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NANYANG
TECHNOLOGICAL
UNIVERSITY



Illuminating a
WORLD of DISCOVERY

Annual Report 2004 | 2005



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OUR VISION

To be a Global University of Excellence

OUR MISSION

Educating Leaders and Advancing Knowledge for
Singapore and Beyond



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MR KOH BOON HWEE
Chairman
SIA

NTU COUNCIL

| MEMBERS |

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President
Nanyang Technological University



MR ALWI BIN ABDUL HAFIZ 2
General Manager
Consulting & Integration
South East Asia
Hewlett-Packard Asia Pacific
Services Pte Ltd



MR CHIA BAN SENG 3
Managing Director
IndoCement Singapore Pte Ltd

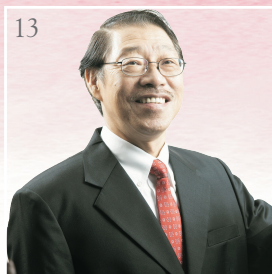
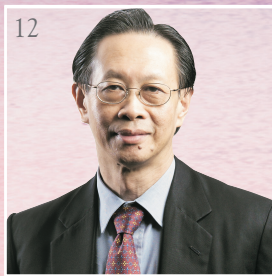
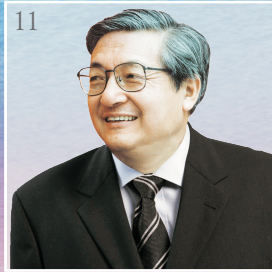
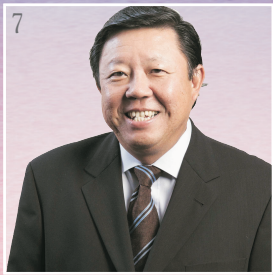


MR GOH GEOK LING 4
Director
SembCorp Industries Ltd



MR HO MENG KIT 5
Chief Executive
Land Transport Authority

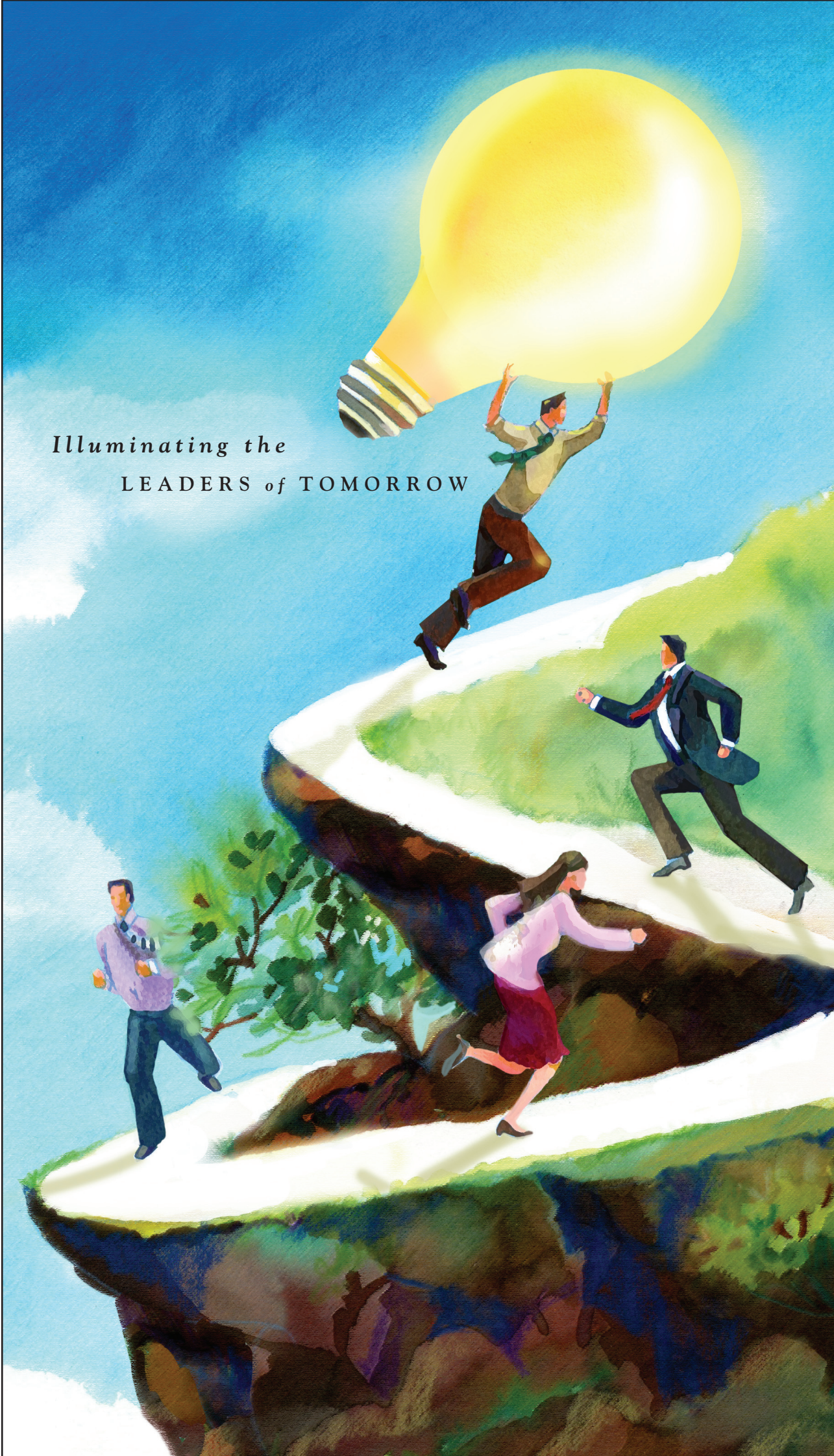




| MEMBERS |

- 6 **MS LIEN SIAOU-SZE**
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HP Services Asia Pacific
Hewlett-Packard Asia Pacific Services Pte Ltd
- 7 **MR MICHAEL LIM CHOO SAN**
Chairman
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Peking University
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Nanyang Technological University
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Interim Dean
School of Humanities and Social Science
Nanyang Technological University
- 14 **PROFESSOR LEO TAN WEE HIN**
Director
National Institute of Education
Nanyang Technological University
- 15 **ASSOCIATE PROFESSOR TAN TENG KEE**
Director
Nanyang Technopreneurship Centre
Nanyang Technological University

Illuminating the
LEADERS of TOMORROW



TOWARDS GREATER AUTONOMY

NTU hosted the International Academic Advisory Panel on 11 January 2005, during their stay in Singapore from 11 - 14 January 2005. Following their visit, the government endorsed the key recommendations of the University Autonomy, Governance and Funding Review Committee, including the move to transform the three local universities into autonomous universities.



*Leading the Way towards a
World Class University*

PRESIDENT'S REPORT

Autonomy will allow NTU to capitalise on our established strengths and develop our own success formula in higher education. Autonomy will also enable us to have more financial flexibility and administrative freedom to explore innovative and entrepreneurial ways of enhancing our teaching and research to educate leaders and advance knowledge. As the fastest-growing comprehensive university, with undergraduate enrolment looking to increase to 22,300 by 2010, we stand to gain the most from autonomy. A corporatised NTU will present students with more differentiated programmes and more compelling reasons to make NTU their preferred choice. Our students can look forward to a unique student-centric undergraduate experience that gives them a global perspective and grooms them to be leaders.

EDUCATING LEADERS

Our mission of educating leaders seeks to nurture leaders through a holistic education in a residential setting. We want students with leadership qualities and we take it as our task to prepare these potential leaders for life.

To enhance our students' total experience on campus in training them to be well-rounded global leaders, the New Undergraduate Experience (NUE), launched in 2003, was further developed. The NUE offers our undergraduates not just a wide range of choices in courses and modules, and majors and minors, but also the opportunity to participate in team and group activities, build character and spirit, and develop leadership qualities.



On the academic front, we implemented the following initiatives to keep abreast of the changing needs of Singapore and beyond in an increasingly knowledge-based and global economy:

- **Three New Schools**

Three new schools were established, opening up a wider choice of disciplines, minors and electives. The School of Humanities and Social Sciences (HSS) started offering courses in academic year 2004 and will increase its offerings from academic year 2005 onwards. The School of Art, Design and Media (ADM) and the School of Physical and Mathematical Sciences (SPMS) will start their programmes in academic year 2005.

From the academic perspective, HSS will infuse humanities elements into the general curriculum of the University; SPMS will offer a strong foundation in the sciences and inject a mathematical bent to other existing disciplines such as Biological Sciences and Computer Engineering; ADM will offer general knowledge in creative design and digital media to students. These new disciplines will give a further boost to the development of a broad-based education and a multifaceted intellectual university life for students. The three new Schools will link up with existing Schools to offer minors and electives as part of the NUE.

- **Reinventing Engineering**

Engineering in NTU is constantly evolving to be at the forefront of the national focus on niche areas. The School of Mechanical and Production Engineering was renamed the School of Mechanical and Aerospace Engineering with a new division – the Division of Aerospace Engineering – to offer a degree programme in aerospace engineering, a first in Singapore. Likewise, the School of Materials Engineering took on a new name, Materials Science and Engineering, to better reflect the aims and activities of the School.

The School of Chemical and Biomedical Engineering was formed when the Division of Chemical and Biomolecular Engineering and the Division of Bioengineering merged. The new School will offer two degrees: Bachelor of Engineering in Bioengineering and Bachelor of Engineering in Chemical and Biomolecular Engineering. As knowledge in biological engineering encompasses a wide domain, the integrated programme in chemical and biomedical engineering will be highly attractive to both local and international students.

The teaching of Engineering will see a switch from the current teacher-centric environment to one that is learner-centric under a pilot scheme on new pedagogical approaches to promote active learning by the College of Engineering. Key strategies will be reduction in class sizes in lectures and tutorials as well as design of teaching facilities to enhance interactive teaching among lecturers and students, all of which contribute to the nurturing of a healthy, positive academic environment for learning.

- **Curriculum Broadening**

As part of the initiative to broaden a student's education, a general education component covering about 23% of the engineering curriculum was added to engineering courses in academic year 2004. A new flexible curriculum framework is now being developed for implementation across the University to provide students with a truly multidisciplinary learning experience.

- **Double Degree, Double Specialisation, Double Major**

The School of Biological Sciences has pioneered a new double degree course incorporating both western practice and traditional Chinese medicine (TCM). The course is to provide students with a sound fundamental knowledge of the biomedical sciences to help promote an evidence-based approach to the learning of TCM. Students will graduate with a degree of B.Sc.(Honours) in Biomedical Sciences from NTU and a degree of B.Med.(Major in TCM) from Beijing University of Chinese Medicine.

The School of Chemical and Biomedical Engineering will provide an opportunity for outstanding students to complete a double degree in Chemical and Biomolecular Engineering and Bioengineering from next academic year onwards.

“Engineering in NTU is constantly evolving to be at the forefront of the national focus on niche areas.”

A Double Specialisation programme was introduced in Nanyang Business School (NBS) to offer students the choice of obtaining a second specialisation in Accountancy, Banking and Finance, Business Law, Economics, Human Resource Consulting and Information Technology. This will broaden the skill sets and knowledge of our graduates, increasing the attractiveness of these graduates to employers.

The School of Communication and Information will offer a second major in academic year 2005 to students in the School of Humanities and Social Sciences (HSS) to provide the students the opportunity to graduate with a double major in communication studies within their four-year study. HSS will also offer a double major to students in HSS and NBS.

- **New Undergraduate Programmes**

To offer students a wider choice of disciplines, the University has, in academic year 2004, added six new programmes: Bioengineering, Environmental Engineering, Chemical and Biomolecular Engineering, Computer Science, Maritime Studies and Economics.

In the new academic year 2005, students will be spoilt for choice with the offer of new programmes in Chinese, English, Psychology, Sociology, Fine Arts, Chemistry & Biological Chemistry, Mathematical Sciences, Physical Sciences, Physics, Applied Physics, in addition to the double degree programme in Biomedical Sciences and Traditional Chinese Medicine.



- **New Graduate Programmes**

Eleven new programmes by coursework were launched in the areas of Digital Media Technology, International Political Economy, Power Engineering, Public Administration, Offshore Engineering, Maritime Studies, Industrial Ecology, Information Technology, Civil Engineering and Finance.

Come July 2005, graduate students can look forward to four new graduate programmes in Contemporary China, Translation and Interpretation, Technopreneurship and Innovation, and Educational Administration.

- **Revamped Industrial Attachment**

The industrial attachment has been restructured to offer more flexibility in content and duration. Students can choose to do an industrial attachment or to work on research programmes. They can also choose between a local organisation or one that is abroad.

Residential Experience

The NUE is also about enhancing the quality of student life on campus and building leadership skills through participation in a myriad of enriching activities on campus. It has been an exciting year for students with the new Student Activities Centre (SAC) ready for occupancy. The SAC houses the NTU Students Union (NTUSU) Secretariat and the three major Union clubs, in addition to amenities such as a café, a convenience store and a lounge.

The NTU Quadrangle, more commonly known as the Quad, which is, the open space between Nanyang Auditorium and the School of Biological Sciences, was designed with the students in mind. It has become a popular hang-out in the evenings and a focal point for student-organised activities.

In conjunction with NTUSU's International Cultural and Food Festival, the International Student Centre (ISC) was officially opened by the President of NTU on 26 January 2005. The opening also kick-started the University's 50th Anniversary celebrations. Activities conducted by the ISC during this celebratory period included an orientation programme, visits to places of interests, a Lunar New Year host programme and informal coffee sessions.

The International Cultural and Food Festival 2005, held for two years running now, was organised by the NTUSU from 26 - 27 January 2005 at Nanyang Auditorium, with President Su as the guest of honour. The event comprised an exhibition and cultural performances by international students from ten countries. The opening event was attended by the ambassadors of the Philippines and Cambodia, Deputy Commissioner of India, Minister Counsellor of Myanmar, and Director of Public Relations of the Indonesian Embassy.

Arts Fiesta, organised by NTU's Visual Arts Society, was held from 1 - 3 February 2005. Activities at the fiesta included the annual banner competition, a graffiti contest, arts exhibition, and performances. Courses in tile painting, poly shrinking, and rose making were also conducted.

As part of the worldwide humanitarian effort to help tsunami victims, the NTUSU and the Welfare Services Club organised a collection drive from 4 - 7 January 2005. Almost a lorry-full load of food items and necessities were collected and these were transported to Mercy Relief and the Buddhist Federation with the help of the NTU Motoring Club.

A donation drive, Operation Moving Hearts, was also launched in January 2005 by the Red Cross Humanitarian Network - NTU. Cash totalling more than \$110,000 was collected and donated through the Singapore Red Cross Society to the tsunami victims.

Building A Sense of Belonging

Under the NUE, residential living is a key component of our strategy to develop students' character on campus and to foster a sense of belonging to their alma mater long after they leave the University. Besides our focus on providing more student facilities and hostels, student leaders are now increasingly invited to be members of committees and their views regularly sought. Our first ever Student Leaders' Conference was held on 18 September 2004, where students discussed issues on student life, student governance and the five-day work week.

A new Hall Fellow scheme was introduced following the Review of the Hall Counsellor Scheme. Heads and Hall Counsellors, re-named Senior Fellows and Hall Fellows respectively, will play a more active role in contributing to residential life.

A Multi-Country Education

The Global Immersion Programme (GIP) was launched in July 2004 as a feature of the NUE to develop leaders with an international education and experience. It allows 20% of our undergraduates to work or study in some of the world's most vibrant cities in China and the US. Students spend a semester or two in top universities and industrial parks such as the University of Washington, Shanghai Jiaotong University, Peking University and Zhongguancun Industrial Park. Eventually, our GIP shall be a multi-country experience of language, culture, industry, entrepreneurship. We are already working on two other very important countries in Asia, India and Indonesia, as well as countries in Europe and in due course also Australia and New Zealand. Students who come to NTU will have an array of countries from which to choose for their multi-country education.

The first batch of students embarked on the GIP to China and the US in January 2005. From feedback gathered, students sent to China have developed a deeper interest and appreciation for Chinese culture and history. Students sent to the US indicated that they were more aware of the importance to develop skills in questioning, self-learning and exploration.



NTU President Dr Su and other senior NTU staff met up with GIP students in Beijing.

“From feedback gathered, students sent to China have developed a deeper interest of and appreciation for Chinese culture and history.”



Reaching Out

The quality of our intake for academic year 2004 has improved significantly. The improvement in quality may be attributed firstly, to the separate admission exercise which has enabled us to establish our own identity and secondly, to the NUE which has served as the strategic thrust of our outreach activities.

In line with our mission to educate leaders, we implemented discretionary admission criteria in admitting up to 10% of our students in academic year 2004. Our discretionary admission process assesses students holistically. It is based on a balanced consideration of academic ability as well as the valued qualities of leadership, creativity, passion and values. NTU has chosen to use the special admission scheme to talent-spot students so that they can be further developed as leaders.

In our belief that Singapore sportsmen and sportswomen belong to the class of leaders that we would like to educate, we linked up with Republic Polytechnic and the Singapore Sports School in October 2004 to provide a non-traditional route for Sports School students to achieve a university education. We will provide greater flexibility in curriculum, scheduling and time required for these students to complete their degrees.

Our mission to educate leaders extends also to talented Junior College (JC) students who can take undergraduate courses at NTU and earn advanced placement credits. The students will be eligible for direct admission to NTU when they reach the tertiary stage of their education. The scheme was launched in 2003 with Hwa Chong Junior College; within a year four JCs - Temasek Junior College, Victoria Junior College, Raffles Junior College and National Junior College - joined the scheme, too.

ADVANCING KNOWLEDGE

We are developing a seamless path between research, inventions and entrepreneurship, paving the way for NTU to become a key driver of the new knowledge-based economy that Singapore is developing into.

Research Clusters

Recognising the need for more focused and strategic positioning of NTU's research, key Research Centres have been organised into clusters to better position themselves for research synergy, to partner renowned research institutes abroad and/or to bid for large scale funding from A*STAR and other external funding bodies. The following three Research Clusters have recently been formed:

- **NanoCluster**

Altogether 125 faculty members from Electrical, Materials, Mechanical, Chemical and Biomedical Engineering, as well as from Chemistry, Physics, and Biological Sciences participate in cross-disciplinary projects.

- **Intelligent Device and System Cluster**

Its research and development includes embedded systems, intelligent machines, and intelligent systems involving smart devices and sensors.

- **Biomedical Engineering Cluster**

The research and development includes biomechanical engineering, biomaterials, tissue engineering, advanced diagnostics; robotics biomedical instrumentation and biomedical characterisation.

New Research Centres

Research Centres are established in our aim to create niches of research excellence in areas of national interests, or in areas where we already have particular strengths. Research Centres set up during the reporting period include the following:

- The International Centre for Political Violence and Terrorism Research was launched by the Institute of Defence & Strategic Studies to study terrorists and their acts of violence, and to help counter-terrorism professionals effectively root out terrorism in the region. The centre provides not only a comprehensive terrorism database, but also counter-terrorism education and training.
- Nanyang Business School established the world's first Centre for Cultural Intelligence in October 2004 to focus on the research and development of cultural intelligence. The mission of the Centre is to lead in the generation of knowledge, products and programs for growing culturally intelligent individuals and organisations.
- The Intelligent Systems Centre or IntelliSys was officially opened on 18 May 2005 and is the first centre to be jointly set up by NTU and Singapore Technologies Engineering. Based in NTU, IntelliSys aims to provide strategic leadership in Singapore and beyond in the areas of core technologies underlying intelligent systems, as well as innovation and applied research for the development of intelligent systems.
- The Centre of Chiral and Pharmaceutical Engineering was established to be a chemical discovery and development partner of the pharmaceutical, biochemical and chemical industries. The Centre aims to forge multidisciplinary research between science and engineering to provide a "one-stop chemical solution" to improve and develop novel technologies for upstream and downstream processing of active pharmaceutical ingredients.



The World's First Cultural Intelligence (CQ) Center



Nurturing a Research Culture

To nurture a research culture on campus, the University implemented the following two initiatives in academic year 2004:

- **Undergraduate Research Experience on Campus**

To cultivate a research culture among our top undergraduates, the Undergraduate Research Experience on Campus (URECA) was launched in August 2004. Selected students are offered a scholarship and designated President's Research Scholars who can participate in any research project and in any school. They receive a monthly stipend and chalk up three academic units for ten hours of work per week.

“The academic year 2004 saw us building strategic alliances with renowned institutions in our global outreach.”

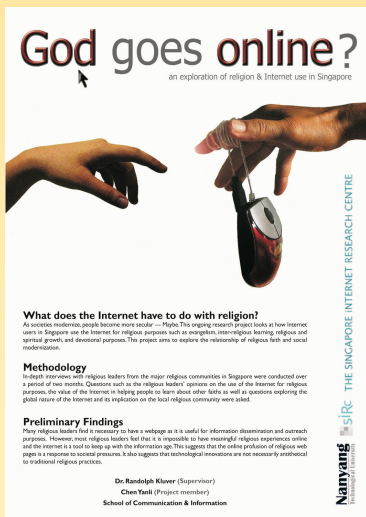
- **Teaching Assistant Scheme**

A Teaching Assistant (TA) Scheme was introduced in July 2004. A TA obtains financial support from this scheme, and contributes in return to the teaching of classes and laboratories at NTU. The TA, who must be a full-time Master's or Ph.D. student at NTU, will thus gain valuable experience in teaching and strengthen his knowledge in a particular field of study.

Technology Transfer

Technology transfer is an integral part of our mission in advancing knowledge. The Innovation and Technology Transfer Office (ITTO), which administers NTU's Intellectual Property (IP) Policy and facilitates the transfer of technological breakthroughs and inventions from NTU to industry, evaluated 76 technology disclosures and filed patent applications for 27 new technologies during the academic year. During the same period, 17 patents were granted.

ITTO also initiated a Proof-of-Concept Fund that aims to support pre-commercialisation activities for research with good commercial potential. The fund provides up to a maximum of \$50,000 per project for researchers to carry out commercial validation activities to turn their technologies into viable business propositions. A revised IP Policy was announced in February 2005 to ensure clarity and easy interpretation, and the sharing of rewards between the University and inventors was simplified and made more equitable.



URECA research poster

FOR SINGAPORE AND BEYOND

In our aspiration to be a global university, we have been forging linkages with the rest of the world, bringing the world to our campus and developing in our students a global outlook.

Global Linkages

The academic year 2004 saw us building strategic alliances with renowned institutions in our global outreach. Of notable mention are the following:

- NTU partners Waseda University to offer a Double MBA Degree Programme in Management of Technology.
- NTU and Beijing Foreign Studies University have launched a new Graduate Diploma in Translation & Interpretation as part of Singapore's efforts to become a communications hub.
- NTU and the University of California, Berkeley are offering Singapore's first-ever residential public executive programme which aims to bring together the best of East and West in business education.
- NTU and BI Norwegian School of Management will jointly design and offer university-level programmes in maritime studies to the region.
- NTU and the China National Office for Teaching Chinese as a Foreign Language are collaborating to set up a Confucian Institute in Singapore which aims to raise the standard of Mandarin in Singapore, and to provide more avenues for continuous education in this area.
- NTU formalised ties with Cornell University Hotel School to launch a joint Master of Management in Hospitality programme.
- NTU partners global electronics group, Thales, to build a new research laboratory known as Thales@NTU to research into photonics, semi-conductor materials and devices, and ultra-wideband communication.
- NTU collaborates with Indonesia's leading universities, University of Indonesia and Institute of Technology, Bandung, to explore academic and educational cooperation.



Ms Jennie Chua (right), President and Chief Executive Officer of Raffles Holdings Limited and Chairman of HMS International, a hotel industry consortium who had played the lead industry role in this collaboration



“...about 53% of the University faculty hail from all around the world, representing a rich tapestry of nations who are strong in teaching as well as research and professional experiences.”

China Strategy Group

An important part of our strategy to extend our regional presence is the active engagement of China. We established the China Strategy Group (CSG) in May 2004 to lead our international education development in China. Through the CSG, NTU has strengthened its presence in China with the opening of the NTU Beijing Office in Zhongguancun and the NTU Shanghai Office in Zhangjiang Hi-Tech Park in June 2004, both places in the forefront of Chinese entrepreneurship. NTU has also signed an MOU with Zhongguancun International Incubator Inc to foster entrepreneurship as well as separate MOUs with Peking University and Beijing Foreign Studies University to further teaching, education and research.

India Strategy Group

An India Strategy Group (ISG) was also set up to strategise, plan and coordinate all India-related educational activities to make NTU a strategic partner of choice to Indian's leading universities and research initiatives. Through the ISG, NTU recently renewed collaboration with the Indian Institute of Technology.

Cosmopolitan Campus

International students add diversity and vibrancy to campus life, providing opportunities to all students to develop EQ which is vital to our mission of educating leaders. The University is like a mini United Nations with 577 inbound exchange students, graduate students from over 40 countries, and 21 percent of our undergraduate pool from foreign countries.

Added to this, about 53% of the University faculty hail from all around the world, representing a rich tapestry of nations who are strong in teaching as well as research and professional experiences. The result is a truly cosmopolitan flavour on campus.

MAKING IT POSSIBLE

Governance and management, and services, are enablers that support the University in its mission of educating leaders and advancing knowledge.

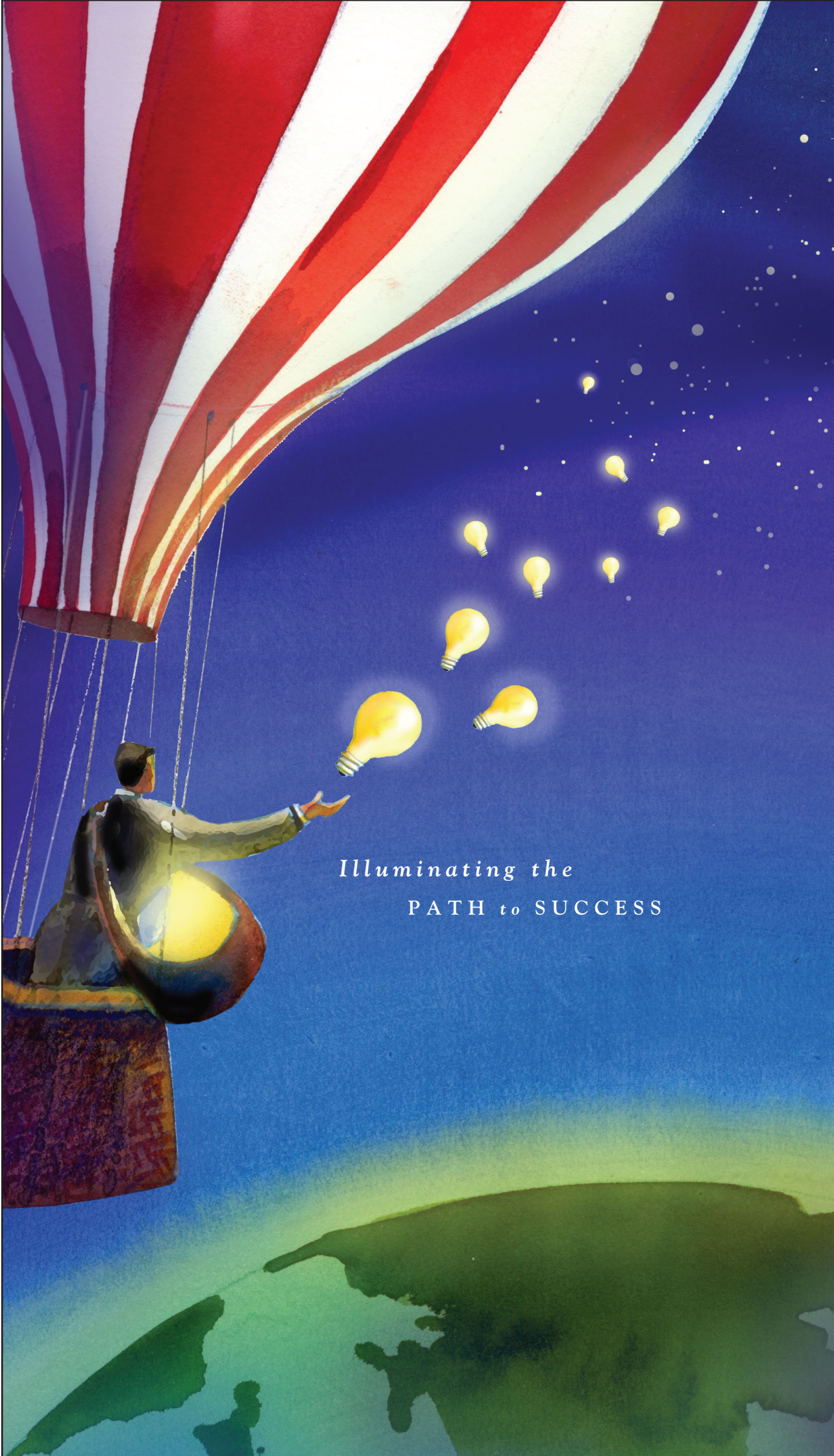
NTU has started transforming its internal systems and processes since the end of 2004. The governance of the University is being primed for change as we prepare to broaden the role of the University Council, from an oversight role to that of a Board of Trustees that holds the University in trust for the people of Singapore, drawing in resources and external inputs to help the University do its best for its stakeholders, and most importantly, the students.

In administration, new systems for human resource and finance are being set up to be more performance-based and result-oriented. Similarly, the management and development of campus facilities is being transformed to maximise asset utilisation and improve cost-efficiency. The structure of the University administration has been fine-tuned to better support our mission with decision-making processes adjusted and succession plans activated.

NTU mission is to educate leaders and advance knowledge for Singapore and beyond. With the heritage of our founders, NTU is in a unique position to further creativity and entrepreneurship amongst our students, grooming future generations of dynamic entrepreneurial leaders and executives.

The academic year 2004 saw the beginning of a series of initiatives undertaken to achieve our mission. We shall build on our inspirational rich heritage, our 200 hectares campus to deepen the unique residential experience for our students, our strong networks in China, and our strong base in and enduring commitment to innovation, technology and business in our move to be a comprehensive University.





Illuminating the
PATH to SUCCESS

| JULY 2004 |

- Nanyang Technological University (NTU) President, Dr Su Guaning, and the NTU community welcomed about 5,000 freshmen to the NTU family on 26 July. A Welcome Carnival, completed with stalls and live performances was organised by the Students' Union to help integrate them.
- Over 2,000 students, staff and alumni experienced the distinctive heritage and culture of NTU at the Heritage Walk, themed "Know the Past, Live the Present, Create the Future" on 27 July.



Freshmen Welcome Ceremony held on 26 July 2004

Leading the Way to a World Class
University

CAMPUS ACTIVITIES

- A total of over 2400 students took part in the Flag Day organized by the Students' Union on 28 July. All proceeds went to the NTU Students' Union Students' Fund. In addition, there were check donations and an Isetan bazaar was held at Nanyang Auditorium, the proceeds of which also went to the Students' Fund. Overall, a total of \$179,040.34 was raised.
- The NTU Symphonic Band held, *Music from the Hearts*, their fourth charity concert on 31 July at the Esplanade Concert Hall in aid of the Singapore Cancer Society.
- The School of Humanities and Social Sciences (HSS) invited Professor Lung Ying-Tai, the Taiwanese celebrated essayist and cultural critic, as the first Visiting Professor of the Division of Chinese from July to August. Professor Lung delivered three public lectures as well as several sessions of Graduate Seminars during her visit.

| AUGUST 2004 |

- Singapore's first local maritime studies degree programmes – Bachelor of Science and Master of Science in Maritime Studies (Shipping) offered in NTU and supported by Maritime and Port Authority of Singapore (MPA) were officially launched by Minister of State for Health and Transport, Dr Balaji Sadasivan on 5 August. Both programmes received overwhelming responses from applicants.



The fund raising golf tournament organised by the NTU Alumni Club raised over S\$200,000 for the NTU Endowment Fund and the NTU Alumni Clubhouse. Held at the Orchid Country Club on 15 August, guests at the event included DPM Tony Tan, Education Minister Mr Tharman Shanmugaratnam and NTU President, Dr Su Guanng.



The Global Entrepreneurship Conference held on 25 August 2004 at the Nanyang Executive Centre.

- A new programme – Undergraduate Research Experience on Campus (URECA) was launched on 10 August at the Nanyang Auditorium at NTU, which will enable outstanding undergraduates to immerse themselves in a research culture and at the same time, earn monetary allowances and academic credits.
- The fund raising golf tournament organized by the NTU Alumni Club raised over S\$200,000 for the NTU Endowment Fund and the NTU Alumni Clubhouse. Held at the Orchid Country Club on 15 August, guests at the event included DPM Dr Tony Tan, Education Minister Mr Tharman Shanmugaratnam and NTU President Dr Su Guanng.
- Professor Haresh C. Shah, the Obayashi Professor of Engineering, Emeritus from US Stanford University delivered the third Nanyang Distinguished Lecture, *Philosophy of Engineering Education in a Changing Global Society* on 18 August.
- The Global Entrepreneurship Conference, held on 25 August at Nanyang Executive Centre, attracted many budding entrepreneurs eyeing a piece of the booming IT and biotechnology industries. They learnt more about the highly-successful models of entrepreneurship adopted by Silicon Valley, and figured how they could be adapted for Singapore.

| S E P T E M B E R 2 0 0 4 |

- The University and the Singapore Computer Society (SCS) have established the pioneer IT Chapter for business undergraduate and MBA participants. The launch of the new NTU Nanyang Business School (NBS) – SCS student chapter on 22 September signals the growing importance to effectively bridge the gap between technologists and business managers.
- Three of NTU's largest student clubs, the NTU Student's Union, the Chinese Society and the Cultural Activities Club organized the Mid Autumn Festival celebration for NTU community and the neighbouring Nanyang District. Held at the Yunnan Gardens on the 24 September, performances were lined up throughout the night to entertain the crowds, and free lanterns were distributed to encourage people of all races and backgrounds to participate in the celebration.



- In September, the School of Communication and Information (SCI) hosted a group of 28 management graduate students from Switzerland's University of St. Gallen. These students were pursuing an executive MBA course in media and communication and spent a two-week study visits to local media companies in which students presented their work to industry practitioners.

| O C T O B E R 2 0 0 4 |

- The University showcased more than 20 of its latest scientific and technological breakthroughs at the Global Entrepolis@Singapore's mega innovation and enterprise exchange from 12 - 14 October at the Suntec City Convention and Exhibition Centre.
- The Nanyang Business School (NBS) was selected by China's Ministry of Health (MOH) to conduct management education programmes for senior hospital managers. The agreement between China's MOH and NTU was signed in Beijing on 14 October.
- The University organised the 11th International Conference on Image Processing (ICIP) from 24 - 27 October. The ICIP 2004 co-chaired by Professor Er Meng Hwa and Professor Alex Tot, brought together over 900 leading engineers and scientists from around the world for the presentation of technologies advances and research results in the fields of image and video processing.
- Under an initiative by the University, Singapore Sports School (SSS) and Republic Polytechnic (RP), Secondary 3 SSS students may apply for admission to RP even without a GCE 'O' level certificate from 2005. Instead, assessment for enrollment into RP will be based on SSS' recommendations as well as RP's entrance assessments. SSS graduates who do well in RP can enter NTU on the strength of their Sports School and RP results.
- The Singapore-Norway links were reinforced with the NTU-BI agreement signed on 29 October to forge regional maritime expertise. NTU in collaboration with BI Norwegian School of Management, launched the Bachelor and Master of Science programmes in Maritime Studies (Shipping), dedicated to developing Singapore and Asia's maritime education capabilities at the graduate level.



NTU's technologies on display at Global Entrepolis@Singapore 2004.



NTU is Cornell's first oversea partner for the joint-degree program since its founding in 1865.



Guest of honour, Mrs Yu-Foo Yee Shoon, Minister of State for Community Development, Youth and Sports and MP for Jurong GRC (third from left), planting a Saga tree at Yunnan Garden.



The opening ceremony of the Biology in Asia International Conference held at NIE.



Mr Chong Peng Jek and Mr Soon Min Yam attended the opening ceremony of the 3rd batch of the EMBA Programme and also the inauguration ceremony of the NTU International EMBA Alumni Association (AA) in December 2004.

| NOVEMBER 2004 |

- Cornell University Hotel School (the world's leading hospitality management school) and NTU signed a contract to establish a joint Master's programme in Hospitality Management on 2 November. The programme will ensure that graduates will have the breadth to work in any area of hospitality, and at the same time, be equipped to pursue a specific niche within the industry.
- The University and Universiti Sains Malaysia signed a Memorandum of Agreement on 18 November to leverage mutual strengths for excellence in education and research. The two universities will put in place an arrangement for the exchange of academic staff. This exchange will see academic staff members from either side teach and conduct joint research.
- More than 2,500 university alumni, together with their families, returned to Yunnan Garden campus to celebrate the annual NTU Alumni Day 2004 on 27 November. The guests, which included University alumni, students, staff and grassroot leaders and residents of South West CDC, participated in tree-planting and a fun-filled carnival held in NTU's Yunnan Garden.
- Some 500 tertiary and junior college students signed up to experience futures and stocks trading at the Singapore Exchange (SGX) – Nanyang Technological University (NTU) Financial Games 2004. The opening ceremony was held on 27 November at NTU. The competition was organized by students from the NTU's Investment Interactive Club with the aim to raise awareness of financial knowledge and investment among youths.
- Close to 500 NTU staff and students celebrated Hari Raya on 30 November with an open house at the President's Lodge, jointly organised by the NTU Muslim Society and the International Student's Centre. Highlights of the open house included traditional Malay games like gasing and congkat, ketupat-making, kompang performances, and opportunities to dress up in traditional Malay apparel.

| DECEMBER 2004 |

- The Eighth International Conference on Control, Automation, Robotics and Vision (ICARCV 2004) was held on 6-9 December in Kunming, China. ICARCV 2004 was jointly organized by the University and Nanjing University of Science and Technology. The conference received a total of 920 submissions including 159 inviting papers.



- The Biology in Asia International Conference was held at NIE from 7 to 10 December. It was jointly organized by the Singapore Institute of Biology (SIBiol), in collaboration with NIE and the National University of Singapore, to commemorate the 30th anniversary of SIBiol. A total of 271 participants from 29 countries attended the conference.
- Mr Chong Peng Jek, Vice President of Student Affairs Office (SAO) and Mr Soon Min Yam, Director of Alumni Affairs Office (AAO) visited China where they met key officials from the Singapore NU-NTU (China) Alumni which was formed in October 2004. In Beijing they attended the NTU International EMBA Alumni Association (AA) Inauguration Ceremony on 15 December.
- Centre for Educational Development (CED) hosted premier Asia e-Learning Network (AEN) Conference 2004 in Singapore. Hosted outside Japan for the first time, the AEN2004 Conference was held in Pan Pacific Hotel from 15 to 17 December.
- A send-off ceremony was held on 17 December for the pioneer batch of students under the Global Immersion Programme (GIP). The event was attended by Minister of State for Education, Mr Chan Soo Sen, representatives of the Chinese and US embassies, representatives of some of the companies which are participating in GIP, NTU senior management and faculty members as well as students.

| JANUARY 2005 |

- President of NTU, Dr Su Guaning and Professor Ashok Misra, Director of Indian Institute of Technology Bombay (IIT), signed a Memorandum of Understanding on 10 January to foster close links to promote education and research.
- The NTU Symphonic Band held its 12th annual concert at the Victoria Concert Hall on 15 January. Titled "Sojourn 2005," this concert enjoyed a near-full-house audience with a total of 646 tickets sold. Minister for Information, Communications and the Arts, Dr. Lee Boon Yang, was the guest of honor.
- NTU students have raised close to \$110,000 in cash and \$40,000 in kind towards tsunami relief, under the University's 'Operation Moving Hearts', a campaign in aid of tsunami survivors. The cash donations were presented to Mrs Geri Lau, Secretary-General, Singapore Red Cross on 22 January.



High-growth campus: Dr Su Guaning, NTU President, showing Prof Ashok Misra, Director, Indian Institute of Technology, Bombay (second from left), a model of NTU.



Dr Su signing on a painting to signify the SCI's new direction – Soaring High: Transcending Boundaries.

- The International Cultural and Food Festival 2005 were organized by the NTU Students' Union on 26 and 27 January at Nanyang Auditorium, with NTU President, Dr Su Guaning as the guest of honour. The event comprised an exhibition and cultural performances presented by international students from 10 countries over two days.
- On 28 January, NTU President Dr Su Guaning officially visited the School of Communication and Information (SCI) on the occasion of its new floor extension. He signed a congratulatory note on a painting to signify the SCI's new direction – "Soaring High: Transcending Boundaries".
- "Pretty Tuff" was a unique programme launched and aimed at promoting regular exercise as a way of life among female NTU students. Over the course of the 8-week programme, over 800 female students were given opportunities to participate actively in exercise and fitness classes or to take up a new sport.



Chinese Ambassador HE Zhang Yun searching e-resources at the Lee Wee Nam Library.

| FEBRUARY 2005 |

- The Embassy of the People's Republic of China donated about 1,000 books and CD-ROMs to the University. This major donation received by NTU in recent years, estimated at \$25,000, will greatly complement the existing collection of Chinese-related literature in the NTU Library. The book donation ceremony was held at Lee Wee Nam Library on 2 February.
- The Dendrobium Nanyang was selected as the NTU orchid due its Asian origins and the qualities it represented. The burst of colour at the heart of the bloom signified the vibrancy of NTU. The orchid was a hybrid created by Temasek Primary School students and teachers under the guidance of National Institute of Education's (NIE) Associate Professor Chia Tet Fatt, who was the first to create a bioluminescent orchid in 2000.
- The Library received a collection of ancient rare Chinese books donated by a private collector, Mr Chuang Uming. Mr Chuang graced the book donation ceremony which was officiated by NTU President, Dr Su Guaning on 16 February.
- The University has established a joint research laboratory with Thales to develop cutting-edge technologies for commercial and defence applications. NTU President, Dr Su Guaning and Vice President of Research & Technology of the Thales Group, Mr Dominique Vernay signed a Memorandum of Understanding on 21 February. This is the first partnership that Thales has with a university outside Europe.



Mr Chuang Uming, accompanied by his family members, together with Dr Su Guaning (standing left) at the Book Donation Ceremony in Lee Wee Nam Library.



- An alumni get-together dinner was hosted by NTU President, Dr Su Guaning in Jakarta on 22 February. The event provided the opportunity for some 40 alumni in Indonesia to meet each other and rekindle their friendships.
- A Memorandum of Agreement (MOU) was signed between the University and two of Indonesia's leading universities - Universitas Indonesia (UI) and Institut Teknologi Bandung (ITB) on 23 February. The three institutions agreed to conduct joint research, and exchange students, teachers and information as part of the MOU.
- The SR Nathan Challenge Trophy, an exclusively Poly and ITE soccer tournament in the past, was open to the universities for the first time this year. Temasek Polytechnic hosted the tournament this year. Our team beat Ngee Ann Polytechnic to clinch the 3rd position on 25 February.

| MARCH 2005 |

- In collaboration with the Ministry of Education (MOE), Infocomm Development Authority (IDA), and Microsoft, National Institute of Education (NIE) converted some of its tutorial rooms to a Classroom of the Future (COTF). The COTF was officially opened on 2 March by Minister for Education, Mr Tharman Shanmugaratnam, who also launched the Backpack.NET Centre at the same time.
- His Excellency, Mr S R Nathan, President of the Republic of Singapore, Chancellor of Nanyang Technological University (NTU) and Patron-in-Chief of the NTU 21st Century Fund officiated the launch ceremony of the first-ever Ngee Ann Kongsi Professorship in Traditional Chinese Medicine (TCM) on 8 March. The Teochew philanthropic foundation, Ngee Ann Kongsi and the Government donated a total of \$3 million which enables NTU to invite eminent Professors specialized in the field of TCM to conduct public lectures, give seminars and initiate research with staff.
- As part of our NTU 50th Anniversary celebrations, the Alumni Sports Fiesta 2005 was held on Sunday, 13 March at the NTU Sports & Recreation Centre. The objective of the event was to enhance the bonding of our alumni with the NTU community through sports and games. Some 300 alumni, staff, final year and international students from Indonesia, Vietnam, China and United States participated in the friendly sports competitions.



President S R Nathan sharing the joy of our soccer representative during the S R Nathan Challenge Trophy.



Education Minister, Tharman Shanmugaratham (left) and NIE Director, Professor Leo Tan officially open the Classroom of the Future (COTF)



(From right to left): Mr Teo Chiang Long, President of Ngee Ann Kongsi, presenting the Kongsi's gift to President S R Nathan, Dr Su Guaning and Mr Ch'ng Jit Koon.



MOU Signing Ceremony between NTU and Waseda University, Japan.



The Networking Session for NTU international students saw about 205 students coming together for an evening of friendly competition in sports.

- The Nanjing University Traditional Instrument Orchestra Concert, organized by the Cultural Activities Club, was held on 14 March at Nanyang Auditorium. President Su was the guest of honor. The Orchestra performed to a 700-strong audience. The 35-member Orchestra played 15 melodious pieces under their conductress, Professor Zhang Jingbo.
- The then Acting Minister for Community Development, Youth and Sports Dr Vivian Balakrishnan addressed some 900 NTU students at the 11th Ministerial Forum entitled 'Fabric of the Nation: The Roles of the Young Generation in Weaving and Strengthening the Tapestry of Singapore', organized by the NTU Student's Union on 22 March.
- Some 10,000 visitors turned up at the L.I.F.E @ NTU (NTU Open House) to find out why NTU graduates constantly outperform their counterparts in the job market. They also took the opportunity to learn more about our unique courses.

| APRIL 2005 |

- The University's Master of Public Administration (MPA) programme has proven a hit among high-ranking officials from China. The new programme was launched by Education Minister, Mr Tharman Shanmugaratnam in a ceremony held on 12 April. Among the programme's inaugural intake of 55 participants are 6 mayors and deputy mayors and 45 senior directors and directors from various Chinese provinces and municipals.
- The Memorandum of Agreement for the double Master of Business Administration (MBA) degree programme was signed between NTU President, Dr Su Guaning and Japan's Waseda University President, Dr Katsuhiko Shirai on 20 April. The new double MBA degree programme is a groundbreaking collaboration as it marks the first time a Japanese university is offering its degree programme outside Japan.
- The inaugural Berkeley-Nanyang Advanced Management Programme (AMP) was launched on 22 April. It marked US' leading University of California, Berkeley's (UC Berkeley) first foray in Asia of such a kind. The full-time residential programme is a joint initiative between NTU's Nanyang Business School and UC Berkeley's Haas School of Business.

| MAY 2005 |

- The first Networking Session for NTU international students was held on 4 May. The session was aimed at strengthening the bonds among international students, so that they could establish contacts which will make the students' life in NTU more enjoyable and memorable.



- The NTU Golden Jubilee Regional Debating Championship organized by the Debating Society, was held from 24 to 29 May 05. It saw some 300 students from 35 tertiary institutions in 8 Asian countries thinking on their feet and pitting their debating skills against one another. The event was a resounding success and has helped to increase NTU's standing among its peers in Asia by a few notches.
- The inaugural "Distinguished Alumni Forum" series organized by the Alumni Affairs Office (AAO) saw a successful start with more than 200 guests including alumni and students, attending the forum on 27 May. In his welcome speech, NTU President Dr Su Guanqing noted that the Distinguished Alumni Forum series is an avenue to invite successful and prominent alumni to share their experiences with fellow alumni.

| JUNE 2005 |

- Dr Su Guanqing together with other senior NTU staff visited Shenzhen, Beijing and Shanghai from 4 – 11 June and during this trip they met up with NTU alumni, students from the EMBA programme and students from the Global Immersion Programme (GIP).
- NTU opened the NTU Beijing Office on 6 June in Zhongguancun, China's largest business incubator and the NTU Shanghai Office in Zhangjiang Hi-Tech Park on the 10 June. The university's Nanyang Technopreneurship Centre (NTC) also signed a Memorandum of Understanding with Zhongguancun International Incubator Inc in the area of entrepreneurship.
- NTU and Society of the Physically Disabled (SPD) had signed a Memorandum of Understanding (MOU) on 13 June to jointly pursue and promote research and development in Assistive Technology (AT). Under this MOU, NTU's Biomedical Engineering Research Centre (BMERC) will collaborate with SPD's Specialised Assistive Technology Centre (ATC) and Community Research Network (CRN), to jointly develop relevant and affordable AT systems.
- A carnival-cum-exhibition event, Ignite 2005 was organized by the Welfare Services Club and held on 25 and 26 June at the HDB Hub (Toa Payoh). It was organized with the following objectives: to promote volunteerism among students and the public, to integrate the disabled community and the elderly into society, to create public awareness of the day-to-day difficulties experienced by the disabled, and to raise funds for the beneficiaries.



A/P Tan Khee Giap, Mr Ang Swee Tian, Dr Su Guanqing and Mr Li Zhiqun at the Distinguished Alumni Forum held on 27 May 2005.



A moment of anticipation for both the young shooter and our Youth Minister, Dr Vivian Balakrishnan during the Ignite 2005.

Illuminating Our
ACCOMPLISHMENTS



| STAFF |

- Professor Leo Tan, Director of the National Institute of Education (NIE) was a recipient of a long service award for his 11-year service as Education Award Advisor to the Japanese Chamber of Commerce & Industry (JCCI) Singapore Foundation at JCCI's 15th Annual Donations, Awards and Scholarship Presentation Ceremony on 8 March 2005.
- Professor James Tam, Dean of the School of Biological Sciences (SBS), won the highly prestigious 2005 Ralph F Hirschmann Award for his outstanding contributions to Peptide and Protein Chemistry. This award is administered by the American Chemical Society to recognise premier chemical professionals.

**Pushing Our Boundaries,
Reaping the Harvests**

ACHIEVEMENTS

- Associate Professor Lawrence Koe from the School of Civil and Environmental Engineering (CEE) won the ASEAN Outstanding Engineering Achievement Award during the Prestigious Engineering Achievement Award 2004, for the development of Bioscrubbers – a cost-effective and environment-friendly alternative to chemical scrubbers.
- NTU lecturer, Mr Adrian Leung Ho Yin from the School of Computer Engineering (SCE) is the first in Singapore to be awarded the Royal Holloway/Cheveney Scholarship to pursue a PhD programme in the United Kingdom. The scholarship will see Mr Leung pursue doctoral studies in Information Security at the renowned Information Security Group of the Royal Holloway College, University of London.
- A paper by PhD candidate Ho Sy Loi and Associate Professor Jagath C Rajapakse from the School of Computer Engineering (SCE) titled “Highly Sensitive Technique for Translation Initiation Site Detection” won two awards – The Best Student Paper Award and Overall Best Paper Award – at the First IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology, held in San Diego, USA.



Associate Professor Lawrence Koe (left) receiving the Prestigious Engineering Award 2004.





Professor Allan Luke, one of the ten distinguished Canadians conferred an honorary Doctor of Laws by Simon Fraser University.

- Professor Leo Tan, Director of the National Institute of Education (NIE) and President of Singapore National Academy of Science (SNAS) was made an Honorary Fellow of the Singapore Institute of Biology (SIBiol) at the Biology in Asia International Conference Banquet-cum-30th Anniversary Dinner on 9 December 2004, for actively promoting biology and biology education in Singapore. Professor Lee Sing Kong, Dean of Graduate Programmes and Research, NIE and Professor Diong Cheong Hoong Natural Sciences & Science Education, NIE were made Fellows in recognition of their contributions to SIBiol.
- Professor Allan Luke, the Dean of the Centre for Research in Pedagogy & Practice will be conferred an honorary Doctor of Laws by his alma mater, Simon Fraser University. Professor Luke is one of the ten distinguished Canadians to be honoured by the University in recognition of their outstanding contributions to British Columbia and Canada.
- Ms Flora Tsai, Teaching Fellow from the School of Electrical and Electronic Engineering (EEE) is the first in Singapore to be awarded a Faculty Award from the IBM Eclipse Innovation Grant (EIG) programme for her proposal entitled “Object-Oriented design and Development of an Electronic Patient Record System”.
- Associate Professor Ang Peng Hwa, Dean of the School of Communication and Information (SCI) has been invited to be a member of the governing council of India’s prestigious Mudra Institute of Communications, Ahmedabad (MICA). Started in 1991, MICA has had a 100 percent placement record for its graduates in its flagship Postgraduate Diploma in Communications Management.
- Associate Professor Rusli from the School of Electrical and Electronic Engineering (EEE) has successfully developed the fabrication processes for 4H-SiC semiconductors in his project, “Development of Core Competence in Silicon Carbide Technologies for High Temperature, High Power and High Frequency Electronic Devices and Systems.”



Members of the Reveurs Team (from left to right): Tan Pei Shan, Karen Yiling and Chen Eik Fang.

| STUDENTS |

- A total of 42 teams participated in the L’Oreal International Marketing Award, now known as L’Oreal Brandstorm. Two of the eight teams that made it to the National Finals held on 31 March 2005 were from the Nanyang Business School (NBS).

- Goh Siew Hong, a Bachelor of Science (Education) trainee teacher from the National Institute of Education (NIE) received the President's Award for Teachers (PAT) 2004 from Singapore President SR Nathan on 1 September 2004. This prestigious award is presented annually on Teacher's Day to teachers who are deemed models of commitment to continual learning and enterprise.
- Liu Hui, who graduated from the School of Computer Engineering (SCE), developed a wireless service that provides live traffic monitoring over mobile phones in her final year of study. Named *Traffic Cam*, the application will be available commercially on Motorola phones.
- Elisha Teo of the Nanyang Business School (NBS) and Aaron Chia of the School of Civil and Environmental Engineering won the National Youth Achievement Gold Award for their significant voluntary community work.
- Lee Lim, a third year student from the School of Computer Engineering (SCE) won the top prize in the 1st "Storage Unlimited in Consumer Electronics" competition with his innovative idea of using the concept of optical fibre and laser technology to increase storage capacity. The competition was jointly organized by NTU's School of Electrical and Electronic Engineering (EEE) and Data Storage Institute (DSI).
- Two graduates from the Nanyang Business School (NBS) topped the Business Plan Competition in NTU's Technopreneurship and Innovation Programme (TIP). Ms Farah Adila Fami and Ms Nurhiyati Yahya, who made elevator pitches at a business plan competition held at the University of Washington was awarded first and third place in the competition.
- Loh Tick Boon, then a final year student from the Mechanical & Aerospace Engineering (MAE) student won the Silver Award for Defence Science at the 2004 Tan Teng Kee Young Inventors' Award.
- The University's Welfare Services Club won a Commonwealth Gold for organizing an annual camp for the hearing impaired. The Club received a medal, a certificate and 3,000 euros (S\$6,200).
- Wang Qijie, a PhD student from the School of Electrical and Electronic Engineering (EEE) won the top prize in the 5th Asian Wall Street Journal's Young Inventors Award. The award recognizes research and innovation among tertiary students in the Asia-Pacific.



Elisha Teo of Nanyang Business School and Vice-President of NTU Chapter of the Red Cross, was the youngest member of a medical mission which flew to Sri Lanka in aid of tsunami victims.



Lee Lim (left) won the top prize in the Data Storage Unlimited Design Competition.

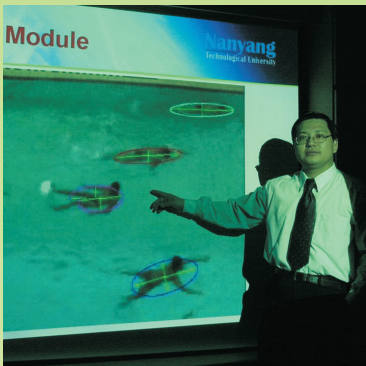




(From left): Liang Xiaojun, Sun Yi and Zhang Xuming won the bronze award for their invention of biomedical chip.

- Ardian Poernomo, a third-year undergraduate from the School of Computer Engineering (SCE), beat 14,000 contestants from six Asian countries to take the top prize of S\$11,700 in Google's India Code Jam programming contest held in March 2005.
- In 2005, three students from the School of Communication and Information (SCI) won the top prize in the JVC Tokyo Video Festival for their video entitled Parents Nonetheless. This video was the only Singapore entry chosen for the Selected Works category.
- Liang Xiaojun, Sun Yi and Zhang Xuming, from the School of Electrical and Electronic Engineering (EEE), won the bronze award for their development of a biomedical chip that assesses cells one at a time using refraction. This ensures that the odd cancer cell is spotted, and works with a single drop of blood. Results are available within an hour.

| RESEARCH |



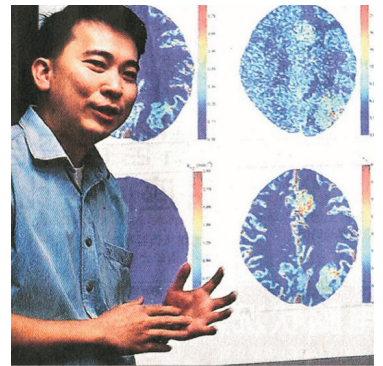
Surveillance system able to detect and decide if a swimmer is in danger of drowning.

- Associate Professor Tan Yap Peng, together with researchers from the School of Electrical and Electronic Engineering (EEE), exploited video processing technology to develop an intelligent surveillance system, which can detect and decide if a swimmer is in danger of drowning, and sound an alert in five seconds or less.
- A team led by Associate Professor S. Balasuriya from the School of Electrical and Electronic Engineering (EEE) has developed the Smart Sea Robot with the "brains" to manoeuvre autonomously underwater. The robot can be used in depths of up to 100m and is expected to have numerous applications from underwater oil and gas exploration and the study of marine life to even mine detection for counter terrorism at sea.
- A team of 10 NTU professors researchers from the School of Computer Engineering (SCE) worked with Vietnam's national research institute, the Institute of Information Technology (IOIT) to design and set up Vietnam's first virtual reality laboratory.



Dean of SCE, Associate Professor Seah Hock Soon (fourth from left) officiated the opening of the Virtual Reality Laboratory at IOIT on 17 May 2005.

- Researchers at NTU have developed an intelligent unmanned vehicle which is faster and smarter than current commercial technologies. The unmanned vehicle can move up to four times faster and still find the shortest path between two locations intelligently. The project was done by researchers of the Intelligent Systems Centre (IntelliSys), jointly set up by the University and Singapore Technologies Engineering (ST Engg).
- Protective Technology Research Centre (PTRC)'s R&D project with DSTA on the development of underground storage space for civil and military uses represents one of the most successful examples of joint research projects with the industry or government agencies. The project has won NTU and DSTA the IES Prestigious Engineering Awards 2004.
- A research team led by Associate Professor Seah Leong Key from the School of Mechanical and Aerospace Engineering (MAE) has developed a new imaging technique for fingerprint imaging. This technique enables imaging of older fingerprints of more than a year, on different substrates with strong background fluorescence.
- The Singapore General Hospital (SGH) and the School of Mechanical and Aerospace Engineering (MAE) have jointly developed a Prostate Robotic System, a robotic biopsy and potential radioactive seed treatment delivery system that can be used to define cancerous areas in prostate and guide biopsy protocols.
- A project team led by Associate Professor Lim Chu-Sing from the School of Mechanical and Aerospace Engineering (MAE) developed an innovative Tuberculosis (TB) detection technique and device, using light waves to detect the presence of TB agents.
- Associate Professor Adrian Cheok's "MagicLand" and "Human Pacman", mixed reality system that epitomize interactive gaming and art, is the only Singapore representative at the Wired NextFest 2005, an international technology show held in Chicago from 24-26 June 2005, which was attended by close to 30,000 people. His inventions were featured extensively by the international media at the show.
- NTU researchers led by Assistant Professor Koh Tong San from the School of Electrical and Electronic Engineering (EEE) have come up with a new method of taking images of a cancer tumor. The breakthrough can lead to better diagnosis and tracking of the progress of follow-up treatments.



Assistant Professor Koh Tong San presenting a new method for taking images of a cancer tumour.



| 2004 |

04 Aug

Prof Xu Xiaohu, President, Shantou University,
People's Republic of China

12 Aug

Prof Sir Richard Friend, Lee Kuan Yew
Distinguished Visitor

17 Aug

Prof H Mettler, Rector, HSR Hochschule für
Technik Rapperswil, Switzerland

DISTINGUISHED VISITORS

26 July 2004

~ 25 July 2005

14 Sep

Sir Llewellyn Edwards, Chancellor and Prof
John Hay, Vice-Chancellor, The University of
Queensland, Australia

23 Sep

Dr Peggy Williams, President, Ithaca College,
United States of America

27 Sep

Prof Zhang Changkuan, President, Hohai
University, People's Republic of China

07 Oct

Prof Andrew Hamnett, Vice-Chancellor,
University of Strathclyde, United Kingdom

12 Oct

Dr Wichit Srisa-An, Chairman, Education
Committee of the House of Representatives of
Thailand, Thailand

18 Nov

Prof Dato' Dzulkifli Abdul Razak, Vice-
Chancellor, Universiti Sains Malaysia, Malaysia

15 Dec

Md Safiqul Islam, Joint Secretary, Local
Government Division, Bangladesh

19 Dec

Dr Joy Shi, President, Hong Kong Institute of
Technology, Hong Kong

| 2005 |

05 Jan

Mr Hawazi Daipi, Senior Parliamentary Secretary, Ministry of Education and members of the Government Parliamentary Committee (Education), Singapore

06 Jan

Prof Xu Zhihong, President, Peking University, People's Republic of China

07 Jan

Dr Richard Herman, Chancellor, University of Illinois at Urbana-Champaign, United States of America

10 Jan

Prof Ashok Misra, Director, Indian Institute of Technology, Bombay, India

11 Jan

International Academic Advisory Panel

17 Jan

Prof Alan Gilbert, President and Vice-Chancellor, The University of Manchester, United Kingdom

19 Jan

Prof James Gustave Speth, Lee Kuan Yew Distinguished Visitor

28 Jan

Prof Zhang Xinyi, Provost and Vice-President, Shandong University of Technology

02 Feb

Mr Zhang Yun, Ambassador, Embassy of the People's Republic of China

Dr Kuan-Tsae Huang, President, National Taiwan Normal University, Taiwan

14 Feb

Prof Jae-Kyoo Lee, President, Daegu University, Korea

15 Feb

Ms Linda Koch Lorimer, Vice President and Secretary, Yale University, United States of America

21 Feb

Prof Christopher Edwards, Vice Chancellor, University of Newcastle Upon Tyne, United States of America

22 Feb

Dr Yi Cui Jie, President, Qingdao Technological University, People's Republic of China

01 Mar

Prof Gerard 'T Hooft, 1999 Nobel Laureate in Physics and Professor of Theoretical Physics, State University of Utrecht, The Netherlands

04 Mar

Mr Richard Lindheim, Executive Director, Institute for Creative Technologies, University of Southern California

Yang Amat Berbahagia Toh Puan Mahani Idris Daim, S.S.A.P., D.P.M.S., D.J.M.K., Malaysia

18 Mar

Prof Roger Field, Vice Chancellor, Lincoln University, New Zealand

12 Apr

Dr Kim Jang-Ho, President, Korea Research Institute for Vocational Education and Training, Korea

19 Apr

H.E. Prof Dr Nguyen Minh Hien, Minister of Education and Training, Vietnam, and SEAMEO Council President

H.E. Assoc Prof Duong Van Quang, Ambassador Extraordinary and Plenipotentiary, Socialist Republic of Vietnam

Prof Katsuhiko Shirai, President, The Waseda University President Shira, Japan

08 May

Dr Michael M. Chow, President, Arizona State University, United States of America

PROFESSOR LIM MONG KING

Deputy President and Dean, College of
Engineering

Public Administrative Medal (Gold)

PROFESSOR LEE SING KONG

Dean, Graduate Programmes & Research,
National Institute of Education

Public Administrative Medal (Silver)

MR TAI KIAN HENG

Deputy Director, Office of Admissions

Public Administrative Medal (Bronze)

**NATIONAL DAY
AWARDS | 2004**

ASSOCIATE PROFESSOR

LIM-TEO SUAT KHOH

Associate Dean, Curriculum and FP
Planning, Foundation Programmes Office,
National Institute of Education

Public Administrative Medal (Bronze)

MDM BOON SUAN LOY ZOE

Teaching Fellow Policy & Leadership Studies
Academic Group,
National Institute of Education

Public Administrative Medal (Bronze)

MRS WONG-TANG WAI KENG

Senior Manager (Personnel cum Research),
School of Electrical and Electronic
Engineering

Commendation Medal

MISS LEN AH CHAN

Secretary, School of Computer Engineering

Efficiency Medal

MRS SOH-YONG SEW BOYE

Senior Executive Assistant, Office of
Admissions

Efficiency Medal

MRS LIM-ANG AH BUAN

Senior Technical Executive, Natural
Sciences & Science Education Academic
Group, National Institute of Education

Efficiency Medal

MDM LEE PUAY HUANG

Trainer, Special Training Programme,
National Institute of Education

Long Service Medal

MDM LIM GEOK CHOO

Trainer, Special Training Programme,
National Institute of Education

Long Service Medal

MISS TAN AH HONG

Teaching Fellow, Asian Languages &
Culture Academic Group, National Institute
of Education

Long Service Medal

MR WILLIAM OH

Technical Support Executive, Centre for IT
in Education, National Institute of Education

Long Service Medal

MR WU HENG CHYE, HARRY

Senior Driver, Director's Office, National
Institute of Education

Long Service Medal

Donation Period:
April 2004 ~ March 2005

NTU 21ST CENTURY FUND

NAME OF DONOR	PLEDGE / PAID (\$)
Singapore Totalisator Board	5,469,654
Government of Singapore	4,540,957
Lien Foundation	1,500,000
Ngee Ann Kongsi	1,500,000
The Ford Foundation	401,472
Lee Foundation Singapore	315,250
Isetan Foundation	300,000
The Tan Foundation	290,000
Chemprox Enterprise Pte Ltd	105,000
ExxonMobil Asia Pacific Pte Ltd	65,000
United States Institute of Peace	58,317
Singapore Technologies Engineering Ltd	51,500
Sasakawa Peace Foundation Japan	31,440
Lion AsiaPac Limited	30,000
Tan Joo Kee Scholarships/Bursaries Fund	28,500
Lee Foundation, States of Malaya	28,000
Martin Erik Gustav Helander	28,000
Singapore Buddhist Lodge Bursary Fund	20,000
The Shaw Foundation Pte	20,000
Max Lewis Scholarship Fund	18,000
The Ogilvy Foundation	17,014
NTU School of CEE Alumni Association	13,300
Tunnelling & Underground Construction Society	13,100
Wee Chow Hou	11,010
Sasakawa Peace Foundation USA	10,620
NTU Students' Union	10,619
CPA Australia	10,000
Others	233,414
Total	\$15,120,167

DEGREE & GRADUATE DIPLOMA PROGRAMMES

Offered by the University
as at the end of Academic
Year 2004-2005

| BACHELOR DEGREE |

DEGREE	ABBREVIATION
Bachelor of Accountancy	B.Acc.
Bachelor of Arts (Education)	B.A.Ed.
Bachelor of Arts (Honours)	B.A.(Hons.)
Bachelor of Arts (Honours) in Economics	B.A.(Hons.)Econs.
Bachelor of Arts with Diploma in Education	B.A.Dip.Ed.
Bachelor of Business	B.Bus.
Bachelor of Communication Studies with Honours	B.Comm.Studies(Hons.)
Bachelor of Engineering (Bioengineering)	B.Eng.(Bioeng.)
Bachelor of Engineering (Chemical & Biomolecular Engineering)	B.Eng.(Chem.&Biomol.Eng.)
Bachelor of Engineering (Civil)	B.Eng.(Civil)
Bachelor of Engineering (Computer Engineering)	B.Eng.(Comp.Eng.)
Bachelor of Engineering (Computer Science)	B.Eng.(Comp.Sc.)
Bachelor of Engineering (Electrical & Electronic Engineering)	B.Eng.(Elect.)
Bachelor of Engineering (Environmental Engineering)	B.Eng.(Env.Eng.)
Bachelor of Engineering (Materials Engineering)	B.Eng.(Matl.Eng.)
Bachelor of Engineering (Mechanical & Production Engineering)	B.Eng.(Mech.)
Bachelor of Engineering (Mechanical Engineering)	B.Eng.(Mech.)
Bachelor of Science (Education)	B.Sc.(Ed.)
Bachelor of Science (Honours) in the National Institute of Education	B.Sc.(Hons.)
Bachelor of Science (Maritime Studies)	B.Sc.(Mari.Studies)
Bachelor of Science with Diploma in Education	B.Sc.Dip.Ed.
Bachelor of Science with Honours in the School of Biological Sciences	B.Sc.(Hons.)

| MASTER DEGREE |

DEGREE	ABBREVIATION
Master of Accountancy	M.Acc.
Master of Applied Science	M.Appl.Sci
Master of Arts	M.A.
Master of Arts (Applied Linguistics)	M.A.(Appl.Ling.)
Master of Arts (Applied Psychology)	M.A.(Appl.Psy.)
Master of Arts (Educational Management)	M.A.(Ed.Mgt.)
Master of Arts (Instructional Design & Technology)	M.A.(IDT)
Master of Business	M.Bus.
Master of Business Administration	M.B.A.
Master of Business Administration (Accountancy)	M.B.A.(Acc.)
Master of Business Administration (Banking & Finance)	M.B.A.(B.&F.)
Master of Business Administration (Business Law)	M.B.A.(Bus.Law)
Master of Business Administration (E-Commerce)	M.B.A.(E-Commerce)
Master of Business Administration (Hospitality & Tourism Management)	M.B.A.(HTM)
Master of Business Administration (Human Capital Management)	M.B.A.(HCM)
Master of Business Administration (International Business)	M.B.A.(IB)
Master of Business Administration (Management of Information Technology)	M.B.A.(Mgt. of IT)
Master of Business Administration (Management of Technology)	M.B.A.(M.O.T.)
Master of Business Administration (Marketing)	M.B.A.(Marketing)
Master of Business Administration (Nanyang EMBA)	M.B.A(Nanyang EMBA)
Master of Business Administration (Nanyang Fellows)	M.B.A.(Nanyang Fellows)
Master of Business Administration (Strategic Management)	M.B.A.(Strat.Mgt.)
Master of Business Administration (Technology & Operations Management)	M.B.A.(TOM)
Master of Communication Studies	M.Comm.Studies
Master of Education	M.Ed.
Master of Education (Mathematics Education)	M.Ed.(Math.Ed.)
Master of Engineering	M.Eng.
Master of Mass Communication	M.Mass Comm.
Master of Philosophy	M.Phil.
Master of Public Administration	MPA
Master of Science	M.Sc.
Master of Science (International Construction Management)	M.Sc.(Int'l.Constr.Mgt.)
Master of Science (Accountancy)	M.Sc.(Acc.)
Master of Science (Applied Finance)	M.Sc.(Appl.Fin.)
Master of Science (Bioinformatics)	M.Sc.(Bioinfo.)
Master of Science (Biomedical Engineering)	M.Sc.(Biomed.Eng.)

| MASTER DEGREE |

DEGREE	ABBREVIATION
Master of Science (Civil Engineering)	M.Sc.(Civil Eng.)
Master of Science (Communication Software & Networks)	M.Sc.(Comm.Software&Networks)
Master of Science (Communications Engineering)	M.Sc.(Comm.Eng.)
Master of Science (Computer Control & Automation)	M.Sc.(Comp.Contr.&Autom.)
Master of Science (Computer Integrated Manufacturing)	M.Sc.(CIM)
Master of Science (Consumer Electronics)	M.Sc.(Cons.Elec.)
Master of Science (Digital Media Technology)	M.Sc.(Digital Media Tech.)
Master of Science (Education, Management & Economics)	M.Sc.(Edu.Mgt.&Econs.)
Master of Science (Embedded Systems)	M.Sc.(Emb.Syst.)
Master of Science (Environment Engineering)	M.Sc.(Env.Eng.)
Master of Science (Environmental Science and Engineering)	M.Sc.(Env.Sci.&Eng.)
Master of Science (Exercise & Sport Studies)	M.Sc.(ESS)
Master of Science (Finance)	M.Sc.(Finance)
Master of Science (Financial Engineering)	M.Sc.(Fin.Eng.)
Master of Science (Geotechnical Engineering)	M.Sc.(Geotech.Eng.)
Master of Science (Human Capital Management)	M.Sc.(HCM)
Master of Science (Human Factors Engineering)	M.Sc.(HFE)
Master of Science (Industrial Ecology)	M.Sc.(Industrial Ecology)
Master of Science (Information Studies)	M.Sc.(Info.Studies)
Master of Science (Information Systems)	M.Sc.(Info.Sys)
Master of Science (Information Technology)	M.Sc.(IT)
Master of Science (Innovation in Manufacturing Systems and Technology)	S.M.(IMST)
Master of Science (Integrated Circuit Design)	M.Sc.(IC Design)
Master of Science (International Business)	M.Sc.(IB)
Master of Science (International Political Economy)	M.Sc.(IPE)
Master of Science (International Relations)	M.Sc.(Int'l Relations)
Master of Science (Knowledge Management)	M.Sc.(KM)
Master of Science (Life Sciences)	M.Sc.(Life Sci.)
Master of Science (Logistics)	M.Sc.(Log.)
Master of Science (Management)	M.Sc.(Mgt.)
Master of Science (Managerial Economics)	M.Sc.(Managerial Econs.)
Master of Science (Maritime Studies)	M.Sc.(Mari.Studies)
Master of Science (Marketing)	M.Sc.(Marketing)
Master of Science (Mechanical Engineering)	M.Sc.(Mech.Eng.)
Master of Science (Mechanics & Processing of Materials)	M.Sc.(Mech.&Proc.of Matl.)
Master of Science (Micro Electro Mechanical Systems Engineering)	M.Sc.(MEMS)

| MASTER DEGREE |

DEGREE	ABBREVIATION
Master of Science (Microelectronics)	M.Sc.(Microelect.)
Master of Science (Offshore Engineering)	M.Sc.(Offshore Eng.)
Master of Science (Photonics)	M.Sc.(Photonics)
Master of Science (Power Engineering)	M.Sc.(Power Eng.)
Master of Science (Precision Engineering)	M.Sc.(Prec.Eng.)
Master of Science (Signal Processing)	M.Sc.(SP)
Master of Science (Smart Product Design)	M.Sc.(SPD)
Master of Science (Specialisation)	M.Sc.(Specialisation)
Master of Science (Strategic Management)	M.Sc.(Strat.Mgt.)
Master of Science (Strategic Studies)	M.Sc.(Strategic Studies)
Master of Science (Technology & Operations Management)	M.Sc.(TOM)
Master of Science (Transportation Engineering)	M.Sc.(Tpt.Eng.)
NTU-ESIEE Dual Degree of Master of Science (Micro Electro Mechanical Systems Engineering)	M.Sc.(MEMS)

| DOCTORATE |

DEGREE	ABBREVIATION
Doctor of Laws	LL.D.
Doctor of Letters	D.Litt.
Doctor of Philosophy	Ph.D.
Doctor of Philosophy (Environmental Science & Engineering)	Ph.D.(Env.Sci.&Eng.)
Doctor of Science	D.Sc.

| GRADUATE DIPLOMA |

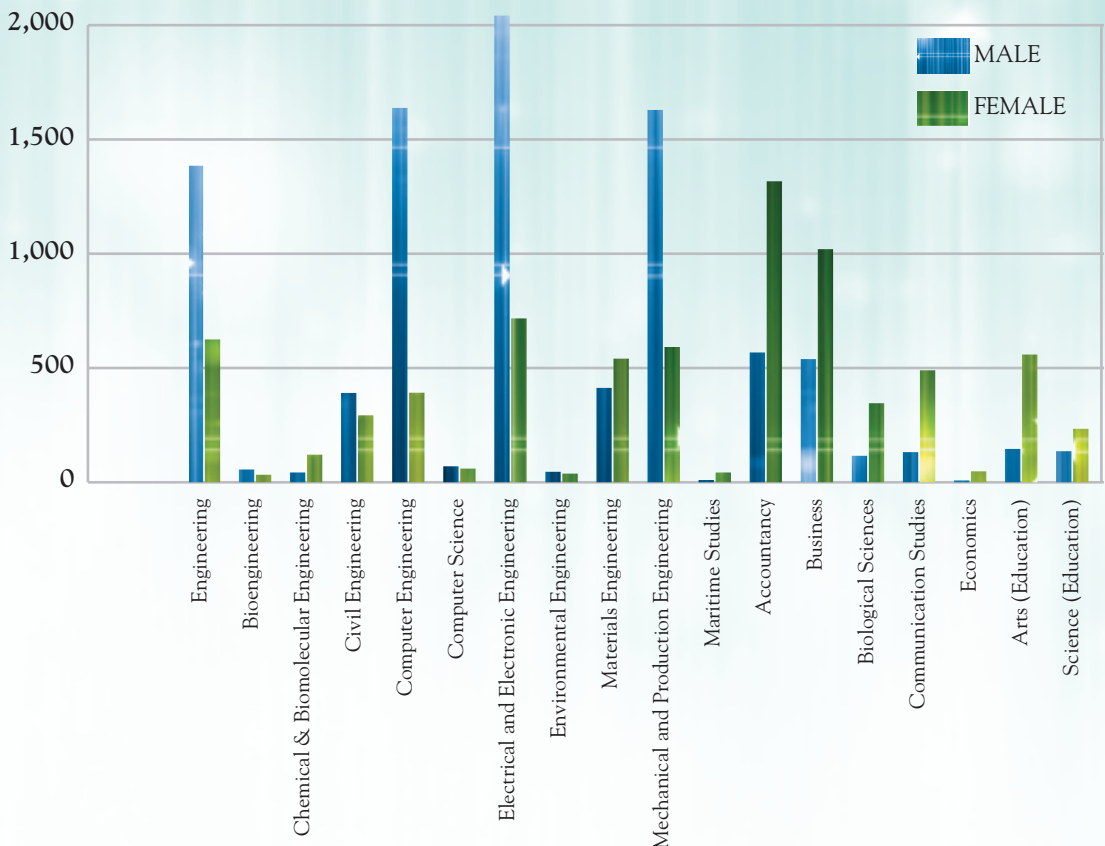
DEGREE	ABBREVIATION
Graduate Diploma in Airport Engineering	G.Dip.Airport Eng.
Graduate Diploma in Construction Management	G.Dip.Constr.Mgt.
Graduate Diploma in Information-Communication Technology	G.Dip.ICT
Graduate Diploma in Mass Communication	G.Dip.Mass Comm.
Graduate Diploma in Technopreneurship & Innovation Programme	G.Dip.TIP
Postgraduate Diploma in Education	PG.Dip.Ed.
Postgraduate Diploma in English Language Teaching	PG.Dip.ELT
Postgraduate Diploma/Certificate in Higher Education	PG.Dip./Cert.Higher Edu.

STUDENT STATISTICS

Acaemic Year
2004 ~ 2005

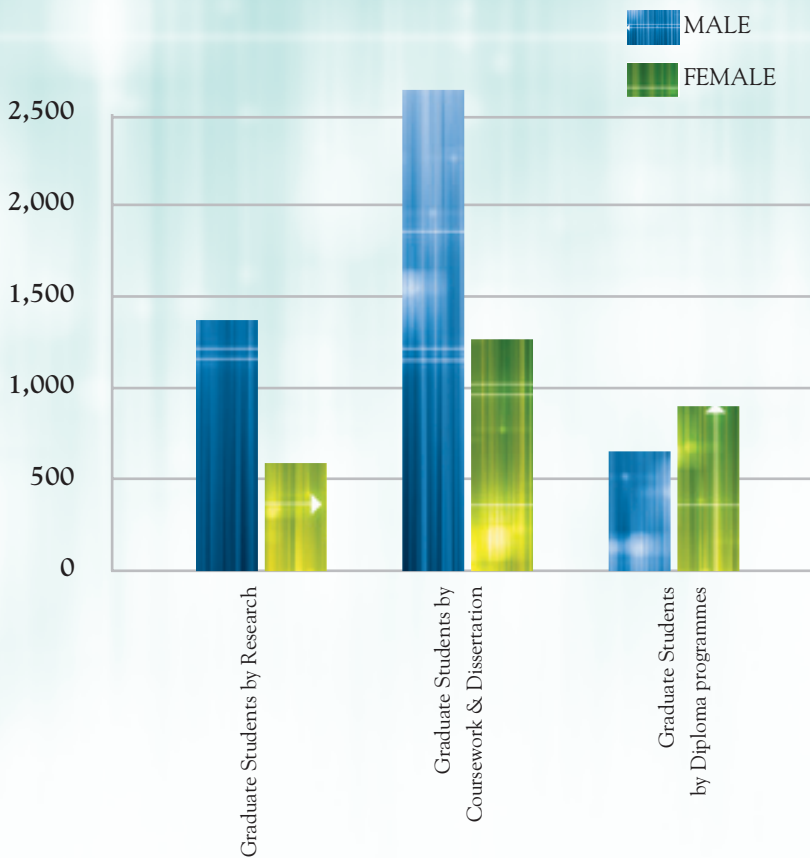
| UNDERGRADUATE ENROLMENT |

COURSE	MALE	FEMALE	TOTAL
Engineering	1385	625	2010
Bioengineering	56	33	89
Chemical & Biomolecular Engineering	43	121	164
Civil Engineering	391	293	684
Computer Engineering	1638	392	2030
Computer Science	70	60	130
Electrical and Electronic Engineering	2042	717	2759
Environmental Engineering	46	38	84
Materials Engineering	413	541	954
Mechanical and Production Engineering	1629	592	2221
Maritime Studies	10	43	53
Accountancy	568	1317	1885
Business	539	1020	1559
Biological Sciences	116	346	462
Communication Studies	132	490	622
Economics	8	48	56
Arts (Education)	146	559	705
Science (Education)	136	234	370
TOTAL	9368	7469	16837



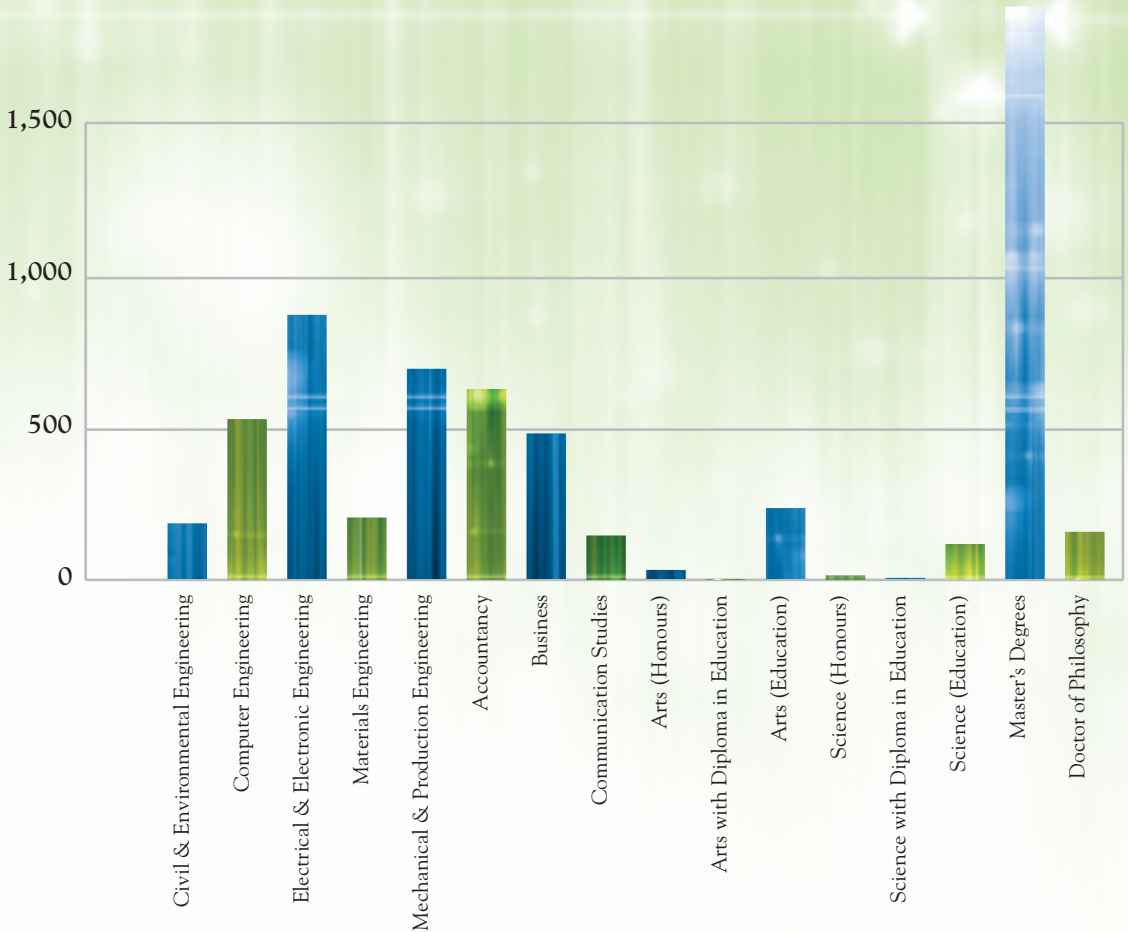
| GRADUATE STUDENTS ENROLMENT |

PROGRAMME	MALE	FEMALE	TOTAL
Graduate Students by Research	1373	591	1964
Graduate Students by Coursework & Dissertation	2632	1268	3900
Graduate Students by Diploma programmes	655	902	1557
TOTAL	4660	2761	7421



| GRADUATE |

COURSE	04/05
Civil & Environmental Engineering	186
Computer Engineering	528
Electrical & Electronic Engineering	870
Materials Engineering	205
Mechanical & Production Engineering	693
Accountancy	631
Business	481
Communication Studies	146
Arts (Honours)	33
Arts with Diploma in Education	3
Arts (Education)	236
Science (Honours)	15
Science with Diploma in Education	7
Science (Education)	118
Master's Degrees	1882
Doctor of Philosophy	158
TOTAL	6192



Acaemic Year
2004 ~ 2005

STAFF STATISTICS

| STAFF STRENGTH |

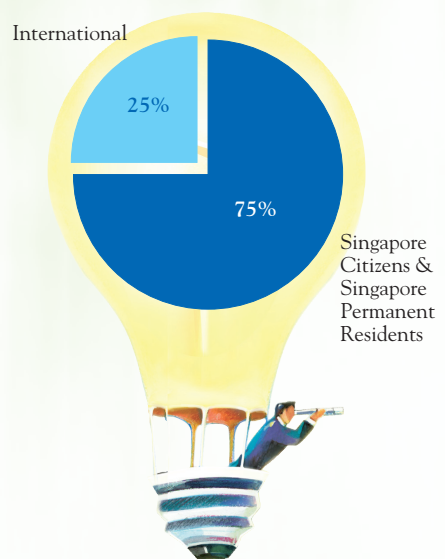
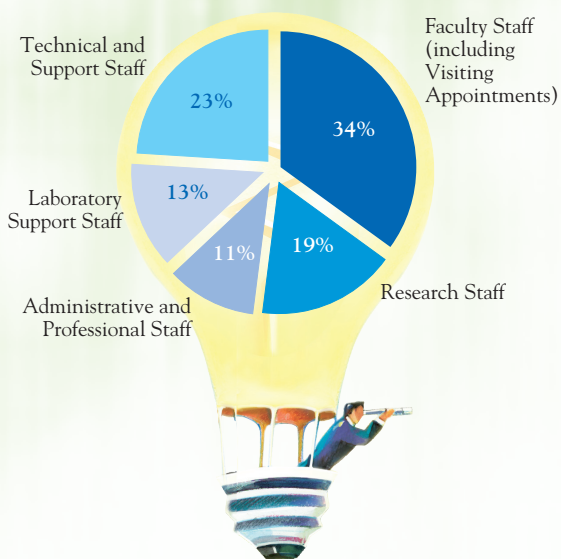
The staff strength as of 25 July 2005 stood at 4123.

| DISTRIBUTION OF STAFF BY FUNCTION |

		%
Faculty Staff (including Visiting Appointments)	1405	34
Research Staff	784	19
Administrative and Professional Staff	458	11
Laboratory Support Staff	534	13
Technical and Other Support Staff	942	23
TOTAL	4123	100

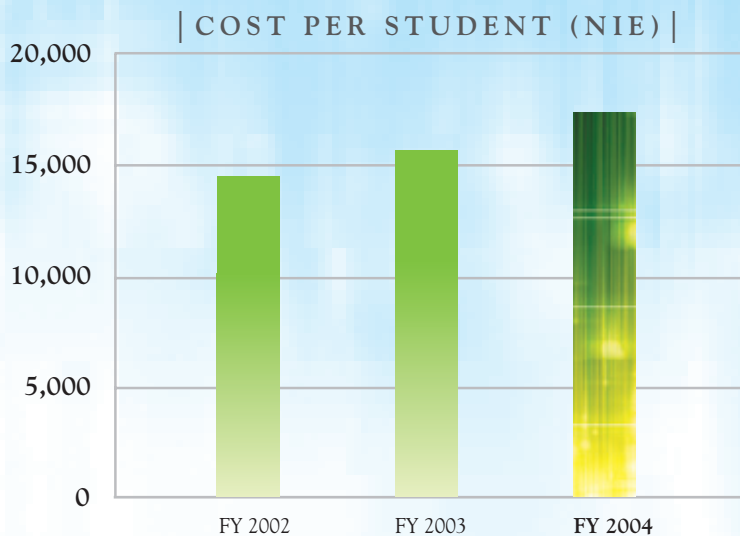
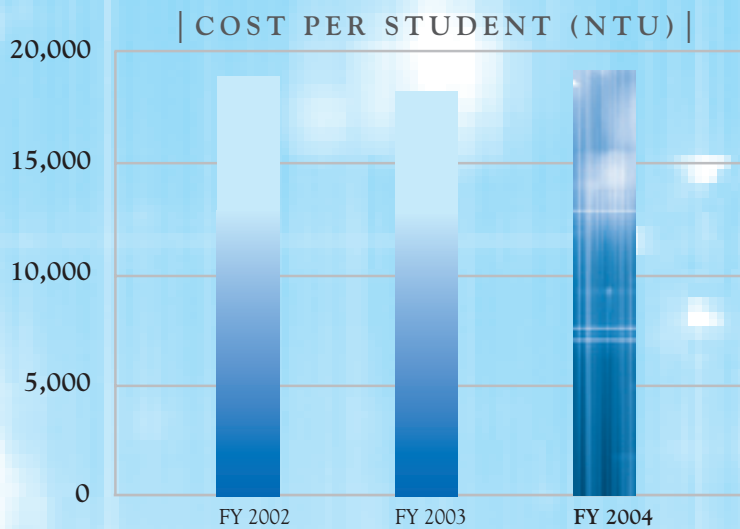
| FACULTY STAFF BY CITIZENSHIP |

		%
Singapore Citizens and Singapore Permanent Residents	1054	75
International	351	25
TOTAL	1405	100



PERFORMANCE INDICATORS

	FY2002	FY2003	FY2004
Cost Per Student (NTU)	\$18,900	\$18,220	\$19,176
All Non-Teaching Staff/Student Ratio	1:12.8	1:12.6	1:12.9
General Administrative Staff/Student Ratio	1:51.7	1:50.0	1:47.4
Teaching Staff/Student Ratio	1:18.2	1:18.7	1:19.9
Cost Per Student (NIE)	\$14,424	\$15,609	\$17,383



For the Year Ended
31 March 2005

FINANCIAL STATEMENTS

| CONTENTS |

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REPORT ON THE AUDIT OF THE FINANCIAL STATEMENTS OF THE NANYANG TECHNOLOGICAL UNIVERSITY FOR THE YEAR ENDED 31 MARCH 2005

The financial statements of the Nanyang Technological University, set out on pages 47 to 76, have been audited under my direction and in accordance with the provisions of the Nanyang Technological Act (Cap. 192, 1992 Revised Edition). These financial statements are the responsibility of the University's management. My responsibility is to express an opinion on these financial statements based on the audit.

The audit was conducted in accordance with the Nanyang Technological Act (Cap. 192, 1992 Revised Edition) and Singapore Standards on Auditing. Those Standards require that the audit be planned and performed in order to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the University's management, as well as evaluating the overall financial statements presentation. I believe that the audit provides a reasonable basis for my opinion.

In my opinion,

- (a) the consolidated financial statements of the Group and the financial statements of the University are properly drawn up in accordance with the provisions of the Nanyang Technological Act (Cap. 192, 1992 Revised Edition) and Singapore Financial Reporting Standards so as to give a true and fair view of the state of affairs of the Group and of the University as at 31 March 2005, and the results and changes in equity of the Group and of the University, and the cash flows of the Group for the year ended on that date;
- (b) proper accounting and other records of the University have been kept, including records of all assets of the University whether purchased, donated or otherwise; and
- (c) receipts, expenditure and investment of moneys and the acquisition and disposal of assets by the University during the financial year have been in accordance with the provisions of the Nanyang Technological Act (Cap. 192, 1992 Revised Edition).



CHUANG KWONG YONG
AUDITOR-GENERAL
SINGAPORE

BALANCE SHEETS AS AT 31 MARCH 2005

	Note	Group		University	
		2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000
CAPITAL ACCOUNT	3	200,858	200,858	200,858	200,858
ACCUMULATED SURPLUS					
General Funds		136,887	129,298	135,265	127,539
Restricted Funds		187,840	159,006	187,840	159,006
		324,727	288,304	323,105	286,545
Endowment Funds	4	723,998	698,816	723,998	698,816
TUITION FEE LOANS FUND	5	103,984	110,443	103,984	110,443
SPECIAL SCHOLARSHIPS AND STUDENT LOANS FUNDS	6	61,308	63,237	61,308	63,237
		<u>1,414,875</u>	<u>1,361,658</u>	<u>1,413,253</u>	<u>1,359,899</u>
NON-CURRENT ASSETS					
Fixed assets	7	1,249,897	1,258,338	1,249,744	1,258,334
Investment in subsidiaries	8	-	-	-	-
Long-term investments	9	671,741	622,252	671,499	621,963
Loans due after twelve months	10	130,613	124,273	130,613	124,273
Due from subsidiary (non-trade)	8	-	-	545	-
		<u>2,052,251</u>	<u>2,004,863</u>	<u>2,052,401</u>	<u>2,004,570</u>
CURRENT ASSETS					
Short-term investments	9	47,869	59,103	47,869	59,103
Tuition fee loans	10	22,886	19,862	22,886	19,862
Debtors	11	70,476	40,231	70,199	40,440
Due from subsidiaries (trade)	8	-	-	359	-
Fixed deposits	20	362,338	401,229	361,938	400,828
Cash and bank balances	20	51,362	42,716	49,580	41,413
		<u>554,931</u>	<u>563,141</u>	<u>552,831</u>	<u>561,646</u>
Less:					
CURRENT LIABILITIES					
Creditors	12	85,497	89,725	85,169	89,696
Research grants received in advance	13	56,709	42,307	56,709	42,307
Development grants received in advance	14	2,019	17,043	2,019	17,043
		<u>144,225</u>	<u>149,075</u>	<u>143,897</u>	<u>149,046</u>
NET CURRENT ASSETS		410,706	414,066	408,934	412,600
Less:					
NON-CURRENT LIABILITIES					
Deferred capital grants	15	1,046,544	1,055,498	1,046,544	1,055,498
Other non-current liabilities		1,538	1,773	1,538	1,773
		<u>1,048,082</u>	<u>1,057,271</u>	<u>1,048,082</u>	<u>1,057,271</u>
		<u>1,414,875</u>	<u>1,361,658</u>	<u>1,413,253</u>	<u>1,359,899</u>

The accompanying notes form part of the financial statements.



MR KOH BOON HWEE
COUNCIL CHAIRMAN



DR SU GUANING
PRESIDENT



MRS TAN EN LIN
BURSAR

**INCOME AND EXPENDITURE STATEMENT (GROUP)
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2005**

	Note	General Funds	
		2005 \$'000	2004 \$'000
INCOME			
Tuition and other fees		116,085	108,080
Rent		1,626	1,144
Research grants	13	70,617	76,889
Interest income		2,802	1,355
Donations		-	-
Profit on investments	16	-	-
Other grants		-	-
Sundry income		2,091	1,827
Deferred capital grants amortised (non-Government)	15	7,356	7,365
		200,577	196,660
EXPENDITURE			
Expenditure on manpower	21	361,080	355,983
Other operating expenditure:			
- Teaching / research		63,878	47,177
- Administration		35,449	24,957
- Maintenance		36,632	34,751
- Library books and periodicals		4,842	4,154
- Depreciation	7	150,479	144,765
- Development expenditure not capitalised		19,787	9,366
- Net book value of fixed assets disposed		930	790
- Audit fee		198	158
- Allowance/(writeback) for diminution in value of investments	9	27	145
- Other Investment written off		19	-
- Provision for doubtful trade receivable		4	15
- Other expenses		-	-
Capital Preservation	4	-	-
		673,325	622,261
(DEFICIT) / SURPLUS BEFORE GOVERNMENT GRANTS		(472,748)	(425,601)
GOVERNMENT GRANTS			
Development grants	14	20,079	9,763
Operating grants	17	321,429	305,137
Ministry grants		-	-
Deferred capital grants amortised	15	144,051	138,188
		485,559	453,088
SURPLUS AFTER GOVERNMENT GRANTS		12,811	27,487
Income tax		-	18
SURPLUS FOR THE YEAR		12,811	27,505

The accompanying notes form part of the financial statements.

Restricted Funds		General and Restricted Funds Totals		Endowment Funds	
2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000
15,470	17,223	131,555	125,303	-	-
20,184	20,164	21,810	21,308	-	-
-	-	70,617	76,889	-	-
736	405	3,538	1,760	-	-
2,217	2,469	2,217	2,469	1,865	9,387
-	-	-	-	33,165	26,327
22,031	19,125	22,031	19,125	-	-
15,548	9,800	17,639	11,627	-	-
5,200	3,441	12,556	10,806	174	174
81,386	72,627	281,963	269,287	35,204	35,888
19,300	17,215	380,380	373,198	-	-
5,675	5,361	69,553	52,538	-	-
35,925	25,478	71,374	50,435	-	-
3,797	4,992	40,429	39,743	-	-
-	-	4,842	4,154	-	-
5,822	4,130	156,301	148,895	174	174
-	-	19,787	9,366	-	-
283	1	1,213	791	-	-
-	-	198	158	-	-
-	-	27	145	(2,054)	(12,584)
-	-	19	-	-	-
-	-	4	15	-	-
-	-	-	-	8,244	5,692
-	-	-	-	7,086	4,207
70,802	57,177	744,127	679,438	13,450	(2,511)
10,584	15,450	(462,164)	(410,151)	21,754	38,399
-	-	20,079	9,763	-	-
-	-	321,429	305,137	-	-
8,238	-	8,238	-	1,607	10,155
55	52	144,106	138,240	-	-
8,293	52	493,852	453,140	1,607	10,155
18,877	15,502	31,688	42,989	23,361	48,554
-	-	-	18	-	-
18,877	15,502	31,688	43,007	23,361	48,554

**INCOME AND EXPENDITURE STATEMENT (UNIVERSITY)
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2005**

	Note	General Funds	
		2005 \$'000	2004 \$'000
INCOME			
Tuition and other fees		116,085	108,080
Rent		1,625	1,144
Research grants	13	70,617	76,889
Interest income		2,799	1,353
Donations		-	-
Profit on investments	16	-	-
Other grants		-	-
Sundry income		1,787	1,487
Deferred capital grants amortised (non-Government)	15	7,356	7,365
		<u>200,269</u>	<u>196,318</u>
EXPENDITURE			
Expenditure on manpower	21	360,995	355,894
Other operating expenditure:			
- Teaching / research		63,878	47,177
- Administration		35,152	24,633
- Maintenance		36,632	34,751
- Library books and periodicals		4,842	4,154
- Depreciation	7	150,477	144,763
- Development expenditure not capitalised		19,787	9,366
- Net book value of fixed assets disposed		930	790
- Audit fee		187	148
- Writeback for diminution in Value of Investment	9	-	-
- Other expenses		-	-
Capital Preservation	4	-	-
		<u>672,880</u>	<u>621,676</u>
(DEFICIT) / SURPLUS BEFORE GOVERNMENT GRANTS		(472,611)	(425,358)
GOVERNMENT GRANTS			
Development grants	14	20,079	9,763
Operating grants	17	321,429	305,137
Ministry grants		-	-
Deferred capital grants amortised	15	144,051	138,188
		<u>485,559</u>	<u>453,088</u>
SURPLUS AFTER GOVERNMENT GRANTS		<u>12,948</u>	<u>27,730</u>

The accompanying notes form part of the financial statements.

Restricted Funds		General and Restricted Funds Totals		Endowment Funds	
2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000
15,470	17,223	131,555	125,303	-	-
20,184	20,164	21,809	21,308	-	-
-	-	70,617	76,889	-	-
736	405	3,535	1,758	-	-
2,217	2,469	2,217	2,469	1,865	9,387
-	-	-	-	33,165	26,327
22,031	19,125	22,031	19,125	-	-
15,548	9,800	17,335	11,287	-	-
5,200	3,441	12,556	10,806	174	174
81,386	72,627	281,655	268,945	35,204	35,888
19,300	17,215	380,295	373,109	-	-
5,675	5,361	69,553	52,538	-	-
35,925	25,478	71,077	50,111	-	-
3,797	4,992	40,429	39,743	-	-
-	-	4,842	4,154	-	-
5,822	4,130	156,299	148,893	174	174
-	-	19,787	9,366	-	-
283	1	1,213	791	-	-
-	-	187	148	-	-
-	-	-	-	(2,054)	(12,584)
-	-	-	-	8,244	5,692
-	-	-	-	7,086	4,207
70,802	57,177	743,682	678,853	13,450	(2,511)
10,584	15,450	(462,027)	(409,908)	21,754	38,399
-	-	20,079	9,763	-	-
-	-	321,429	305,137	-	-
8,238	-	8,238	-	1,607	10,155
55	52	144,106	138,240	-	-
8,293	52	493,852	453,140	1,607	10,155
18,877	15,502	31,825	43,232	23,361	48,554

STATEMENTS OF CHANGES IN FUND AND EQUITY
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2005

	Group		University	
	2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000
ACCUMULATED SURPLUS				
General Funds				
Balance at 1 April	129,298	104,179	127,539	102,195
Surplus for the year	12,811	27,505	12,948	27,730
Transfer from Endowment Funds	5,337	2,405	5,337	2,405
Transfer to Restricted Funds	(10,029)	(3,893)	(10,029)	(3,893)
Transfer to Research grants received in advance	(368)	(694)	(368)	(694)
Transfer to Deferred capital grants	(162)	(204)	(162)	(204)
Balance at 31 March	<u>136,887</u>	<u>129,298</u>	<u>135,265</u>	<u>127,539</u>
Restricted Funds				
Balance at 1 April	159,006	139,137	159,006	139,137
Surplus for the year	18,877	15,502	18,877	15,502
Transfer (to)/from Endowment Funds	(72)	1,751	(72)	1,751
Transfer from General Funds	10,029	3,893	10,029	3,893
Transfer to Research grants received in advance	-	(1,277)	-	(1,277)
Balance at 31 March	<u>187,840</u>	<u>159,006</u>	<u>187,840</u>	<u>159,006</u>
Endowment Funds				
Balance at 1 April	698,816	650,211	698,816	650,211
Surplus for the year	23,361	48,554	23,361	48,554
Capital Preservation	7,086	4,207	7,086	4,207
Transfer from/(to) Restricted Funds	72	(1,751)	72	(1,751)
Transfer to General Funds	(5,337)	(2,405)	(5,337)	(2,405)
Balance at 31 March	<u>723,998</u>	<u>698,816</u>	<u>723,998</u>	<u>698,816</u>

**CONSOLIDATED CASH FLOW STATEMENT
FOR THE FINANCIAL YEAR ENDED 31 MARCH 2005**

	Note	2005 \$'000	2004 \$'000
Cash flows from operating activities			
General/Restricted Funds - deficit before government grants		(462,164)	(410,151)
Donations received for acquisition of fixed assets		48	2,148
Funds for Special Scholarship and Student Loans Funds (net)		(1,929)	8,323
Funds received for tuition fee/student loans fund (net)		4,589	5,711
Adjustment for non-cash items			
Deferred capital grants amortised (non-Government)		(12,556)	(10,806)
Depreciation		156,475	149,070
Net book value of fixed assets disposed		1,213	792
Allowance for diminution in value of investments		(2,027)	(12,439)
Profits on investments		(33,165)	(26,327)
Cash flow before working capital changes		<u>(349,516)</u>	<u>(293,679)</u>
Changes in working capital			
Decrease in creditors		(4,228)	(51,246)
(Increase)/Decrease in debtors		(30,245)	7,089
Research grants receivable		9,531	6,744
Increase in student tuition fee loans		(9,364)	(9,775)
Payment of tax		-	1
Net cash used in operating activities		<u>(383,822)</u>	<u>(340,866)</u>
Cash flows from financing activities			
Research grants and related income received (net)		13,660	2,011
Operating grants received, net of payment of goods and services tax expense on tuition fees and tuition grants		331,041	314,421
Development grants and related income received		134,658	125,673
Refund of grants to Ministry of Education		(14,021)	(3,566)
Ministry grants received		8,238	-
Grants received for Restricted Funds' fixed assets		1,875	6,365
(Decrease)/Increase in other non-current liabilities		(235)	137
Net cash from financing activities		<u>475,216</u>	<u>445,041</u>
Cash flows from investing activities			
Acquisition of fixed assets		(148,849)	(156,870)
Purchase of investments (net)		(3,063)	(70,469)
Grants and related income received for Endowment Funds (net)		30,273	52,587
Net cash used in investing activities		<u>(121,639)</u>	<u>(174,752)</u>
Net decrease in cash and cash equivalents		(30,245)	(70,577)
Cash and cash equivalents as at 1st April		443,945	514,522
Cash and cash equivalents as at 31st March	20	<u>413,700</u>	<u>443,945</u>

The accompanying notes form part of the financial statements.

NOTES TO THE FINANCIAL STATEMENTS
31 MARCH 2005**1 GENERAL**

The Nanyang Technological University, established by the Nanyang Technological University Act (Cap. 192, 1992 Revised Edition), is domiciled in Singapore. The University's registered office and place of business is located at 50 Nanyang Avenue Singapore 639798 while the National Institute of Education is located at 1 Nanyang Walk Singapore 637616.

The University is principally engaged in the advancement and dissemination of knowledge, the promotion of research and scholarships and the conferring and awarding of degrees, diplomas and certificates. The principal activities of the subsidiaries are set out in Note 8 to the financial statements.

The financial statements of the University for the year ended 31 March 2005 were authorised for issue by the Council on 26 May 2005.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**a) Basis of preparation**

The financial statements have been prepared in accordance with the provisions of the Nanyang Technological University Act (Cap. 192, 1992 Revised Edition) and the Singapore Financial Reporting Standards (FRS).

The Group and the University have adopted all the FRS which became effective during the year. The adoption of the new/revised FRS does not affect the results of the Group and the University for the current or prior periods.

The financial statements are expressed in Singapore dollars unless otherwise stated, and are prepared on a historical cost basis.

The accounting policies have been consistently applied by the Group and the University and are consistent with those used in the previous financial year.

b) Basis of consolidation

The consolidated financial statements include the financial statements of the University and its subsidiaries made up to the end of the financial year. The financial statements of the subsidiaries are consolidated from the date of effective control till the date that the control ceases. All significant intercompany transactions and unrealised gains on transactions are eliminated on consolidation.

The financial statements of the subsidiaries are prepared for the same reporting period as that of the University, using consistent accounting policies.

c) Subsidiaries

A subsidiary company is a company in which the Group, directly or indirectly, holds more than 50% of the issued share capital, or either controls more than half of the voting power or composition of the board of directors.

Investments in the subsidiaries are stated at cost. Allowance is made for any permanent diminution in value.

d) Funds

Income and expenditure are generally accounted for under the General Funds in the Income and Expenditure Statement. The income and expenditure relating to funds that are set up for specific purposes are accounted for under the Restricted Funds in the Income and Expenditure Statement.

The following are disclosed as Restricted Funds:

- (i) funds created from donations from external bodies for special purposes, e.g. Student Welfare Fund, Lunchtime Concert Fund;
- (ii) funds created from grants received for carrying out activities under special arrangements e.g. Staff Quarter Fund, Gown Fund; and
- (iii) funds maintained separately to account for the self-financing activities carried out by the University.

The Endowment Funds, which are Restricted Funds, are disclosed separately in the Balance Sheet and in the Income and Expenditure Statement because of their nature, size and significance. The Tuition Fee Loans Fund and the Special Scholarships and Student Loans Funds, which are funds managed by the University on behalf of the Government and others are disclosed separately in the Balance Sheet. Government grants, advances and donations which are kept intact as seed capital, are directly taken to these Funds.

The income of Tuition Fee Loans Fund is refunded to the Ministry of Education. Expenditure of the Tuition Fee Loans Fund is taken to the General Funds in the Income and Expenditure Statement. The income and expenditure for the Special Scholarships, Student Loans Funds and Endowment Funds are accounted for directly in their funds accounts.

In the Balance Sheet, the assets and liabilities of the General Funds and Restricted Funds are pooled together with those of the Endowment Funds, Tuition Fee Loans Fund and the Special Scholarships and Student Loans Funds.

e) **Revenue recognition**

Tuition and other fees raised for the academic year are recognised in the financial year they are billed. The academic year of the University covers the period from 1 July to 30 June.

Donations are recognised in the financial year they are received.

Management fees are recognised upon services rendered.

Licence fees are recognised in accordance with terms of licencing agreement.

Royalties are recognised on sale, by licensee, of products using the technology granted.

Dividends are recognised in the financial year in which they are declared payable.

Interest are recognised on a time proportion basis.

All other income is recognised on the accrual basis.

f) **Grants**

Government grants and contributions from other organisations for the purchase of depreciable assets or to finance research or capital projects are taken to the Grants received in advance account in the first instance. They are taken to the Deferred capital grants account upon the utilisation of the grants for purchase of assets, which are capitalised, or to the Income and Expenditure Statement for purchase of assets which are written off in the year of purchase.

Deferred capital grants are recognised in the Income and Expenditure Statement over the periods necessary to match the depreciation, write off and/or impairment loss of the assets purchased with the related grants. Upon the disposal of fixed assets, the balance of the related Deferred capital grants is recognised in the Income and Expenditure Statement to match the net book value of the fixed assets written off.

Government grants to meet the current year's operating expenses are recognised as income in the same year. Operating, research and development grants from the Government are accounted for on the accrual basis.

The Government has undertaken to match donations to the Nanyang Technological University Endowment Fund up to a maximum limit of \$267.5 million. Such Government grants are accounted for on the accrual basis.

g) Foreign currencies

Amounts payable and receivable denominated in foreign currencies are translated into Singapore dollars at rates of exchange approximating those prevailing at the balance sheet date. Transactions in foreign currencies during the year are recorded in Singapore dollars at rates of exchange approximating those at the transaction dates. All exchange gains or losses are taken to the Income and Expenditure Statement.

Forward foreign exchange contracts, which are entered for hedging purposes, are valued on the basis consistent with the assets and liabilities, which are the subject of the hedge. Profit and losses on these transactions are recognised on a basis consistent with the transactions to which they apply.

Transaction in foreign exchange forward contracts which are entered for non-hedging purposes and which are outstanding at year end are revalued at the applicable forward exchange rates approximating the forward rates prevailing on balance sheet date. Exchange differences are taken to the Income and Expenditure Statement.

h) Other derivative transactions

Other derivative transactions designated for hedging purposes are valued on a basis consistent with assets and liabilities, which are the subject of the hedge. Profit and losses on these transactions are recognised on a basis consistent with the transactions they apply.

The University's principal financial assets are bank balances and cash, debtors, tuition fee loans and investments.

i) Fixed assets and depreciation

Fixed assets are stated at cost less accumulated depreciation except for land alienated to the University which are stated at values provided by the Government and donated assets which are stated at valuation. Amounts equivalent to the valuation of these assets are credited directly to the Deferred capital grants account, except for assets purchased using funds from self-financing centres and amounts arising from the valuation of freehold land, which are credited to the Capital account.

No depreciation is provided for freehold land, buildings under construction and artwork.

Other fixed assets are depreciated on a straight-line basis over their estimated useful lives as follows:

Leasehold land	-	Over period of lease
Buildings and infrastructure	-	5 to 20 years
Renovations	-	5 years
Machinery, laboratory and workshop equipment	-	6 years
Furniture and office equipment	-	3 to 5 years
Transportation equipment	-	8 years
Others	-	8 years

Fixed assets costing less than \$2,000 each, renovation costs below \$100,000 and library books are generally charged to the Income and Expenditure Statement in the year of purchase.

j) Investments

Quoted and unquoted investments held on a long-term basis are stated at cost. Provision is made where there is permanent diminution in value.

Short-term investments held as current assets are stated at the lower of cost and market or fair value on an aggregate portfolio basis.

k) Impairment of assets

Assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Whenever the carrying amount of an asset exceeds its recoverable amount, an impairment loss is recognised in the Income and Expenditure Statement.

Reversal of impairment losses recognised in prior years is recorded when there is an indication that the impairment losses recognised for the asset no longer exist or have decreased. The reversal is recorded in income. However, the increased carrying amount of an asset due to a reversal of an impairment loss is recognised to the extent that it does not exceed the carrying amount that would have been determined (net of amortisation or depreciation) had no impairment loss been recognised for that asset in prior years.

l) Provisions

Provisions are recognised when the University has a present obligation (legal or constructive) where as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

m) Deferred income tax

Deferred income tax of subsidiaries is provided using the liability method, on all temporary differences at the balance sheet date arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. Currently enacted tax rates are used in the determination of deferred income tax.

n) Employee benefits

(i) Pensions and other post employment benefits

The University makes contributions to the Central Provident Fund scheme in Singapore, a defined contribution pension scheme. These contributions are recognised as an expense in the period in which the related service is performed.

(ii) Employee leave entitlement

Employee entitlements to annual leave are recognised when they accrue to employees. A provision is made for the estimated liability for leave as a result of services rendered by employees up to balance sheet date.

o) Financial assets

The University's principal financial assets are cash and bank balances, fixed deposits, debtors, tuition fee loans and investments. Debtors and loans are stated at their fair values as reduced by appropriate allowances for estimated irrecoverable amounts. Investments are accounted for on the basis described in the preceding paragraphs.

p) Financial liabilities

Financial liabilities are classified according to the substance of the contractual arrangements entered into. Significant financial liabilities are creditors, which is at cost.

3 CAPITAL ACCOUNT

The Capital account represents the valuation of the freehold land vested in the Nanyang Technological University.

4 ENDOWMENT FUNDS

The funds comprise donations, grants, gifts, testamentary disposition and proceeds from gifts of movable or immovable property. The objectives of these funds include the provision of facilities for teaching, training and research, the advancement and dissemination of knowledge and the promotion of research. During the year, a sum of \$7,086,000 from profit on investments (2004:\$4,207,000) has been set aside in the Capital Preservation account to preserve the value of the capital of Endowment Funds.

5 TUITION FEE LOANS FUND

The Tuition Fee Loans Fund is funded by advances from the Government for the purpose of providing loans to students to assist them in paying their tuition fees.

	Group and University	
	2005	2004
	\$'000	\$'000
Balance at beginning of year	110,443	104,862
Add :		
Government grants	4,793	5,723
Bad debts	(204)	(12)
Operating surplus	4,589	5,711
Refund to the Government	(11,048)	(130)
Balance at end of year	<u>103,984</u>	<u>110,443</u>
Represented by :		
Loans to students	103,537	99,610
Provision for bad debts	(204)	-
Cash and bank balances	651	10,833
Net assets	<u>103,984</u>	<u>110,443</u>

6 SPECIAL SCHOLARSHIPS AND STUDENT LOANS FUNDS

These funds comprise grants from the Ministry of Education as well as donations from other organisations for the purpose of awarding scholarships and loans to deserving students.

	Group and University	
	2005 \$'000	2004 \$'000
Balance at beginning of year	63,237	54,914
Add :		
Donations	8,348	10,079
Government grants	26,053	23,033
Interest income	378	209
Expenditure / Disbursements	(36,708)	(24,998)
Operating (Deficit) / Surplus	(1,929)	8,323
Balance at end of year	<u>61,308</u>	<u>63,237</u>
Represented by :		
Loans to students	50,165	44,525
Accrued interest	20	14
Fixed deposits	8,478	18,986
Cash and bank balances	2,645	42
	61,308	63,567
Less :		
Creditors	-	330
Net assets	<u>61,308</u>	<u>63,237</u>

7 FIXED ASSETS

GROUP

	Freehold Land \$'000	Leasehold Land \$'000	Buildings and Infra- structure \$'000	Buildings Under Construction \$'000
Cost/Valuation -				
At 1 April 2004	200,858	10,088	1,367,481	81,140
Additions	-	-	7,758	51,005
Adjustments	-	-	-	-
Disposals	-	(87)	(2,340)	-
Reclassifications	-	-	65,544	(69,502)
At 31 March 2005	200,858	10,001	1,438,443	62,643
Representing				
Cost	1,263	10,001	1,438,443	62,643
Valuation	199,595	-	-	-
	200,858	10,001	1,438,443	62,643
Accumulated Depreciation -				
At 1 April 2004	-	448	604,406	-
Depreciation for the year	-	333	81,689	-
Disposals	-	(4)	(1,956)	-
Reclassifications	-	-	(21)	-
At 31 March 2005	-	777	684,118	-
Depreciation for last year	-	336	76,343	-
Net book value -				
At 31 March 2005	200,858	9,224	754,325	62,643
At 31 March 2004	200,858	9,640	763,075	81,140

The freehold land represents land alienated to the University. The freehold land stated at valuation was revalued in December 1987 based on values in a valuation report from the Commissioner of Lands.

Renovations \$'000	Machinery, Laboratory and Workshop Equipment \$'000	Furniture and Office Equipment \$'000	Transpor- tation Equipment \$'000	Others \$'000	Total \$'000
18,075	336,684	235,997	2,422	4,709	2,257,454
1,203	59,444	28,762	33	644	148,849
-	214	95	-	89	398
-	(7,678)	(17,956)	-	(44)	(28,105)
1,160	2,888	(90)	-	-	-
20,438	391,552	246,808	2,455	5,398	2,378,596
20,438	391,552	246,808	2,455	5,398	2,179,001
-	-	-	-	-	199,595
20,438	391,552	246,808	2,455	5,398	2,378,596
9,967	231,100	149,384	1,372	2,439	999,116
3,224	35,615	34,947	286	381	156,475
-	(7,532)	(17,370)	-	(30)	(26,892)
26	3	(8)	-	-	-
13,217	259,186	166,953	1,658	2,790	1,128,699
2,850	34,786	34,107	289	358	149,069
7,221	132,366	79,855	797	2,608	1,249,897
8,108	105,584	86,613	1,050	2,270	1,258,338

7 FIXED ASSETS (cont'd)

UNIVERSITY

	Freehold Land \$'000	Leasehold Land \$'000	Buildings and Infra- structure \$'000	Buildings Under Construction \$'000
Cost/Valuation -				
At 1 April 2004	200,858	10,088	1,367,481	81,140
Additions	-	-	7,758	51,005
Adjustments	-	-	-	-
Disposals	-	(87)	(2,340)	-
Reclassifications	-	-	65,544	(69,502)
At 31 March 2005	200,858	10,001	1,438,443	62,643
Representing				
Cost	1,263	10,001	1,438,443	62,643
Valuation	199,595	-	-	-
	200,858	10,001	1,438,443	62,643
Accumulated Depreciation -				
At 1 April 2004	-	448	604,406	-
Depreciation for the year	-	333	81,689	-
Disposals	-	(4)	(1,956)	-
Reclassifications	-	-	(21)	-
At 31 March 2005	-	777	684,118	-
Depreciation for last year	-	336	76,343	-
Net book value -				
At 31 March 2005	200,858	9,224	754,325	62,643
At 31 March 2004	200,858	9,640	763,075	81,140

The freehold land represents land alienated to the University. The freehold land stated at valuation was revalued in December 1987 based on values in a valuation report from the Commissioner of Lands.

Renovations \$'000	Machinery, Laboratory and Workshop Equipment \$'000	Furniture and Office Equipment \$'000	Transpor- tation Equipment \$'000	Others \$'000	Total \$'000
18,075	336,684	235,988	2,422	4,709	2,257,445
1,203	59,444	28,611	33	644	148,698
-	214	95	-	89	398
-	(7,678)	(17,956)	-	(44)	(28,105)
1,160	2,888	(90)	-	-	-
20,438	391,552	246,648	2,455	5,398	2,378,436
20,438	391,552	246,648	2,455	5,398	2,178,841
-	-	-	-	-	199,595
20,438	391,552	246,648	2,455	5,398	2,378,436
9,967	231,100	149,379	1,372	2,439	999,111
3,224	35,615	34,945	286	381	156,473
-	(7,532)	(17,370)	-	(30)	(26,892)
26	3	(8)	-	-	-
13,217	259,186	166,946	1,658	2,790	1,128,692
2,850	34,786	34,105	289	358	149,067
7,221	132,366	79,702	797	2,608	1,249,744
8,108	105,584	86,609	1,050	2,270	1,258,334

8 INVESTMENT IN SUBSIDIARIES

The details of the subsidiaries are as follows :

Name of Company	Principal Activities	Country of Incorporation/ Operations	Percentage of Equity Held		University Cost of Investment	
			2005 %	2004 %	2005 \$	2004 \$
I) NTU Ventures Private Limited	To undertake investments in projects arising from the research work of staff	Singapore	100	100	2	2 (a)
II) Filplas Vacuum Technology Pte Ltd	Research and development of industrial machinery	Singapore	100	100	-	- (b)
III) NTUV International Private Limited	Provide management services	Singapore	100	100	-	- (b)
IV) Nanyang Venture Consulting (Shanghai) Co Ltd	Consultants for enterprise management and technology and education	China	100	-	-	- (c)
					<u>2</u>	<u>2</u>

(a) Cost of investment in unquoted equity shares is \$2.

(b) Shares held by NTU Ventures Private Limited.

(c) Shares held by NTUV International Private Limited.

	University	
	2005 \$'000	2004 \$'000
(d) Due from subsidiary company (non-trade) unsecured advance	<u>545</u>	-

The non-current amount due from subsidiary company is not expected to be repaid within the next 12 months.

	University	
	2005 \$'000	2004 \$'000
(e) Due from subsidiary companies (trade)	<u>359</u>	-

(f) Auditor for companies (I) to (III) is TeoFoongWong LC Loong, Certified Public Accountant.

(g) Auditor for company (IV) in China is Shanghai Hongda Certified Public Accountants Co., Ltd.

9 INVESTMENTS

	Group		University	
	2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000
a) Long-term investments				
At Cost :				
Quoted bonds	243,419	322,410	243,419	322,410
Quoted equities	267,538	248,156	267,538	248,156
Other unquoted investments	160,542	53,451	160,542	53,451
Unquoted equities shares	363	392	-	-
Unquoted preference shares	72	72	-	-
	<u>671,934</u>	<u>624,481</u>	<u>671,499</u>	<u>624,017</u>
Less :				
Allowance for impairment in value	193	2,229	-	2,054
	<u>671,741</u>	<u>622,252</u>	<u>671,499</u>	<u>621,963</u>
Movement in impairment loss:				
Balance at beginning of year	2,229	14,706	2,054	14,638
Writeback during the year	(2,027)	(12,439)	(2,054)	(12,584)
Investments written off	(9)	(38)	-	-
Balance at end of year	<u>193</u>	<u>2,229</u>	<u>-</u>	<u>2,054</u>
Market Value :				
Quoted bonds	248,203	325,283	248,203	325,283
Quoted equities	296,569	284,308	296,569	284,308
b) Short-term investments				
At Cost :				
Quoted treasury bills	22,988	32,761	22,988	32,761
Unquoted commercial papers, discounted notes and money market instruments	24,881	26,342	24,881	26,342
	<u>47,869</u>	<u>59,103</u>	<u>47,869</u>	<u>59,103</u>
Market Value :				
Quoted treasury bills	<u>23,055</u>	<u>32,761</u>	<u>23,055</u>	<u>32,761</u>

10 LOANS DUE AFTER TWELVE MONTHS

	Group and University	
	2005 \$'000	2004 \$'000
Tuition fee loans	153,499	144,135
Less : Loans repayable within 12 months	22,886	19,862
Loans repayable after 12 months	<u>130,613</u>	<u>124,273</u>

Student tuition fee loans are repayable by monthly instalments over periods of up to 20 years after the borrowers' graduation. Interest is charged at the average prime rates of three local banks prevailing on the 1st day of each quarter, or such other rates as may be determined from time to time.

The interest on the tuition fee loans is remitted in full to the Government as and when received.

11 DEBTORS

	Group		University	
	2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000
Receivable from sale of investments	7,788	8,994	7,788	8,994
Interest receivable	4,459	6,192	4,459	6,192
Trade receivable	8,999	5,037	8,017	4,199
Grants receivable	32,129	6,744	32,129	6,744
Others	17,961	13,644	17,806	14,311
	<u>71,336</u>	<u>40,611</u>	<u>70,199</u>	<u>40,440</u>
Less				
Provision for doubtful receivables	860	380	-	-
	<u>70,476</u>	<u>40,231</u>	<u>70,199</u>	<u>40,440</u>

12 CREDITORS

	Group		University	
	2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000
Payable for purchase of investments	36,317	39,153	36,317	39,153
Provision for unconsumed leave	25,906	24,122	25,906	24,122
Provision for surcharge on manpower	1,630	-	1,630	-
Other creditors and accruals	21,644	26,450	21,316	26,421
	<u>85,497</u>	<u>89,725</u>	<u>85,169</u>	<u>89,696</u>

13 RESEARCH GRANTS RECEIVED IN ADVANCE

	Group and University	
	2005 \$'000	2004 \$'000
Balance at beginning of year	42,307	43,745
Grants received	84,645	80,871
	<u>126,952</u>	<u>124,616</u>
Less : Amount transferred to Deferred capital grants	7,200	12,164
Amount taken to Income and Expenditure Statement	70,617	76,889
Amount refunded to the Government	1,957	-
Amount reclassified to grants receivable	(9,531)	(6,744)
Balance at end of year	<u>56,709</u>	<u>42,307</u>

These are grants from the Government, A*Star and other sources for research activities. The balance in this account represents grants received but not utilised at the end of the financial year.

14 DEVELOPMENT GRANTS RECEIVED IN ADVANCE

	Group and University	
	2005 \$'000	2004 \$'000
Balance at beginning of year	17,043	28,378
Grants received	134,658	125,655
Interest income	-	18
	<u>151,701</u>	<u>154,051</u>
Less : Amount transferred to Deferred capital grants	128,587	126,553
Amount refunded to the Government	1,016	692
Amount taken to Income and Expenditure Statement for :		
Development expenditure not capitalised	19,787	9,366
Manpower cost	292	397
Balance at end of year	<u>2,019</u>	<u>17,043</u>
Total capital grants received from the Government since the establishment of the University	<u>2,139,460</u>	<u>2,005,818</u>

These are grants from the Government for financing development projects. The balance in this account represents grants received but not utilised at the end the financial year.

The amount of capital expenditure written off and taken to the Income and Expenditure Statement is in relation to expenditure on assets that are charged in the year of purchase.

15 DEFERRED CAPITAL GRANTS

Group and University

	Government	
	2005 \$'000	2004 \$'000
Balance at beginning of year	984,281	980,016
Add :		
Grants received for capital expenditure and development project		
- transfer from grants received in advance, Operating grants and others	141,263	142,294
Adjustments / reclassifications	308	211
Assets donated by various organisations	-	-
	141,571	142,505
Less :		
Grants taken to Income and Expenditure Statement		
- to match depreciation	143,194	137,528
- on disposal of fixed assets	916	700
Adjustments / reclassifications	(4)	12
	144,106	138,240
Balance at end of year	981,746	984,281

With effect from this financial year, Deferred capital grants are presented as non-current liabilities instead of under equity to be in line with FRS requirement.

Deferred capital grants amortised (non-Government) refers to amortisation of grants received from statutory boards and other organisations.

Statutory Boards		Others		Total	
2005	2004	2005	2004	2005	2004
\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
67,184	62,117	4,033	5,650	1,055,498	1,047,783
6,072	10,612	101	1,663	147,436	154,569
90	5,025	-	(5,018)	398	218
-	-	48	2,148	48	2,148
6,162	15,637	149	(1,207)	147,882	156,935
11,919	10,437	579	465	155,692	148,430
228	89	-	1	1,144	790
4	44	-	(56)	-	-
12,151	10,570	579	410	156,836	149,220
61,195	67,184	3,603	4,033	1,046,544	1,055,498

16 PROFIT ON INVESTMENTS

	Group and University	
	2005	2004
	\$'000	\$'000
Profit on sale of investments	11,066	3,815
Interest income on bonds	11,406	9,965
Dividend income	5,900	3,149
Gain on interest rate futures	1,808	857
Foreign exchange gain	3,608	8,627
Loss on other unquoted investments	(623)	(86)
	<u>33,165</u>	<u>26,327</u>

17 OPERATING GRANTS

	Group and University	
	2005	2004
	\$'000	\$'000
Operating grants received during the year	350,718	333,094
Less :		
Payment for goods and services tax on tuition fees and tuition grants	19,677	18,673
Amount transferred to Deferred capital grants	9,612	9,284
Operating grants taken to Income and Expenditure Statement	<u>321,429</u>	<u>305,137</u>
Total operating grants received since the establishment of the University	<u>3,797,647</u>	<u>3,446,929</u>

18 FINANCIAL INSTRUMENTS AND RISK MANAGEMENT

The Group and the University manage their exposure to financial risks using a variety of techniques and instruments. The Group's and the University's policy prohibit them to enter into speculative transactions.

a) Interest rate risk

Interest bearing financial assets are mainly bank balances, fixed deposits, tuition fee loans and investments. Bank balances and fixed deposits are short-term in nature, therefore, any future variation in interest rates will not have a material impact on the results of the Group and the University.

The effective interest rates on the tuition fee loans are disclosed in Note 10 to the financial statements. The interest on these loans are remitted in full to the Government as and when received.

The investment portfolios include debt securities carrying fixed interest rates or floating interest rates which are exposed to risks such as interest rate re-pricing and yield curve movements. This risk has been partially hedged by entering into interest rate futures, interest rate swaps and options contracts.

18 FINANCIAL INSTRUMENTS AND RISK MANAGEMENT (cont'd)

The effective interest rates at balance sheet date of fixed income securities of the University held by the fund managers and the periods in which they mature or reprice are as follows :

	2005 \$'000	2004 \$'000
Fixed rate :		
At cost		
Maturing in less than a year	49,754	62,312
Maturing between 1 to 5 years	66,699	97,494
Maturing in more than 5 years	126,522	110,915
At market		
Maturing in less than a year	50,669	62,425
Maturing between 1 to 5 years	69,107	100,011
Maturing in more than 5 years	128,773	111,312
Floating rate :		
At cost		
Repricing in less than 3 months	27,450	10,299
Repricing between 3 to 6 months	1,530	178
At market		
Repricing in less than 3 months	27,080	10,072
Repricing between 3 to 6 months	1,536	186
Effective interest rates	0.4% - 9.2%	0.4% - 6.6%

b) Credit risk

The Group and the University place their cash and bank certificates of deposit with creditworthy institutions. Investment portfolios are managed by reputable asset management companies. The risk profile of the investment portfolios is managed within pre-defined limits which include investing only in high quality assets and placing prudent limits on exposures to single issue and/or issuer as well as the industry sector. The administration of tuition fee loans is farmed out to commercial financial institutions. The responsibility for monitoring credit exposures lies with the financial institutions. Periodically the financial institutions report to the Group and the University those credit exposures and further actions are taken as appropriate.

The maximum exposure to credit risk in the event that the counterparties fail to perform their obligations as at the end of the financial year in relation to each class of recognised financial assets is the carrying amount of those assets as stated in the balance sheet.

c) Significant concentrations of credit risk

Concentrations of credit risk exist when changes in economic, industry or geographical factors similarly affect group of counterparties whose aggregate credit exposure is significant in relation to the University's total credit exposure.

The Group and the University do not have any significant concentrations of credit risk.

d) Foreign currency risk

A substantial portion of investments is denominated in foreign currencies, which can be significantly affected by movements in foreign exchange rates. The risk has been partially hedged by entering into forward foreign exchange contracts.

e) Liquidity risk

The management is of the view that there is no liquidity risk as the Group and the University maintain an adequate level of highly liquid assets in the form of cash and short-term fixed deposits.

18 FINANCIAL INSTRUMENTS AND RISK MANAGEMENT (cont'd)

f) Fair value of financial instruments

Other than its long-term investments, the fair values of the financial assets and financial liabilities approximate their carrying value. The fair value of the University's quoted investments and derivative instruments are disclosed in Notes 9, 18 and 19 to the financial statements respectively. It is not practicable to estimate the fair value of the unquoted investments, as a reasonable estimate could not be made without incurring excessive costs.

g) Cash and cash equivalents

Cash and cash equivalents comprise cash on hand and at bank and fixed deposits.

19 COMMITMENTS

- a) Commitments for capital expenditure not provided for in the financial statement of the University are as follows:

	2005 \$'000	2004 \$'000
Authorised and contracted for	300,112	66,637
Authorised but not contracted for	<u>681,232</u>	<u>950,940</u>

- b) Commitments for other long-term investments of the University are as follows:

	2005 \$'000	2004 \$'000
Authorised and contracted for	<u>27,663</u>	<u>23,758</u>

- c) As at the end of the financial year, the notional principal amount of the University's outstanding forward foreign exchange contracts are as follows :

	2005 \$'000	2004 \$'000
Bought	582,154	755,281
Sold	<u>584,622</u>	<u>749,903</u>

As at the end of the financial year, the fair value of the University's outstanding forward foreign exchange contracts are as follows :

	2005 \$'000	2004 \$'000
Gross positive	2,767	10,235
Gross negative	<u>5,049</u>	<u>4,566</u>

The net fair value of (\$2,282,000) (2004:\$5,669,000) represents unrealised loss of which \$1,284,000 unrealised gain (2004:\$2,259,000) on non-hedging contracts has been taken to the Income & Expenditure of Endowment Funds.

- d) As at the end of the financial year, the notional principal amount of the University's outstanding interest rate future contracts are as follows :

	2005 \$'000	2004 \$'000
Bought	105,197	28,728
Sold	<u>44,119</u>	<u>-</u>

19 COMMITMENTS (cont'd)

As at the end of the financial year, the fair value of the University's outstanding interest rate future contracts are as follows :

	2005 \$'000	2004 \$'000
Gross positive	351	195
Gross negative	429	14

e) As at the end of the financial year, the notional principal amount of the University's outstanding interest rate swaps contracts are as follows :

	2005 \$'000	2004 \$'000
Bought	97,798	96,437
Sold	-	-

As at the end of the financial year, the fair value of the University's outstanding interest rate swaps contracts are as follows :

	2005 \$'000	2004 \$'000
Gross positive	197	793
Gross negative	414	707

f) As at the end of the financial year, the notional principal amount of the University's outstanding options on interest rate swaps contracts are as follows :

	2005 \$'000	2004 \$'000
Bought	1,542	1,611
Sold	6,267	32,352

As at the end of the financial year, the fair value of the University's outstanding options on interest rate swaps contracts are as follows :

	2005 \$'000	2004 \$'000
Gross positive	47	45
Gross negative	-	157

g) As at the end of the financial year, the notional principal amount of the University's outstanding written options on interest rate futures contracts are as follows :

	2005 \$'000	2004 \$'000
Bought	-	-
Sold	96	-

As at the end of the financial year, the fair value of the University's outstanding written options on interest rate futures contracts are as follows :

	2005 \$'000	2004 \$'000
Gross positive	13	-
Gross negative	2	-

19 COMMITMENTS (cont'd)

- h) The University is a Guarantee Member of the following companies limited by guarantee:

Name of Company	Date of Incorporation
Singapore Institute of Manufacturing Technology (SimTech) previously known as Gintic Institute of Manufacturing Technology (Gintic)	1 April 1997
Environmental Technology Institute (ETI)	1 April 1997
Temasek Life Sciences Laboratory Limited	18 February 2002

The University is a Guarantee Member up to a maximum of \$10 per company in the event of their winding-up. As neither the income or property of the companies can be paid or transferred directly by way of dividend, bonus or otherwise, to the existing members of the companies, nor the assets of the companies can be paid or distributed to the existing members in the event they are wound up, the financial statements of the companies are not equity-accounted for in the financial statements of the University.

- i) **CORNELL-NANYANG INSTITUTE OF HOSPITALITY MANAGEMENT**
Under the agreement with Cornell University, the Nanyang Technological University (NTU) will establish a joint program in hospitality management with Cornell University through the Cornell-Nanyang Institute of Hospitality Management (CNI). The CNI programs include degree and non-degree programs, short courses, research and other related academic activity. The NTU has provided an initial Standby Letter of Credit of USD 4.1 million renewable up to 30 June 2006 to cover resource commitments, tuition fees and reimbursable expenses due to Cornell University.
- j) **SINGAPORE-MIT ALLIANCE**
The NTU has entered into the two Singapore-MIT Alliance (SMA) agreements with the Massachusetts Institute of Technology (MIT) and the National University of Singapore (NUS) to establish collaborative efforts in research and education in engineering, science and technology, including interface with business and industry. SMA-1 covers a period of 7.5 years from 1 January 1999 and SMA-2, effective 17 September 2004, will continue for a term of about 8 years. As at 31 March 2005, the NTU's outstanding commitments under the 2 agreements are estimated to be around USD 22.6 million over the next 8 years.

20 CASH AND CASH EQUIVALENTS

	Group		University	
	2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000
Fixed deposits	362,338	401,229	361,938	400,828
Cash and bank balances	51,362	42,716	49,580	41,413
	<u>413,700</u>	<u>443,945</u>	<u>411,518</u>	<u>442,241</u>

21 EXPENDITURE ON MANPOWER

Employee benefits expense includes benefits under defined contribution plans. Payment of these is charged as expense as they fall due.

	Group		University	
	2005 \$'000	2004 \$'000	2005 \$'000	2004 \$'000
Cost of Employee Benefits under Defined Contribution Plan (included in				
• Expenditure on Manpower Cost)	24,902	28,325	24,892	28,313

As at 31 March 2005, University's staff strength was 3,997 (31 March 2004:3,798) and the Group's staff strength was 3,998 (31 March 2004:3,800).

The number of board members as key executive with remuneration package that falls within the following band is :

	2005	2004
\$500,000 - \$750,000	<u>1</u>	<u>1</u>

22 PRIOR YEAR'S RECLASSIFICATIONS

Certain reclassifications have been made to the prior year's financial statements of the University due mainly to the adoption of the Finance Circular Minute No. M44/2003 dated 31 October 2003 issued by the Ministry of Finance as follows:

- self-financing funds which are previously classified as General Funds are now classified under Restricted Funds;
- funds created from donations from external bodies for special purposes and funds created from grants received for carrying out activities under special arrangements which are previously classified as Other Funds are classified as Restricted Funds and
- all endowment funds which are previously classified as Other Funds are now accounted for under Endowment Funds.

22 PRIOR YEAR'S RECLASSIFICATIONS (cont'd)

	Balances as previously reported \$'000	Reclass- ification \$'000	Balances as restated \$'000
INCOME AND EXPENDITURE STATEMENT FOR THE FINANCIAL YEAR ENDED 31 MARCH 2004			
General Funds			
INCOME	152,981	43,337	196,318
EXPENDITURE			
Expenditure on manpower	368,918	(13,024)	355,894
Other operating expenditure	299,817	(34,035)	265,782
	668,735	(47,059)	621,676
DEFICIT BEFORE GOVERNMENT GRANTS	(515,754)	90,396	(425,358)
GOVERNMENT GRANTS	553,431	(100,343)	453,088
SURPLUS AFTER GOVERNMENT GRANTS	37,677	(9,947)	27,730
Restricted Funds			
INCOME	36,437	36,190	72,627
EXPENDITURE			
Expenditure on manpower	5,522	11,693	17,215
Other operating expenditure	358	39,604	39,962
	5,880	51,297	57,177
SURPLUS BEFORE GOVERNMENT GRANTS	30,557	(15,107)	15,450
GOVERNMENT GRANTS	7,094	(7,042)	52
SURPLUS AFTER GOVERNMENT GRANTS	37,651	(22,149)	15,502
BALANCE SHEET AS AT 31 MARCH 2004			
ACCUMULATED SURPLUS			
General Funds	255,657	(128,118)	127,539
Restricted Funds	153,530	5,476	159,006
	409,187	(122,642)	286,545
Endowment Funds	572,166	126,650	698,816
CURRENT ASSETS			
Debtors	33,696	6,744	40,440
CURRENT LIABILITIES			
Creditors	91,469	(1,773)	89,696
Research grants received in advance	39,571	2,736	42,307
NON-CURRENT LIABILITIES			
Other non-current liabilities	-	1,773	1,773

- d) The University presented consolidation of financial statements on a group basis with effect from this financial year. The financial year 2004 comparative figures for the Group were not audited and are presented for information purposes only.