the aerospace engineering area.
- **Regency Steel Asia (RSA) Pte Ltd:** Setting up of the RSA Fund with a \$1.5 million donation from the company to be used for structural steel research and expertise development.
- **Singapore Technologies Kinetics:** Setting up of Southeast Asia's first research centre in cold spray technologies
- **Sembcorp Industries Ltd:** Development and application of cutting-edge technologies for water and waste water management
- **United States Air Force Academy (USAFA):** This is the first time that NTU has embarked on collaborative research with the USAFA is embarking on research collaboration with a university-at-large outside the United States. The collaboration will advance research in the range of common disciplines between the two institutions and enhance education experiences for students of both organisations.

#### Other collaborative highlights

- To add a new dimension to the Asian disability sports scene, Nanyang Technological University (NTU) and Disability Classification and Research Centre (DCRC) have signed a Memorandum of Understanding (MOU) to formalise and spearhead joint research and development in disability sports technology, and to grow the pool of sports engineering researchers in Singapore and the region.
- The Maritime Research Centre of Nanyang Technological University (NTU) signed a Memorandum of Understanding (MOU) with the Engineering Research Center of Container Supply Chain Technology, Ministry of Education, China at Shanghai Maritime University (SHMU). The MOU will provide a framework for both institutions to collaborate on specific R&D and training activities. Under the theme of “Technology for the Future Port”, the areas of R&D include technology for automation of container operations, green port and green ships, shipping operations, marine operations, and shipyard operations.
- Minister for Defence Mr Teo Chee Hean officiated at the opening ceremony of Temasek Laboratories at Nanyang Technological University (TL@NTU) and the Electromagnetic Effects Research Laboratory (EMERL) on 7th September 2007. The opening of the two laboratories at NTU marks a significant milestone in the strategic partnership between the Ministry of Defence (MINDEF) and NTU as it enters into its 20th year. Together with DSTA and DSO, TL@NTU and EMERL will continue to stretch the boundaries of science and technology to augment the defence R&D capabilities of Singapore.
- Nanyang Technological University (NTU) has established the Institute for Sustainable Nanoelectronics (ISNE), an initiative aimed at designing and developing the next generation of embedded IC chips which will consume over 100 times less energy and cut its design and production costs. The Institute will receive seed funding of S\$4m over two years from NTU. ISNE’s strategy will be directed by Professor Krishna Palem, the Ken and Audrey Kennedy Professor in Computer Science at Rice University in Houston
- Nanyang Technological University (NTU) and Chartered Semiconductor Manufacturing Ltd. (Chartered), one of the world’s top dedicated foundries, announced the opening of Chartered@NTU, a 100 square-metre joint laboratory set-up by the two organisations, to promote technology exchange and collaboration for joint research and development projects. The focus of the research is cutting-edge nano-scale complementary metal-oxide-semiconductor (CMOS) process technology and reliability. An extension of an existing research partnership between NTU and Chartered, Chartered@NTU is situated in NTU’s School of Electrical and Electronic Engineering.
- Nanyang Technological University (NTU) extends its international outreach through research collaboration with world-renowned Indian Institute of Technology Kanpur (IITK). Together with the Indian Institute of Technology Delhi (IITD), IITK is part of the seven Indian Institutes of Technology (IITs) which are well-known for their world-class research. As part of this MOU, a variety of collaborative activities between NTU and IITK will be developed in the near future.
- The Singapore Land Authority (SLA) and Nanyang Technological University’s (NTU) School of Civil and Environmental Engineering have signed a Memorandum of Understanding (MOU) to conduct co-operative research and development, and co-operative education in the area of geospatial information science and technology.



### Sustained Emphasis on Innovation and Entrepreneurship

Innovation and entrepreneurship have traditionally been a focus for the University and continue to be an integral part of the University's strategy. Our collaborations with industry players, especially such leading companies as the Bosch Group, Rolls Royce, EADS and Thales, are very much a part of our commercialisation, innovation and entrepreneurship thrust. They bring about two-way technology transfer and cross-fertilisation of ideas between the University and industry, which are instrumental in driving more industry-relevant research.



One achievement is the joint development of ReeTrakt with California-based Inshightra Medical Inc. ReeTrakt is a new generation of disposable soft-tissue surgical retractor systems designed to minimise tissue trauma, optimise retraction force and lower risk of infection. ReeTrakt has now been launched commercially in 20 countries worldwide. Because of the versatility of ReeTrakt's design, which can be customised to cater to a wide variety of surgical procedures, it is anticipated that ReeTrakt will eventually be used in dozens of types of surgical procedures on a global basis. Separately, Nanofrontier Pte Ltd, an NTU wholly-owned R&D company, collaborated actively with overseas start-up companies such as Analytical Nanotechnologies (UK) PLC and Roar Particles Ltd (PLC), and is attracting such companies to carry out their R&D in Singapore.

NTU Ventures Pte Ltd launched an incubation scheme to assist and promote the formation of NTU start-up and spin-off companies, leveraging on two government funding schemes, Spring Singapore's Entrepreneurial Talent Development Fund and the Media Development Authority's Microfunding Scheme. Through the incubation scheme, NTU Ventures is able to play a more proactive mentoring role in business incubation to expedite the exploitation of NTU technologies. The scheme has assisted in the formation of seven start-up companies.

Among the start-up companies are two that were formed by faculty to commercialise the technologies they have developed: One is a service company based on software for modelling the spread of infectious diseases within a hospital environment and the other is an animation company providing software for computer-assisted cel animation.

Beyond these achievements, the University has also been actively engaging companies on their interest in licensing its technologies. Recently, it has signed commercialisation agreements for technologies in the areas of medical devices, software, fingerprint recognition technology and microfluidic sensors.

The University continues to strengthen its education programmes in innovation and entrepreneurship. A new track in innovation and technopreneurship was introduced into the Applied Physics programme, allowing students to supplement their strong technical know-how acquired from their core programme with entrepreneurial skills for the technology marketplace. The Masters of Science in Technopreneurship & Innovation Programme continues to groom entrepreneurs and talent for enterprises. Among those who graduated from the programme in July 2008, 51 percent joined small and medium enterprises to help grow and develop such ventures, and 27 percent started businesses.

# ENROLMENT

AY 2007/08 Enrolment by College

COLLEGE	UNDERGRADUATES	GRADUATE STUDENTS COURSEWORK	GRADUATE STUDENTS RESEARCH	GRADUATE DIPLOMA
Business (Nanyang Business School)	3,509	529	52	-
Engineering	11,545	1,699	1,833	64
Humanities, Arts & Social Sciences	2,490	681	85	17
Science	2,211	-	284	-
NIE	1,025	1,604	272	1,392
Others <sup>1</sup>	-	191	8	32
<b>TOTAL</b>	<b>20,780</b>	<b>4,704</b>	<b>2,534</b>	<b>1,505</b>

*There are 574 part-time undergraduate and 59 part-time graduate diploma students. A total of 747 and 3,189 graduate research and coursework students take part-time programmes respectively.*

# GRADUATES

AY 2007/08 Graduates by College

COLLEGE	FIRST DEGREE GRADUATES	HIGHER DEGREE GRADUATES
Business (Nanyang Business School)	1,155	301
Engineering	3,127	1,156
Humanities, Arts & Social Sciences	220	351
Science	184	24
NIE	225	431
Others <sup>1</sup>	-	169
<b>TOTAL</b>	<b>4,911</b>	<b>2,432</b>

*1 Others include Nanyang Technopreneurship Centre and S.Rajaratnam School of International Studies.*

# OUR PEOPLE

## OUR PEOPLE

Faculty	1,580
Research Staff	1,057
Management Staff	582
Support Staff	1,622
<b>TOTAL</b>	<b>4,841</b>

## FACULTY PROFILE

Professor	99
Associate Professor	604
Assistant Professor	558
Lecturer	116
Visiting Faculty	106
Others	97
<b>TOTAL</b>	<b>1,580</b>

*Our faculty members come from 47 countries. Above figures are as at 31 March 2008 (excludes Adjunct faculty).*

# Alumni & Benefactors

## Alumni Population

At the end of AY07/08, NTU has an alumni population of 119,455 spanning some 90 countries, made up of graduates from multiple generations to form a tightly knit alumni community.

## Alumni Chapters

Much effort was put in setting up overseas alumni chapters across the globe to rekindle bonds and forge close relationships with our alumni either residing or working overseas. 6 more chapters were formed in AY07/08 bringing the number of overseas alumni chapters to 13 in total.

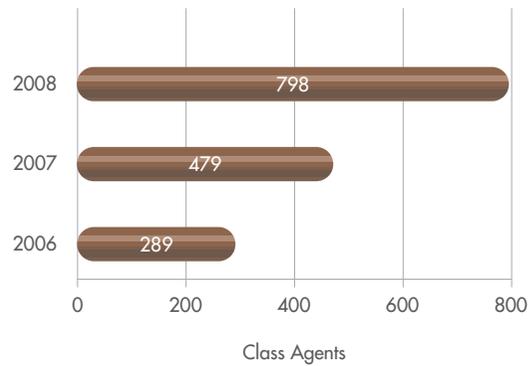
These overseas chapters provide the platforms for our alumni based in the respective countries to network and actively participate in their activities and maintain their ties with the university.

- (a) NTU Alumni Association (Beijing)
- (b) NTU Alumni Association (Chongqing)
- (c) NTU Alumni Association (Guangdong)
- (d) NTU Alumni Association (Hubei)
- (e) NTU Alumni Association (Indonesia)
- (f) NTU Alumni Association (Jilin)
- (g) NTU Alumni Association (Liaoning)
- (h) NTU Alumni Association (Mumbai)
- (i) NTU Alumni Association (Shandong)
- (j) NTU Alumni Association (Shanghai)
- (k) NTU Alumni Association (Thailand)
- (l) NTU Alumni Association (United Kingdom)
- (m) NTU Alumni Association (Vietnam)



### Engaging the Alumni

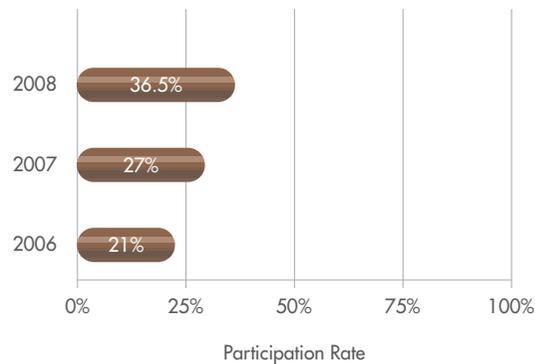
About 800 alumni have been appointed as Class Agents to assist NTU in engaging their fellow classmates for support and participation in alumni and university-wide activities. The Class Agent was introduced to strengthen alumni-University tie and build a sense of community among the Nanyang graduates.



The university also leveraged on alumni for their invaluable experience and insights. In addition to participating in admissions and bursaries interviews, the alumni were regularly engaged in the development of the university through dialogue sessions for the Blue Ribbon Commission and the Campus Master Plan, among other initiatives.

### 2008 Graduation Giving Campaign

More graduating students are giving back to their alma mater. From cohort participation rates of 21% in 2006, 27% in 2007, the 2008 Graduation Giving Campaign achieved 36.5% participation rate. Far more important than the amount contributed is the spirit of giving and the greater awareness among graduating students of the need to give back to benefit future cohorts.



### **Nanyang Alumni Awards**

The Nanyang Alumni Awards are conferred on alumni who have either attained exemplary achievements in their field of specialisation nationally, regionally or internationally, or have contributed significantly to the betterment of the University, the community or the society at large.

In 2007, we congratulated and saluted 24 of our exceptional alumni!



### **The Nanyang Distinguished Alumni Award**

This is the highest honour bestowed upon the alumni of the University, to recognise the truly remarkable accomplishments of alumni who have gained national, regional or international distinction as outstanding exponents of their chosen fields or professions, and whose endeavours reflect admirably on, or bring honour to the University.



#### **Mr Ch'ng Jit Koon**

Mr Ch'ng graduated from Nanyang University with a Bachelor of Arts (Economics and Political Science) in 1960. He was a Member of Parliament for 28 years. He retired as the Senior Minister of States for Community Development in 1996. Over the years, Mr Ch'ng offered valuable support to NTU initiatives, such as the Tan Lark Sye and E W Barker Professorships and RSIS Endowment Fund. He was also Chairman of the Fund Raising Committee for the NTU 21st Century Fund.



#### **Tan Sri Dato' Lim Guan Teik**

Tan Sri Dato' Lim graduated with a Bachelor of Commerce degree from Nanyang University in 1961. His involvement with the student union was an early sign of his leadership qualities and social responsibility that have since become synonymous with his name. Tan Sri Dato' Lim's philosophy of "returning to society what one gains from society", was evident with him serving on the boards of various commercial organisations and Chinese associations as well as the Nantah Alumni Associate of Malaya and the establishment of Nantah Education and Research Foundation.

### **The Nanyang Alumni Achievement Award**

To recognise alumni who have gained national standing due to the significant contributions made to their chosen fields or professions that are worthy of recognition and have brought honour to the University, and/or to recognise alumni who have demonstrated extraordinary service, commitment and dedication for the achievement of the University.

- Mr Ang Swee Tian
- Er Lee Bee Wah
- Mr Lim Jim Koon
- Mr R Sinnakaruppan
- Mr Tan Kim Seng

### **The Nanyang Outstanding Young Alumni Award**

To recognise alumni under 40 whose endeavours in their chosen fields or professions are worthy of recognition and have brought honour to the University.

- Mr Chia Choon Hwee Dennis
- Mr Derrick Augustine Paulo
- Ms Lu Rui En
- Ms Shen Bing
- Ms Tan Cheng Yin Esther
- Mr Tay Lee Chye Lester
- Mr Yong Yuen Cheng

### **The Nanyang Alumni Service Award**

To recognise alumni whose dedication and volunteer commitments through alumni clubs/associations or to the University's programmes/activities have significantly enriched the University, so as to encourage continual commitments in the future.

- Dr Chan Yan Chong
- Mr Chua Kok Wei
- Mr Darryl David
- Mr Lie Ngian Keng
- Mr Liew Sing Hun
- Mr Lim Boon Kok
- Mr Low Hing King
- Mr Ng Yok Kuan
- Mr Tan Kin Siong
- Mr Th'ng Beng Hooi

## Creating Opportunities Transforming Lives

### NTU 21st Century Fund

Since its launch in 2001, the 21st Century Fund Campaign has had a great impact on NTU, transforming the University in many ways. The campaign had touched the lives of hundreds of talented students. These included giving our students the means to finance their studies, the opportunity to immerse themselves in diverse work and study environments abroad, and the chance to pursue R&D with great scientists of our times.

The campaign made possible new research centres, visits by Nobel Laureates and world-renowned professors; and many other university priorities. More than mere dollars and cents, the campaign helped our university make a quantum leap in our journey towards excellence while preparing our students for the brightest of futures in today's ever-evolving world.

The 21st Century Fund Campaign also achieved the following:

### **MORE THAN 40 SCHOLARSHIP AND BURSARY FUNDS**

### **MORE THAN 60 AWARDS OF EXCELLENCE**

#### **EIGHT PROFESSORSHIPS:**

- EW Barker Professorship
- Institute of Advanced Studies Lee Kong Chian Distinguished Professor
- Koh Choon Joo Professorship in Education
- MPA Professorship in Shipping Management
- Ng Bok Eng Professorship
- Ngee Ann Kongsai Professorship in Traditional Chinese Medicine
- The Lee Wee Nam Professorship in Life Sciences Fund
- Toh Puan Mahani Idris Daim Chair Professorship in Humanities & Social Sciences

### **SIXTEEN FUNDS FOR CAMPUS INITIATIVES, WHICH INCLUDE:**

- Kiang Ai Kim Endowment Fund
- Lien Chinese Enterprise Research Centre (CERC)
- Lien Foundation-NTU Environmental Endeavour (LIFE & Lien Aid)
- RSIS Endowment Fund
- The Lee Wee Nam Research in Life Sciences Fund
- The Tsao Family Fund
- Wee Kim Wee Legacy Fund

To celebrate this achievement, NTU's Board of Trustees hosted a dinner on 13 March 2008 with President S R Nathan as the guest-of-honour. The evening drew to a close with a musical tribute by NTU alumna and singing talent Ms Stefanie Sun to the many donors present.



# Gifts to the University

April 2007 to March 2008

In FY07/08, NTU received a total of \$72,010,179.53 in gifts from 5,601 alumni and friends (amount raised inclusive of government matching). The University wishes to express its deepest appreciation to all benefactors for their generous gifts. Their spirit of giving helps the University to fulfill its vision to be a Global University of Excellence.

## **S\$5 MILLION AND ABOVE**

Chua Thian Poh  
Singapore Totalisator Board  
Temasek Foundation CLG Limited

## **S\$1 MILLION AND ABOVE**

Lee Hiok Huang	Lee Seng Tee
Lee Hiok Kee Pte Ltd	Lien Foundation
Lee Hiok Tng	Ngee Ann Kongsi
Lee Hiok Woon	Regency Steel Asia Pte Ltd

## **S\$100,000 AND ABOVE**

Asia Capital Reinsurance Group Private Limited	Ong Tiong Tat, Trustee of the Estate of Koh Choon Joo
Char Yong (Dabu) Foundation Ltd	Sasakawa Peace Foundation Japan
Chin Tyng Lei	See Yong Leng
ComfortDelGro Corporation Limited	SembCorp Industries Ltd
Estate of Hee Jau Yong	Shinnyo-en Singapore
Fraser and Neave Group: F&NL, APBL and FCL	Singapore Airlines Limited
Grocery Logistics of Singapore Pte Ltd	Singapore Chinese Chamber of Commerce Foundation
Ho Kiau Seng	Singapore Press Holdings Foundation Limited
Kewalram Singapore Pte Ltd	The Estate of The Late Mr Linn In Hua
Kwan Im Thong Hood Cho Temple	The Ford Foundation
Lee Foundation Singapore	The Singapore Buddhist Lodge
Liew Sing Hun	Wan Boo Sow, Family of the Late
Little India Arcade Pte Ltd	
National Trades Union Congress	
NTUC Income Insurance Co-Operative Limited	

#### **S\$25,000 AND ABOVE**

Agency for Science Technology & Research  
American International Assurance Company Ltd  
AP Oil International Limited  
Applied Materials South East Asia Pte Ltd  
Aquarius Investment Advisors Pte Ltd  
Capitaland Limited  
Chew Peng Keng  
Chiang Ching-Kuo Foundation  
Continental Steel Pte Ltd  
Corus South East Asia Pte Ltd  
Det Norske Veritas Pte Ltd  
Engro Corporation Limited  
ExxonMobil Asia Pacific Pte Ltd  
FMC Technologies Singapore Pte Ltd  
Gunter Dufey  
Hewlett Packard Singapore (Sales) Pte Ltd  
Ho Leng Woon  
IBM Singapore Pte Ltd  
Institute of International Education  
Jobsfactory Pte Ltd  
Keppel Offshore & Marine Ltd  
Lien Lian Sze  
Lien Siau Sze  
Lim Choo Leng  
MacArthur Foundation  
Ministry of Education  
Motorola Foundation  
Neptune Orient Lines Ltd  
NTUC Club  
NTUC Healthcare Co-Operative Ltd

Oversea-Chinese Banking Corporation Ltd  
Professional Engineers Board Singapore  
Public Utilities Board  
R Jayachandran  
Shangri-La International Hotel Management Pte Ltd  
Singapore Indian Education Trust  
Singapore Sogetsu Association  
Singapore Technologies Engineering Ltd  
S R Nathan  
Tan Joo Kee Scholarship Fund  
The Gate Worldwide (S) Pte Ltd  
The Shaw Foundation Pte Ltd  
Thong Teck Sian Tong Lian Sin Sia  
Trustees of the Jacob Ballas Trust Fund  
Wang Hairong  
Yahya Abdulhussain Lukmanji Saif Charity Trust

We also sincerely thank all other donors whom we are unable to acknowledge here for their generous support and commitment to NTU.

# Eminent Visitors

(August 2007 to July 2008)

## NOBEL LAUREATES

### **Prof Claude Cohen-Tannoudji**

Nobel Laureate in Physics, 1997  
Laboratoire Kastler Brossel  
College de France, France

### **Prof Walter Kohn**

Nobel Laureate in Chemistry, 1998  
Professor of Physics, Emeritus and Research Professor  
University of California, Santa Barbara, USA

### **Sir Anthony James Leggett**

Nobel Laureate in Physics, 2003  
John D. and Catherine T. MacArthur Professor and  
Center for Advanced Study Professor of Physics  
University of Illinois at Urbana-Champaign, USA

### **Prof Rudolph A. Marcus**

Nobel Laureate in Chemistry, 1992  
Arthur Amos Noyes Professor of Chemistry  
California Institute of Technology, USA

### **Prof Martin Lewis Perl**

Nobel Laureate in Physics, 1995  
Professor (Emeritus)  
Stanford Linear Accelerator Center, USA

### **Prof Yang Chen Ning**

Nobel Laureate in Physics, 1957  
Emeritus Albert Einstein Professor of Physics at the State University of New York,  
Distinguished Professor-at-Large at the Chinese University of Hong Kong  
Professor  
Tsinghua University, Beijing, China



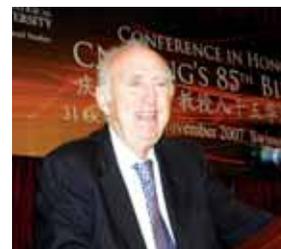
*Prof Claude Cohen-Tannoudji*



*Prof Rudolph A. Marcus*



*Prof Walter Kohn*



*Prof Martin Lewis Perl*



*Sir Anthony James Leggett*



*Prof Yang Chen Ning*



*Dr Harvey V. Fineberg*

## LEE KUAN YEW DISTINGUISHED VISITORS

### **Dr Harvey V. Fineberg**

Lee Kuan Yew Distinguished Visitor, President  
Institute of Medicine  
The National Academies, USA

### **Prof Richard CJ Somerville**

Lee Kuan Yew Distinguished Visitor  
Scripps Institution of Oceanography  
Distinguished Professor Emeritus  
University of California, San Diego, USA

### **Prof Richard Jay Zeckhauser**

Lee Kuan Yew Distinguished Visitor,  
Frank Plumpton Ramsey Professor of Political Economy  
Harvard University  
John F. Kennedy School of Government, USA



*Prof Richard CJ Somerville*



*Prof Richard Jay Zeckhauser*

## EMINENT VISITORS

**Y.Bhg. Prof. Datuk Dr. Nik Mustapha R Abdullah**  
Vice-Chancellor, Universiti Putra Malaysia (UPM), Malaysia

**H.E. Ambassador Pär Ahlberger**  
Swedish Ambassador to Singapore  
Embassy of Sweden, Singapore

**Sir Roy Anderson**  
FRS, Imperial College, UK

**Dr Joseph E. Aoun**  
President  
Northeastern University, USA

**Brigadier General Dana H. Born**  
Dean of the Faculty, United States Air Force Academy, USA

**Sir Leszek Borysiewicz**  
CEO of the Medical Research Council, UK

**Mr Nick Bowen**  
VP, Research Technical Strategy & World Wide Operations  
IBM

**Dr Jean-Lou Chameau**  
President  
California Institute of Technology, USA

**Mr Chen Fu**  
Deputy Chief, Department of Training Programme, Central  
Party School, People's Republic of China

**Prof Chen Liu Ting**  
President of Chongqing University of Posts and  
Telecommunications

**Prof Paul Chu Ching Wu**  
President  
Hong Kong University of Science and Technology,  
Hong Kong

**Prof Chua Nam-Hai**  
**Lee Wee Nam Visiting Professor and Andrew W.Mellon**  
Professor and  
Head Laboratory of Plant Molecular Biology  
The Rockefeller University, USA

**Dr Tim Creedon**  
President, Institute of Technology Tallaght, Ireland

**Prof Michael M. Crow**  
President  
Arizona State University, USA

**Ms Marion Coy**  
President, Galway-Mayo Institute of Technology and  
Chair of Institutes of Technology, Ireland (IOTI), Ireland

**Mr Jim Devine**  
President, Institute of Art, Design and Technology,  
Dun-Laoghaire, Ireland

**Mr Hans Donner**  
Eminent Designer, Brazil

**Dr Ralph Eichler**  
President  
ETH Zurich, Switzerland

**Prof Fan Zeng**  
Renown Artist  
Nankai University, China

**Prof Michael E. Fisher**  
Distinguished University Professor and Regents Professor  
University of Maryland, USA

**Dr Pamela B. Gann**  
President  
Claremont McKenna College, USA

**Dr Zulkarnian Hanafi**  
Senior Special Duties Officer  
Division of Higher Education, Ministry of Health, Brunei  
Darussalam

**Mr Brian Heidecker**  
Chair of the Board of Governors, University of Alberta, Canada

**Prof Kerson Huang**  
Professor of Physics Emeritus  
Massachusetts Institute of Technology, USA

**Rector Ferenc Hudecz**  
President  
Eötvös Loránd University, Hungary

**Dr Steven E. Hyman**  
Provost  
Harvard University, USA

**Mr Ji Yunshi**  
Vice Minister of Ministry of Personnel,  
People's Republic of China

**Dr Maria Klawe**  
President  
Harvey Mudd College, USA

**Prof Dr.-Ing. Matthias Kleiner**  
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German Research Foundation (DFG), Germany

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Claremont Graduate University, USA

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President, National Cheng Kung University, Taiwan

**Prof Lawrence Lau**  
Vice-Chancellor of The Chinese University of Hong Kong  
Kwoh-Ting Li Professor of Economic Development at  
Stanford University  
The Chinese University of Hong Kong and Stanford University

**His Excellency Vibeke Rovsing Lauritzen**  
Ambassador, Royal Danish Embassy, Denmark

## EMINENT VISITORS

**Mr Lars Leijonborg**

Minister for Higher Education and Research  
Ministry of Education and Research,  
Government Offices of Swedish, Sweden

**Mr Lee Kuan Yew**

Minister Mentor  
Prime Minister's Office, Singapore

**Mr Liu Jian**

Chancellor of Huaihai Institute of Technology,  
People's Republic of China

**Prof Dr Miroslav Ludwig**

Vice Rector for Research  
University of Pardubice, Czech Republic

**RAdm(NS) Lui Tuck Yew**

Senior Minister of State, Ministry of Education & Ministry of  
Information, Communications and the Arts, Ministry of  
Education, Singapore

**Mr Haji Mohd Daud Hj Mahmud**

Permanent Secretary (Higher Studies)  
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**Prof Jiri Malek**

Rector  
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**Dr Mary Meaney**

President, Blanchardstown Institute of Technology, Ireland

**Prof Mille Millnert**

Rector of Linköping University, Sweden

**Mr Sunil Bharti Mittal**

President  
Confederation of India Industry, India

**Dr Dingil Noh**

President  
Kyungpook National University, Korea

**His Excellency Richard A. O'Brien**

Ambassador, Embassy of Ireland to Singapore

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President, Athlone Institute of Technology, Ireland

**Sir Keith O'Nions**

Director-General of Science & Innovation, UK

**Prof David Oxtoby**

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Europe

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President  
Board of Swiss Federal Institutes of Technology,  
Zurich/Lausanne, Switzerland

**Prof Wen Xisen**

President of National University of Defense Technology,  
China

**Prof Andrew Yao Chi-Chih**

Turing Award Winner, Professor  
Princeton University and Tsinghua University

**Mr George Yeo**

Minister for Foreign Affairs  
Ministry of Foreign Affairs, Singapore

**Prof Young, Kenneth**

Pro-Vice-Chancellor / Vice-President, Professor of Physics,  
CUHK  
The Chinese University of Hong Kong

**Prof Zhang Wenjun**

Vice President of Shanghai Jiao Tong University,  
People's Republic of China

**Mdm Zhou Jian Ping**

Education Counsellor, People's Republic of China Embassy

Financial Statements





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The full audited financial report can be viewed at the University's website:  
<http://www.ntu.edu.sg/oas2/AnnualRep/2008/index.htm>.

The financial statements as set out on pages 56 to 61 do not contain the Notes to the financial statements.

# Report of Trustees

Year ended 31 March 2008

The Board of Trustees present their report to the members together with the audited financial statements of (the “University Company”) for the financial year ended .

## TRUSTEES

The Trustees in office at the date of this report are as follows:

Mr Koh Boon Hwee (Chairman)  
Mr Alwi Bin Abdul Hafiz  
Mr Chia Ban Seng  
Ms Jennie Chua  
Mr Goh Geok Ling  
Dr Robert J. Herbold  
Mr Kwek Leng Joo  
Mrs Lee Suet Fern  
Mrs Tan Ching Yee  
Ms Lien Siaou-Sze  
Mr Michael Lim Choo San  
Mr Lim Chuan Poh  
Prof Haresh Shah  
Mr Inderjit Singh  
Mr Tan Lip Bu  
Mr Ernest Wong  
Mr Edmund Cheng (appointed 1 October 2007)  
Sir Richard Sykes (appointed 1 April 2008)  
Dr Su Guaning

## ARRANGEMENTS TO ENABLE TRUSTEES TO ACQUIRE SHARES AND DEBENTURES

Neither at the end of nor at any time during the financial year was the University Company a party to any arrangement whose object was to enable the Trustees of the University Company to acquire benefits by means of the acquisition of shares in, or debentures of, the University Company or any other body corporate.

## TRUSTEES' INTERESTS

As the University Company is limited by guarantee, there are no matters to be disclosed under Section 201(6)(f) and (g), Section 201(6A)(g) and (h), Section 201(11) and Section 201(12) of the Singapore Companies Act, Chapter 50.

# Report of Trustees

Year ended 31 March 2008

## TRUSTEE CONTRACTUAL BENEFITS

Since the end of the previous financial year, no Trustee has received or become entitled to receive a benefit by reason of a contract made by the University Company or a related corporation with the Trustee or with a firm of which he is a member or with a company in which he has a substantial financial interest, except as disclosed in Note 26 to the financial statements.

## AUDITORS

The auditors, KPMG, have indicated their willingness to accept re-appointment.

On behalf of the Board of Trustees



**Mr Koh Boon Hwee**

*Trustee*



**Dr Su Guanng**

*Trustee*

3 September 2008

## Statement by Trustees

Year ended 31 March 2008

In our opinion:

- (a) the financial statements set out on pages 56 to 61 are drawn up so as to give a true and fair view of the state of affairs of the Group and the University Company as at 31 March 2008, and the results, changes in funds and reserves and cash flows of the Group and of the changes in funds and reserves of the University Company for the year then ended on that date in accordance with the provisions of the Singapore Companies Act, Chapter 50 and Singapore Financial Reporting Standards; and
- (b) at the date of this statement, there are reasonable grounds to believe that the University Company will be able to pay its debts as and when they fall due.

The Board of Trustees has, on the date of this statement, authorised these financial statements for issue.

On behalf of the Board of Trustees



**Mr Koh Boon Hwee**

*Trustee*



**Dr Su Guanng**

*Trustee*

3 September 2008

# Independent Auditors' Report

Members of the Company

We have audited the accompanying financial statements of Nanyang Technological University (the "University Company") and its subsidiaries (collectively the "Group"), which comprise the balance sheets of the Group and the University Company as at 31 March 2008, and the income and expenditure statement, statements of changes in funds and reserves and statement of cash flows of the Group and the statement of changes in funds and reserves of the University Company for the year then ended and a summary of significant accounting policies and other explanatory notes, as set out on pages 58 to 63.

## ***Management's responsibility for the financial statements***

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the provisions of the Singapore Companies Act, Chapter 50 (the Act) and Singapore Financial Reporting Standards. This responsibility includes:

- (a) devising and maintaining a system of internal accounting controls sufficient to provide a reasonable assurance that assets are safeguarded against loss from unauthorised use or disposition; and transactions are properly authorised and that they are recorded as necessary to permit the preparation of true and fair profit and loss accounts and balance sheets and to maintain accountability of assets;
- (b) selecting and applying appropriate accounting policies; and
- (c) making accounting estimates that are reasonable in the circumstances.

## ***Auditors' responsibility***

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Singapore Standards on Auditing. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit includes performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

# Independent Auditors' Report

Members of the Company

## *Opinion*

In our opinion:

- (a) the consolidated financial statements of the Group and the balance sheet and statement of changes in funds and reserves of the University Company are properly drawn up in accordance with the provisions of the Act and Singapore Financial Reporting Standards to give a true and fair view of the state of affairs of the Group and of the University Company as at 31 March 2008 and the results, changes in funds and reserves and cash flows of the Group and changes in funds and reserves of the University Company for the year ended on that date; and
- (b) the accounting and other records required by the Act to be kept by the University Company, have been properly kept in accordance with the provisions of the Act.



**KPMG**  
Public Accountants and  
Certified Public Accountants

**Singapore**  
3 September 2008

# Balance Sheets

As at 31 March 2008

	Group		University Company	
	2008	2007	2008	2007
	\$'000	\$'000	\$'000	\$'000
<b>Non-current assets</b>				
Property, plant and equipment	1,302,977	1,295,131	1,302,460	1,294,502
Prepaid lease	4,097	4,263	4,097	4,263
Subsidiaries	-	-	291	291
Available-for-sale financial assets	2,845	-	-	-
Financial assets at fair value through income and expenditure	1,053,805	999,223	1,053,805	999,050
Student loans	19,412	12,486	19,412	12,486
Finance lease receivables	24,430	24,818	24,430	24,818
	<u>2,407,566</u>	<u>2,335,921</u>	<u>2,404,495</u>	<u>2,335,410</u>
<b>Current assets</b>				
Derivative financial instruments	5,483	1,521	5,483	1,521
Student loans	4,288	2,821	4,288	2,821
Trade and other receivables	168,230	208,232	167,985	207,952
Finance lease receivables	388	182	388	182
Cash and cash equivalents	477,962	368,835	474,415	365,520
	<u>656,351</u>	<u>581,591</u>	<u>652,559</u>	<u>577,996</u>
Total assets	<u>3,063,917</u>	<u>2,917,512</u>	<u>3,057,054</u>	<u>2,913,406</u>
<b>Current liabilities</b>				
Derivative financial instruments	436	2,092	436	2,092
Trade and other payables	118,483	73,788	116,140	72,104
Grant received in advance – IT and F&E	12,202	-	12,202	-
Short-term borrowings	124,000	30,000	124,000	30,000
Deferred tuition and other fees	47,814	43,645	47,814	43,645
Research grants received in advance	56,225	54,901	56,225	54,901
	<u>359,160</u>	<u>204,426</u>	<u>356,817</u>	<u>202,742</u>
<b>Non-current liabilities</b>				
Deferred capital grants	962,724	1,035,726	962,724	1,035,726
Other non-current liabilities	1,770	1,447	1,770	1,447
Sinking fund received in advance	73,763	62,900	73,763	62,900
	<u>1,038,257</u>	<u>1,100,073</u>	<u>1,038,257</u>	<u>1,100,073</u>
<b>Total liabilities</b>	<u>1,397,417</u>	<u>1,304,499</u>	<u>1,395,074</u>	<u>1,302,815</u>
<b>Net assets</b>	<u>1,666,500</u>	<u>1,613,013</u>	<u>1,661,980</u>	<u>1,610,591</u>
Capital account	200,858	200,858	200,858	200,858
Accumulated surplus				
- General fund	271,295	245,368	266,919	242,946
- Endowment fund	907,184	914,443	907,184	914,443
- Other restricted fund	287,163	252,344	287,019	252,344
	<u>1,666,500</u>	<u>1,613,013</u>	<u>1,661,980</u>	<u>1,610,591</u>
<b>Funds and reserves</b>				
Funds managed on behalf of the Ministry	<u>178,920</u>	<u>165,666</u>	<u>178,920</u>	<u>165,666</u>
Funds' net assets managed on behalf of the Ministry	<u>(178,920)</u>	<u>(165,666)</u>	<u>(178,920)</u>	<u>(165,666)</u>

# Consolidated Income and Expenditure Statement

Year ended 31 March 2008

Group	General fund		Endowment fund		Other restricted fund		Total	
	2008 \$'000	2007 \$'000	2008 \$'000	2007 \$'000	2008 \$'000	2007 \$'000	2008 \$'000	2007 \$'000
<b>Income</b>								
Tuition and other fees	153,420	142,202	-	-	19,467	18,540	172,887	160,742
Rental income	2,104	2,116	-	-	26,079	23,072	28,183	25,188
Research grants	124,489	103,478	-	-	-	-	124,489	103,478
Interest income	8,215	8,204	303	582	1,562	2,619	10,080	11,405
Donations	-	-	28,655	31,550	15,928	20,893	44,583	52,443
Profit on investments	-	2,841	-	46,200	-	2,969	-	52,010
Other grants	1,714	-	-	-	8,472	27,193	10,186	27,193
Sundry income	7,656	5,556	-	-	30,548	25,400	38,204	30,956
Deferred capital grants amortised (non-ministry)	7,688	6,814	-	4	3,201	4,370	10,889	11,188
	305,286	271,211	28,958	78,336	105,257	125,056	439,501	474,603
<b>Expenditure</b>								
Expenditure on manpower	474,660	396,131	849	2,658	30,656	30,233	506,165	429,022
Teaching/Research	77,762	77,362	-	-	17,688	16,315	95,450	93,677
Administration	39,059	37,333	-	-	30,943	35,186	70,002	72,519
Maintenance	46,487	49,411	-	-	9,234	7,769	55,721	57,180
Library books and periodicals	7,670	7,067	-	-	-	-	7,670	7,067
Depreciation of property, plant and equipment	143,434	145,326	-	74	4,905	5,492	148,339	150,892
Amortisation of prepaid lease	166	166	-	-	-	-	166	166
<b>Balance carried forward</b>	789,238	712,796	849	2,732	93,426	94,995	883,513	810,523

# Consolidated Income and Expenditure Statement

Year ended 31 March 2008

Group	General fund		Endowment fund		Other restricted fund		Total	
	2008 \$'000	2007 \$'000	2008 \$'000	2007 \$'000	2008 \$'000	2007 \$'000	2008 \$'000	2007 \$'000
<b>Balance brought forward</b>	789,238	712,796	849	2,732	93,426	94,995	883,513	810,523
Capital expenditure not capitalised	16,361	10,349	-	-	129	-	16,490	10,349
Loss on disposal of property, plant and equipment	2,975	622	-	-	5	11	2,980	633
Loss on investments	7,930	-	26,690	-	125	-	34,745	-
Allowance for impairment in value of investment	-	165	-	-	-	-	-	165
Other expenses	506	-	5,249	11,172	44,958	38,841	50,713	50,013
	817,010	723,932	32,788	13,904	138,643	133,847	988,441	871,683
<b>(Deficit)/Surplus before grants from ministries</b>	(511,724)	(452,721)	(3,830)	64,432	(33,386)	(8,791)	(548,940)	(397,080)
Development grants	17,008	10,595	-	-	-	-	17,008	10,595
Operating grants	387,709	381,204	-	-	-	-	387,709	381,204
Other grants	17	-	22,305	37,740	37,355	40,456	59,677	78,196
Deferred capital grants amortised	138,530	139,221	-	-	61	79	138,591	139,300
Surplus after grants from ministries	31,540	78,299	18,475	102,172	4,030	31,744	54,045	212,215
Taxation	-	-	-	-	-	-	-	-
<b>Surplus for the year</b>	31,540	78,299	18,475	102,172	4,030	31,744	54,045	212,215

# Statement of Changes in Funds and Reserves

Year ended 31 March 2008

	<----- Accumulated surplus ----->				Total \$'000
	Capital account \$'000	General fund \$'000	Endowment fund \$'000	Other restricted fund \$'000	
<b>Group</b>					
At 1 April 2006	200,858	139,671	822,841	218,216	1,381,586
Surplus for the year	-	78,299	102,172	31,744	
Transfer to endowment fund	-	6,000	12,870	1,828	
Transfer to research grants received in advance	-	(733)	-	-	
Transfer to deferred capital grants	-	(690)	-	-	
Utilisation of other restricted fund	-	-	-	(197)	
Transfer to general fund	-	24,493	(23,440)	(1,053)	
Transfer to other restricted fund	-	(1,710)	-	1,710	
Fair value adjustment	-	38	-	96	
At 31 March 2007	<u>200,858</u>	<u>245,368</u>	<u>914,443</u>	<u>252,344</u>	<u>1,613,013</u>
At 1 April 2007	200,858	245,368	914,443	252,344	1,613,013
Surplus for the year	-	31,540	18,475	4,030	
Transfer from endowment fund	-	25,500	(25,734)	234	
Transfer to research grants received in advance	-	(641)	-	-	
Transfer to deferred capital grants	-	(175)	-	-	
Utilisation of other restricted fund/general fund	-	(12)	-	(52)	
Transfer to other restricted fund	-	(30,328)	-	30,328	
Fair value adjustment	-	43	-	279	
At 31 March 2008	<u>200,858</u>	<u>271,295</u>	<u>907,184</u>	<u>287,163</u>	<u>1,666,500</u>

# Statement of Changes in Funds and Reserves

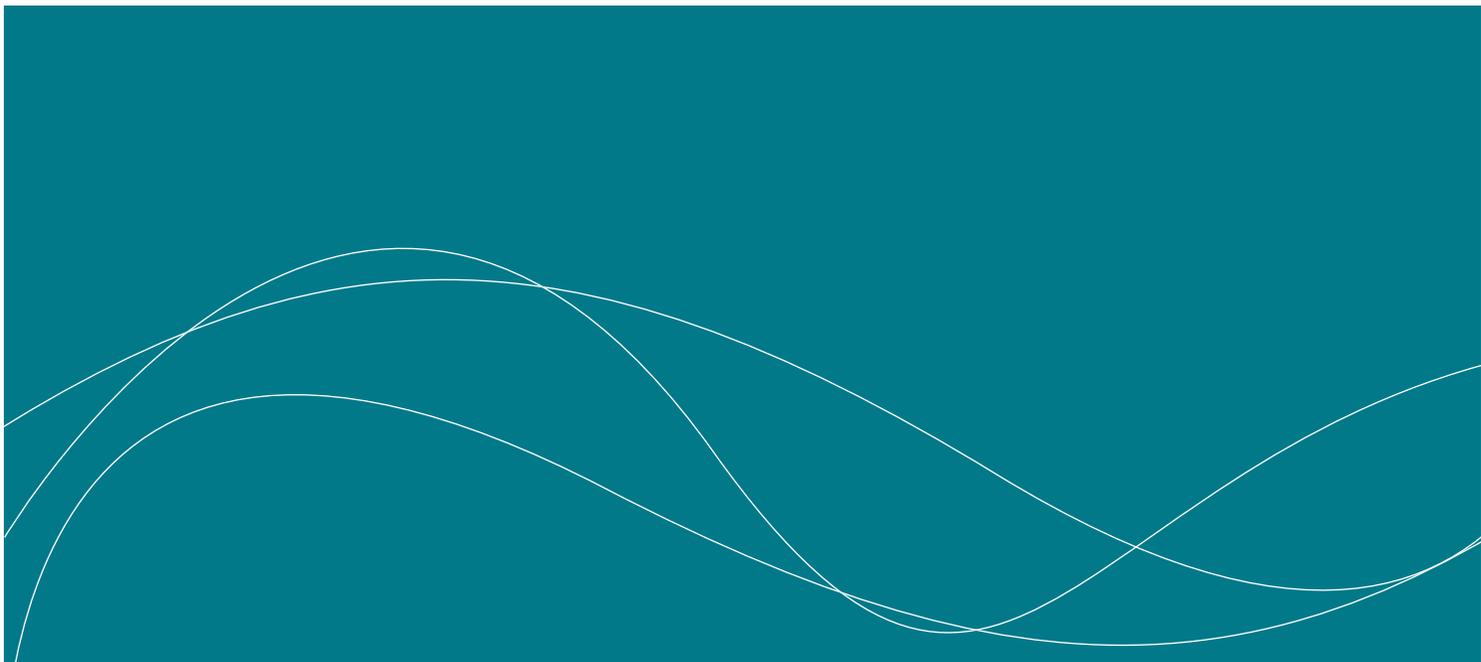
Year ended 31 March 2008

	<----- Accumulated surplus ----->				Total \$'000
	Capital account \$'000	General fund \$'000	Endowment fund \$'000	Other restricted fund \$'000	
<b>University Company</b>					
At 1 April 2006	200,858	137,452	822,841	218,216	1,379,367
Surplus for the year	-	78,096	102,172	31,744	
Transfer to endowment fund	-	6,000	12,870	1,828	
Transfer to research grants received in advance	-	(733)	-	-	
Transfer to deferred capital grants	-	(690)	-	-	
Utilisation of other restricted fund	-	-	-	(197)	
Transfer to general fund	-	24,493	(23,440)	(1,053)	
Transfer to other restricted fund	-	(1,710)	-	1,710	
Fair value adjustment	-	38	-	96	
At 31 March 2007	<u>200,858</u>	<u>242,946</u>	<u>914,443</u>	<u>252,344</u>	<u>1,610,591</u>
At 1 April 2007	200,858	242,946	914,443	252,344	1,610,591
Surplus for the year	-	29,586	18,475	3,886	
Transfer from endowment fund	-	25,500	(25,734)	234	
Transfer to research grants received in advance	-	(641)	-	-	
Transfer to deferred capital grants	-	(175)	-	-	
Utilisation of other restricted fund/general fund	-	(12)	-	(52)	
Transfer to other restricted fund	-	(30,328)	-	30,328	
Fair value adjustment	-	43	-	279	
At 31 March 2008	<u>200,858</u>	<u>266,919</u>	<u>907,184</u>	<u>287,019</u>	<u>1,661,980</u>

# Consolidated Cash Flows Statement

Year ended 31 March 2008

	2008 \$'000	2007 \$'000
<b>Operating activities</b>		
Deficit before grants from ministries	(548,940)	(397,080)
Adjustments for:		
Research grant income	(124,489)	(103,478)
Depreciation of property, plant and equipment	148,339	150,892
Amortisation of prepaid lease	166	166
Loss on disposal of property, plant and equipment	2,980	633
Loss/(Profit) on investments	34,745	(52,010)
Deferred capital grants amortised (non-ministry)	(10,889)	(11,188)
Interest income	(10,080)	(11,405)
Provision for attrition	(3,000)	-
Gain on derecognition of available-for-sale financial assets		(2,672)
- Fair value adjustments	-	(6,437)
	<hr/>	<hr/>
Deficit before change in capital changes	(513,840)	(429,907)
Changes in working capital:		
Other payables	45,018	18,215
Trade and other receivables	(25,473)	2,910
Deferred tuition and other fees	4,169	9,051
Loans extended to students	(8,071)	(1,513)
	<hr/>	<hr/>
<b>Cash flows from operating activities</b>	(498,197)	(401,244)
<b>Financing activities</b>		
Sinking fund received	10,863	62,900
IT and F&E grant received	21,148	-
Research grants received	145,461	118,100
Operating grants received, net of payment of goods and service tax expense on tuition fees and tuition grants	424,949	357,445
Development grants and related income received	79,800	96,797
Refund of grants to Ministry of Education	-	(61)
Ministry grants received	75,112	40,456
Proceeds from borrowings	94,000	30,000
	<hr/>	<hr/>
Cash flows from financing activities	851,333	705,637
<b>Investing activities</b>		
Acquisition of property, plant and equipment	(158,907)	(192,312)
Purchase of other financial assets	(454,914)	(347,452)
Proceeds from sale of other financial assets	357,092	196,539
Increase in cash held by fund managers	2,828	-
Interest received	9,892	11,574
	<hr/>	<hr/>
<b>Cash flows from investing activities</b>	(244,009)	(331,651)
Net increase/(decrease) in cash and cash equivalents	109,127	(27,258)
Cash and cash equivalents at beginning of the year	368,835	396,093
	<hr/>	<hr/>
<b>Cash and cash equivalents at end of the year</b>	477,962	368,835



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