NUS
National University of Singapore

GLOBAL KNOWLEDGE ENTERPRISE
a nurturing waterway

ANNUAL REPORT 2003

M.I.T.A.(P)NO. 147/01/2004

A Review of Academic Year 2002 – 2003
(covering July 2002 – June 2003)

CONTENTS

Vision and Mission	01
Capitalising on Opportunity	02
Chairman's Message	04
National University of Singapore Council	08
President's Message	10
Year in Action	14
Navigating Towards the Ocean	20
Starting Out in a Nurturing Waterway	22
– Education	
– Research	
– Entrepreneurship	
Transcending Boundaries	36
Optimising for Growth	42
No Small Fry	48
Ratings and Rankings	50
First Strikes	51
The Voyage Prevails	52
Appendixes	53
Financial Statements	89

VISION

Towards a Global Knowledge Enterprise

building synergies between
education, research and entrepreneurship

MISSION

Advance knowledge and foster innovation,

educate students and nurture talent,

in service of country and society

Capitalising

The life cycle of the Atlantic salmon is a compelling journey. The salmon thrives because it makes full use of its resources. It learns survival skills in the safety of inland waters. To prosper and grow, it heads for the expansive ocean where resources are abundant. To spawn, it returns to its native river, secure in the knowledge its young will have the best chance of survival there.

The amazing odyssey of the salmon parallels that of the NUS student. At NUS, students are nurtured in a knowledge enterprise that primes them for the challenges and opportunities posed by a relentlessly changing world. They acquire global minds that see the world as their oyster. When it comes to passing on the baton, NUS alumni look back to their alma mater to invest in future generations of talent.

on Opportunity

DR CHEONG CHOONG KONG
CHAIRMAN, NUS COUNCIL

“As the University undergoes major changes in pursuit of its mission to be among the best in the world and as it presides over a larger and more diverse staff and student body and undertakes a wider range of activities, the need for skilful change management is essential…”

Chairman's Message

The NUS strives to be a University recognised the world over for the quality of its teaching and research. Towards this end, major changes are needed in the way the University is governed and managed; these are all the more necessary as the Government and community demand higher accountability and better governance.

It is with this in mind that the University Council recently reviewed its role and responsibilities. Among the issues considered were whether the current governance structure is adequate, and whether it could be improved for greater effectiveness and a higher degree of transparency in decision making. Following the review, five standing committees of Council were established: Executive Committee, Nominations Committee, Establishment Committee, Audit Committee and Campus Planning & Development Committee. The delegation of authority to these committees, which meet more often than the full Council, will allow the Council to accord closer attention to matters that fall within its aegis.

Consequential amendments are being made to the NUS Constitution and Statutes in consultation with the Ministry of Education to enable the Council to have oversight of key appointments such as those of Deans, full Professors and direct management reports to the President. In exercising this oversight, the Council's objective is not to judge appointments on academic grounds, these being the rightful preserve of the academic leadership and independent external referees, but to ensure that due process has been followed. This is necessary as Deans and senior administrators play a critical role in the development of the University.

An important component in the Governance of the University is the Senate, which sets directions and maintains academic standards. The Council will provide every support to the Senate in its task of directing business related to academic policy and standards, particularly where financial and other resources are required.

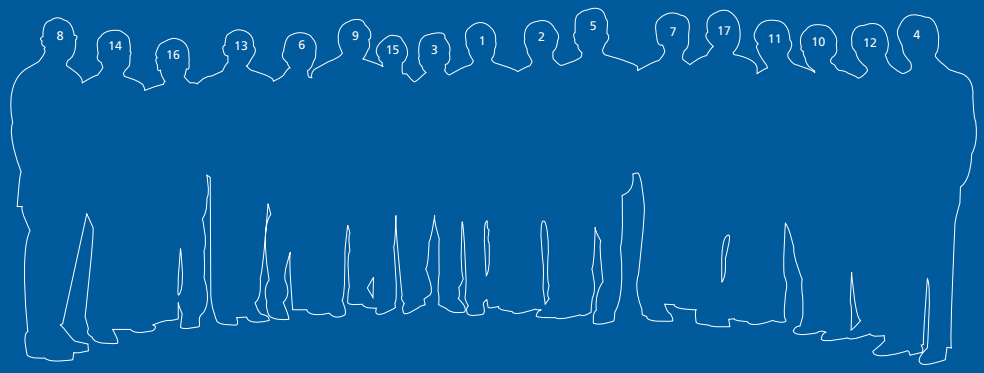
To excel, a University more than any other institution must be totally committed to the principles of meritocracy. NUS must seek the best talent from the world, and it must be prepared to offer competitive compensation to attract and retain them. There must

be systems in place to identify and reward the better performing teachers and researchers. Promotion and tenure must be based on merit, not seniority, and granted in a transparent manner in accordance with clearly articulated policies.

As the University undergoes major changes in pursuit of its mission to be among the best in the world and as it presides over a larger and more diverse staff and student body and undertakes a wider range of activities, the need for skilful change management is essential – this will involve open communication and transparency and the existence and observance of proper governance processes to minimise misunderstanding and loss of morale, especially when unpopular decisions have to be made. This is where the Council and its various committees can play a useful role.

I would like to end this message by congratulating all academic staff and students who received honours and awards in the past academic year, both locally and internationally. Their achievements are testament to the strength of the University, which should be built upon in the coming years.

National University of Singapore Council



1 **Dr CHEONG CHOONG KONG**
Chairman, NUS Council
Chairman
OCBC Bank

2 **Mr WONG AH LONG**
Deputy Chairman, NUS Council
Chief Executive Officer
Suntec City Development Pte Ltd

3 **Professor SHIH CHOON FONG**
President
National University of Singapore

4 **Dr STEVEN BAXTER**
Director
Yong Siew Toh Conservatory of Music
National University of Singapore

5 **Mr CHAY WAI CHUEN**
Chief Executive Officer
Grocery Logistics of Singapore Pte Ltd

6 **Professor CHONG CHI TAT**
Deputy President & Provost
National University of Singapore

7 **Mr HSIEH FU HUA**
Chief Executive Officer
Singapore Exchange Ltd

8 **Mr WINSTON HODGE**
Principal
Raffles Junior College

9 **Mr KWA CHONG SENG**
Chairman & Managing Director
ExxonMobil Asia Pacific Pte Ltd

10 **Mr LIEW HENG SAN**
Permanent Secretary
Ministry of Law

11 **Mr LIM JIT POH**
Chairman
ComfortDelGro Corporation Ltd

12 **Mr JAMES LOH SINN YUK**
Managing Director
JL Capital Pte Ltd

13 **Mr CHANDRA MOHAN K NAIR**
Partner
Tan Rajah & Cheah

14 **Major-General NG YAT CHUNG**
Chief of Defence Force
Ministry of Defence

15 **Professor MARTHA PIPER**
President
University of British Columbia

16 **Professor WANG GUNGWU**
Director, East Asian Institute
National University of Singapore

17 **Mr WEE HENG TIN**
Director-General of Education
Ministry of Education

President's Message

Sea Change

The global environment has changed. The leading edge of the global economy has shifted from being production-centred and manufacturing-based to one that is driven by the creation, discovery and transfer of knowledge. This revolution, which encompasses the technological, economic and social forces of globalisation, may be described as a "sea change".

This sea change in the global economy presents challenges and opportunities for Asia and for Singapore. As Singapore rises to engage the global sea change, there are new challenges and fresh goals. Clear directions have been set for Singapore to become a globalised, entrepreneurial and diversified economy. As a national university, NUS has a shared destiny with Singapore. The direction for NUS is clear. We have moved beyond the ivory tower to compete in the global marketplace for talent and ideas. NUS is transforming itself to become a global university.

The Challenges – Local MAP to Global MAP

In today's relentlessly competitive knowledge landscape, a road map is needed to become a global university. However, the map is not a physical one. Rather, the MAP is made up of Minds, Aspirations and Pursuits. This MAP resides within each member of the community. This MAP also resides in the University.

NUS has been competing in regional waters for quite some time. Many view NUS as a premier university in Southeast Asia. The universities in this region often look to NUS and its academics for advice and leadership. NUS is sought after as an education and research partner. For many students in the region, NUS is the university of choice.

Amidst a global sea change, it is necessary for NUS to go beyond local minds, local aspirations, and local pursuits in order to be globally competitive. It is NUS' goal to develop global minds, embrace global aspirations and engage in global pursuits.

Global Minds

At the individual level, a global mind is not constrained by intellectual walls. Global mindedness is characterised by openness to explore new ideas and different perspectives, as well as humility to learn and willingness to work with global talents.
As an organisation, global mindedness is evident when management and administration identify with the global aspirations and pursuits of faculty, as well

as dedicate themselves to supporting the University's quest for excellence.

Global Aspirations

Global aspirations is about aiming high, together with an eagerness to be assessed by global yardsticks. Having global aspirations is an essential characteristic of a global university striving for global excellence. At the organisational level, NUS aspires to be a confluence of global talent, a well-spring of ideas and a catalyst for enterprise.

Global Pursuits

Simply put, global pursuits is about translating global minds and aspirations into the quest for global excellence.

Global excellence in education calls for curriculum with innovative content, teaching and assessment to develop an inquisitive spirit and a zest for life-long learning among students. It aims to nurture graduates with a globally competitive edge – minds and aspirations for global pursuits.

In research, global excellence involves recruiting academic and professional talent world-wide, encouraging and supporting the creation and dissemination of knowledge with global influence, as well as fostering a vibrant research culture.

Global excellence in service is built on the synergies between education, research and enterprise. This includes forging industry partnerships and helping to spawn new technologies with global impact, and taking on leadership roles in global organisations, such as scholarly societies, professional bodies and editorial boards of journals.

Equipped with a personal MAP, each member of the NUS community should pursue excellence in distinctive areas of strength. The University is adopting an organisational MAP that supports and promotes diverse and complementary personal MAPs. The organisational MAP will also guide and facilitate the creative interplay of distinctive strengths in education, research and service.

As the potential synergies among our strengths are unleashed, NUS will advance towards global excellence in education, research and service. In short, it is each individual's personal quest for excellence in distinctive areas of strength that will build NUS into a global university. Working together,

the strengths and accomplishments of the community will multiply and transform NUS to thrive amidst relentless global competition.

Thriving in the Vast Ocean

I have spoken and written before of the steadfast and faithful Atlantic salmon, which has inspired the visual theme for this annual report. The living example of the Atlantic salmon has a powerful lesson for us. The Atlantic salmon has thrived in the Northern Hemisphere for more than a hundred million years. After growing and honing their survival skills in secure inland lakes and rivers, Atlantic salmon journey to the vast, rich ocean which offers limitless space for growth. Every year it spends in the ocean, the salmon doubles in size.

Yet, on maturity, Atlantic salmon leave their rich life in the vast ocean and undertake arduous journeys back to their original waterways to spawn the next generation. They swim thousands of miles along unpredictable routes, risk encountering dangerous predators and leap upstream against mighty river currents. They repeat this demanding journey time and again in order to renew their original waterways with vitality and spirit.

The example of Atlantic salmon can inspire us in our journey towards global excellence. Just as the salmon go out into the vast ocean, we will develop global minds, embrace global aspirations and engage in global pursuits. This is how NUS will strive and thrive in the knowledge-based global economy. As NUS thrives in the vast ocean, it will be able to contribute to the vitality and growth of Singapore.

A Continuing Quest for Excellence

NUS has made strides in its continuing quest for global excellence.

The NUS Graduate School for Integrative Sciences and Engineering (NGS) was established to spearhead trans-disciplinary graduate education and research in science, engineering and medicine. This university-wide initiative complements the discipline-based undergraduate education, graduate education and research activities of NUS academic departments. NGS will build synergistic partnerships with A*STAR Research Institutes/Centres (RI/Cs) as well as other leading research universities and knowledge organisations with distinctive and complementary strengths. Collaboration with RI/Cs will establish a critical mass of researchers, academics and students

to undertake bold trans-disciplinary research in exciting and strategic areas.

NUS' leadership of the Association of Pacific Rim Universities (APRU), a trans-Pacific consortium of 36 leading research universities from 16 economies along the Pacific Rim, has taken APRU to greater heights. NUS hosted a milestone 30-site video-conference, connecting the presidents of 28 APRU universities in real-time via Internet-2, the advanced Internet platform for the educational community. At this special virtual meeting, members voted for APRU to be registered as a legal entity in Singapore, paving the way for the establishment of a permanent APRU Secretariat here. This signifies growing recognition of Singapore as an educational hub and knowledge capital. Through APRU, NUS and Singapore are well-placed to lead and facilitate major interactions with important stakeholders on the future of higher education and research in the Pacific Rim.

NUS is also spearheading the APRU Enterprise initiative. Aiming to advance knowledge and technology transfer among member universities, APRU Enterprise is a strategic initiative which provides a platform to promote best entrepreneurial programmes and practices as well as to launch innovations.

Staying the Course towards a Global Knowledge Enterprise

The NUS vision is clear. The course for NUS is set. Sharing Singapore's destiny and becoming a global university is a worthy endeavour and an exciting prospect for the NUS community.

NUS will build an organisation where diverse minds, aspirations and pursuits will flourish. Our global mind, global aspirations and global pursuits will determine how well we stay the course and how far we go in our continuing quest for global excellence.

NUS will continue to seize the opportunities and rise to the challenges ahead. With our community's dedication and keen spirit, we will journey confidently towards becoming a global knowledge enterprise.

Year in Action

It was another activity-filled year in NUS. New benchmarks were set and new horizons opened up as students, faculty and staff steered the University towards becoming a global knowledge enterprise.

JULY – SEPTEMBER 2002

The new academic year opened with a new Council headed by Dr Cheong Choong Kong, who was elected to serve a second term as chairman. The 17-member board comprises leaders from the public and private sectors as well as prominent alumni and senior academics from the University.

The *Stanford Global Entrepreneurs Challenge (SGEC) 2002*, a prestigious international business plan competition organised by Stanford University, was held at NUS. The University was chosen for the honour of being the first overseas venue to host the event on account of its strong focus on entrepreneurship development and close relationship with Stanford's entrepreneurship community. Participating at the event were 15 winning teams of business plan competitions held at major universities and entrepreneurial organisations. **(Picture 1)**

Two faculty members from the Faculty of Engineering were identified by *Technology Review* (June 2002), a magazine published by Massachusetts Institute of Technology, to be amongst the world's top 100 young innovators. Assistant Professors Lee Der-Horng and Adekunle Olusola Adeyeye made the list on account of their ground-breaking research in traffic simulation and prediction, and spintronics respectively. They were selected by an international jury of scientists and technology experts on how their innovations will impact the century to come. **(Picture 2)**

A master's degree in Defence Technology and Systems (MDTS) was launched by Dr Tony Tan, Deputy Prime Minister and Minister for Defence. The course is the flagship programme of the Temasek Defence Systems Institute, which was jointly set up by NUS and the US Naval Postgraduate School to enhance graduate education in defence technology and systems. A core feature of the 18-month programme is its experimental and hands-on learning environment. **(Picture 3)**

NUS' musical groups embarked on several overseas concert tours. The NUS Chinese Orchestra was warmly received by audiences in South Africa and Mauritius. The NUS Harmonica Band performed at Dottingen and Trossingen in Switzerland as part of a Cultural Exchange Programme at the invitation of the Hohner Konservatorium Trossingen. **(Picture 4)**


NUS
National University of Singapore

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THE YOUNG INNOVATORS
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WHO ARE CREATING THE FUTURE

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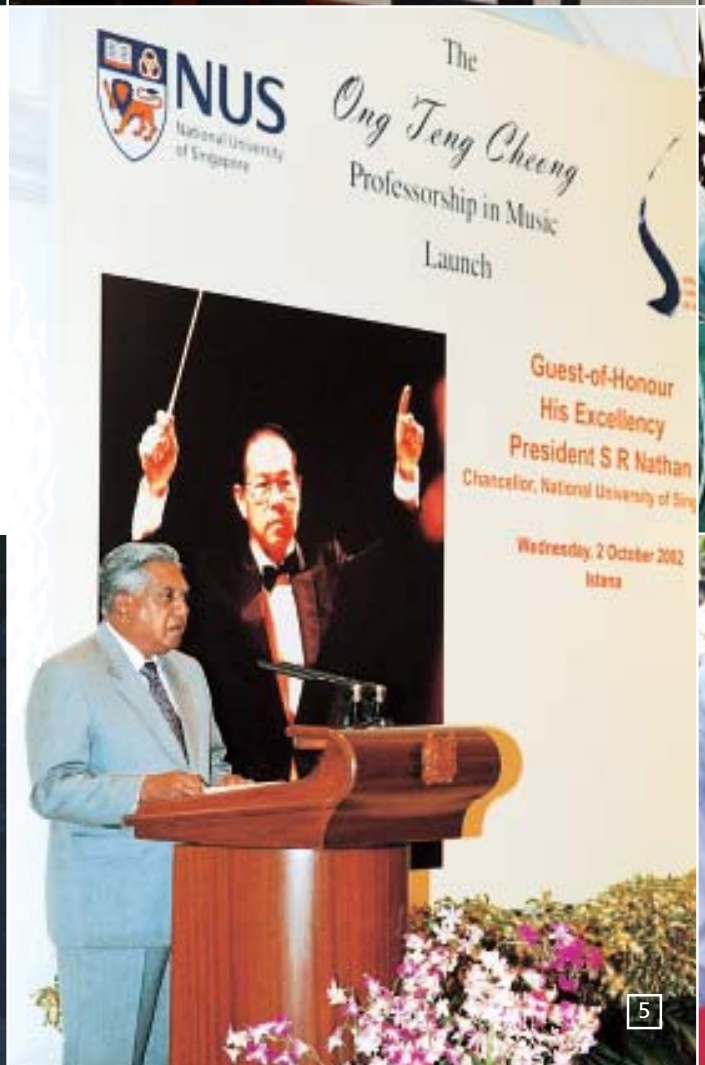
NUS
National University of Singapore
The
Ong Teng Cheong
Professorship in Music
Launch
Guest-of-Honour
His Excellency
President S R Nathan
Wednesday, 2 October 2002

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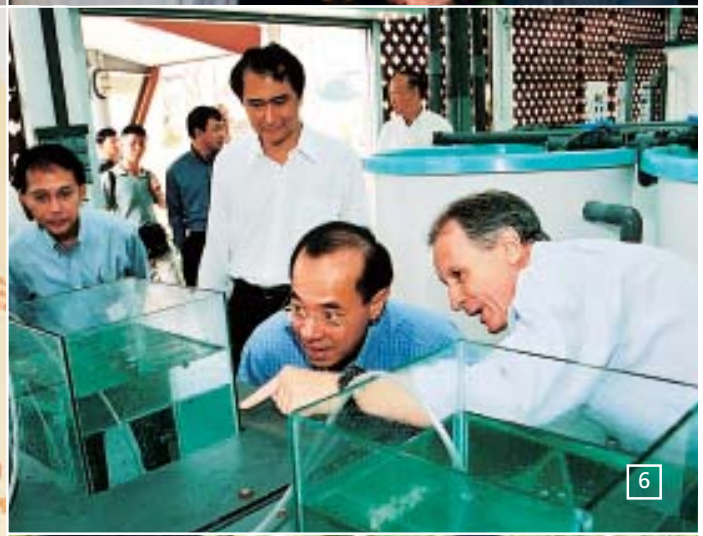

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OCTOBER – DECEMBER 2002

The Ong Teng Cheong Professorship in Music was launched in recognition of the contributions made by the late President of Singapore and former NUS Chancellor to the development of the arts and music in Singapore. The chair will be used to engage eminent musicians to help raise the academic standing of the newly-established Yong Siew Toh Conservatory of Music. **(Picture 5)**

NUS' Tropical Marine Science Institute (TMSI) was officially opened by Brigadier-General (NS) George Yeo, Minister for Trade and Industry. The $12.8 million facility will conduct research on a wide range of areas including pollutant control, coastline development and the long-term health of Singapore waters. Launched as a research initiative in marine science in 1996, TMSI has already notched several breakthroughs including a special nutritional supplement that more than double the survival rate of the larvae of certain species of farmed fish. **(Picture 6)**

Interest in entrepreneurship rose to a pitch at a talk given by Mr Steve Ballmer, Chief Executive Officer of Microsoft. A packed audience, full of eager young faces was all ears as he urged them to live by innovation, everyday. Innovation, he told them, was what kept Microsoft, the world's most successful software company, ahead of its competitors. The talk was part of an Enterprise Leadership Forum initiative organised by NUS Enterprise to bring eminent industry and business leaders to share their perspectives on entrepreneurship and innovation with the NUS community. **(Picture 7)**

A collaboration was launched between pharmaceutical giant Wyeth and NUS. The two partners will work on the laboratory assay for the therapeutic drug monitoring of sirolimus, a new class of immuno-suppressant agents that reduces organ rejection and nephrotoxicity following renal transplants. The tie-up is one of many entered by the University with industry partners in the year.

Students from the University Scholars Programme (USP) initiated a project in Mo Mot Village, Vietnam. The visit, combining academic study and community work, saw students building a kindergarten while simultaneously documenting the Moung culture and village life. The trip was organised in conjunction with the Singapore International Foundation and USP's *Global Programme-Learning Beyond the Classroom*. The USP is an honours programme that develops the personal, intellectual and leadership potential of highly-motivated students. **(Picture 8)**

JANUARY – MARCH 2003

NUS' second overseas college, NUS College in Bio Valley (NCBV), got off to a good start when its first batch of students headed for Philadelphia. During their year abroad, the 14 students will work full-time as interns in biotechnology and biomedical start-ups while studying part-time at the University of Pennsylvania. NCBV is currently partnering 23 companies to provide internship opportunities for its students.

The Asia Research Institute (ARI) was officially opened by RAdm (NS) Teo Chee Hean, Minister for Education and Second Minister for Defence. A university-level facility, ARI's mission is to provide a world-class focus and resource for research on Asia. It will concentrate on the social sciences, especially on inter-disciplinary frontiers between and beyond social science disciplines. **(Picture 9)**

NUS entered into a consortium-based R&D initiative with DSO National Laboratories, Institute for Infocomm Research and the Singapore Institute of Manufacturing Technology that aims to give Singapore a competitive advantage in miniaturised digital electronics and wireless communications. The University brings to the Substrate and Micro-Packing Research for Industry and Military Applications (SuPRIMA) its expertise in multi-layer antenna to develop an advanced packaging technology based on Low Temperature Co-Fired Ceramics.

The Logistics Institute-Asia Pacific (TLI-AP), a collaboration between NUS and Georgia Institute of Technology (Georgia Tech), came of age with the graduation of its first intake. The pioneer cohort received a Dual Masters degree – a Master of Science in Logistics and Supply Chain Management conferred by NUS and a Master of Science in Industrial Engineering from Georgia Tech. An international grouping, the graduands came from countries as far-flung as China and Norway. **(Picture 10)**

The NUS Law Faculty spearheaded the formation of the Asian Law Institute (ASLI), in a timely development that recognises the growing importance of intra-Asian trade and investment. A collaboration of 10 of Asia's top law schools, ASLI was prompted by the diversity in Asian legal traditions to foster greater understanding amongst Asian legal scholars through collaborative research and teaching. Law professors from member universities will spend up to three months each year at NUS, where they will network and conduct joint research and teaching.

A project on environmental conservation by a PhD engineering student was awarded the bronze medal at the *2002 Young Inventors Awards* organised by *Far Eastern Economic Review* and Hewlett-Packard. Mr Zheng Zhongming was recognised for his development of a novel soil-cleaning biotechnology process called bioremediation. **(Picture 11)**

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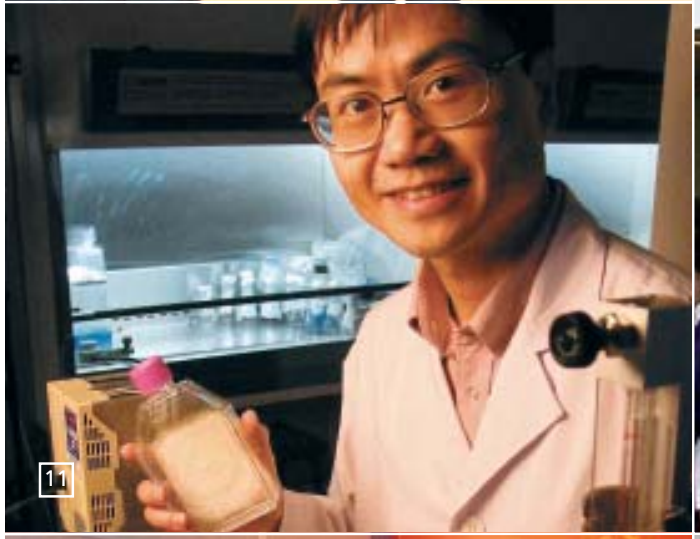
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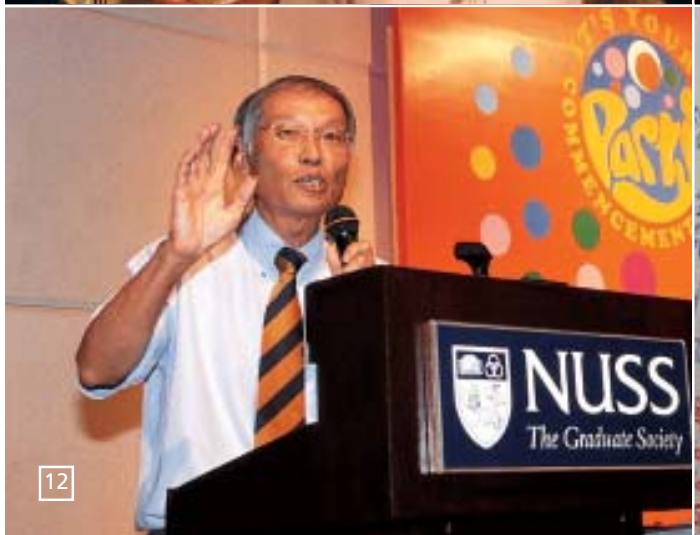

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APRIL – JUNE 2003

In a strong show of support for the University's entrepreneurial thrust, the National University of Singapore Society (NUSS), the University's largest alumni body, made a donation of US$100,000 towards the establishment of the NUS Enterprise Centre in Silicon Valley (NECSV). Mr Lai Kim Seng, President of NUSS, said the alumni body was very proud to be partnering its alma mater in establishing the first overseas enterprise centre to fly the NUS flag. A dedicated business incubator, NECSV will serve both the campus community as well as NUSS members with a cost-effective fast track to launch their innovations into the US market. **(Picture 12)**

NUS students' keen sense of public spiritedness surfaced during the SARS (Severe Acute Respiratory Syndrome) outbreak. Moved by the commitment of healthcare workers, a group of them mobilised the campus community and public to show their support and appreciation. In a 100 per cent student-driven initiative, they communicated public sentiments to the healthcare workers by facilitating the signing of appreciation books on campus and the installation of a public message board at the Novena Mass Rapid Transit station, near Tan Tock Seng Hospital, the nerve-centre of the battle against SARS. **(Picture 13)**

Four students from the pioneer batch of NUS College in Silicon Valley lived up to the spirit of entrepreneurship and innovation that marks the NUS Overseas College Programme. Forming a multi-disciplinary team, they clinched the second prize in the *Megabucks 2003 Business Plan Competition* organised by the Indian Institute of Technology in Kanpur, India. Their award-winning business plan was for the development of a new product in the DNA chip market by synergising two emerging technologies in engineering and molecular biology. **(Picture 14)**

The NUS flag flew proudly at the summit of two Himalayan mountains in Nepal – the Mera Peak (6,476 m) and Parchamo Peak (6,187 m). They were raised there by two NUS teams as part of their training for the ultimate test of endurance and stamina – the conquest of Mount Everest in 2005 to celebrate the University's centennial. The teams, made up of students, alumni and faculty, attest to NUS' strength in leveraging on teamwork.

A School of Design and Environment student, Edwin Chong Chee Wai, set a new record as the first NUS undergraduate to win the *CIOB Undergraduate Dissertation Competition*. The award is conferred by the august 170-year-old Chartered Institute of Building (CIOB), the leading professional body for managers in construction. The findings of the award-winning paper will make possible the formulation of a systematic method that will provide guidance on the use of design-and-build projects in Singapore.

Navigating

As a safe, secure environment leading to the ocean, inland lakes and rivers are the salmon's training ground for the big, open sea. By the time the salmon leaves their refuge, it is equipped and ready to take on the challenges and opportunities of the ocean.

NUS offers its students the same preparation through a knowledge cycle that comprises the imparting, discovery and application of knowledge. And NUS goes one step further and better – by integrating and building synergies among all three. In the process, education, research and entrepreneurship at NUS are strengthened.

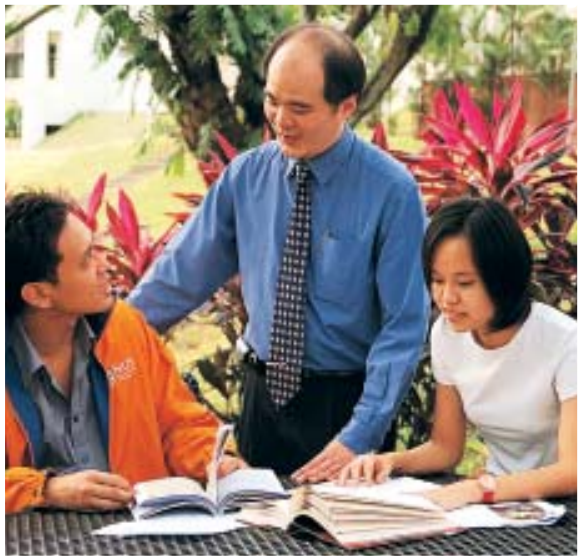
Towards the Ocean

The calm and protective inland waters is home to the Atlantic salmon when it is most vulnerable – at the beginning of its life and when it gives life. Each generation of salmon is favoured by Nature, with a nurturing waterway, where it learns to be independent and resourceful.

The NUS nurturing waterway provides students with resources and facilities to maximise their potential. Here, they acquire intellectual depth and breadth that give them the competitive edge in an innovation-driven world where creativity and problem-solving skills are crucial. In their coursework and research projects, they are encouraged to embrace passion, imagination and a spirit of enterprise, qualities which will propel them on their chosen pathway of opportunity.

STARTING OUT
IN A NURTURING WATERWAY

Learning at the forefront of knowledge – NUS undergraduates at the Life Sciences Laboratory.



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At NUS, minds meet to engage, share and exchange.

EDUCATION

At NUS, learning is relevant and infused with entrepreneurial and global dimensions. The University's quality education equips graduates with skills required for creative problem-solving and life-long learning in a fast-changing world.

The Multi-disciplinary Focus

NUS continued to build its quality on the provision of a broad-based education. The integrated teaching of multi-disciplinary strengths remained a core focus in the University's curriculum, providing students with different approaches to knowledge that add breadth to depth, enhancing the development of sound, critical and analytical minds.

The momentum to build teaching strengths by leveraging on inputs from several disciplines culminated in the year with the establishment of the NUS Graduate School for Integrative Sciences and Engineering (NGS). Set up to complement the University's existing discipline-based education and research activities, this university-wide endeavour will spearhead trans-disciplinary graduate education and research in science, engineering and medicine.

Building the Life Sciences Dimension

The pooling together of cross-disciplinary synergies was also locked into the development of the University's life sciences curriculum. The Undergraduate Life Sciences Curriculum that took off in the review period resonated with the acquisition of knowledge at the cutting-edge. Designed to provide students with a strong foundation in biological and biomedical sciences, it prepares them to meet the challenges of a Singapore that is fast becoming a biotechnology hub and a world revolutionised by human genome sequencing.

Introduced in the same vein are bioengineering programmes at both undergraduate and graduate levels. A Master of Science in Bioinformatics brings an inter-disciplinary approach to life sciences education by integrating the teaching of computational, mathematical and physical sciences. A new Master of Nursing signals the provision of more comprehensive medical and clinical skills training by the University. With its inclusion, NUS is well placed to expand its role as a regional centre for nursing, bioengineering and other related para-clinical specialties.

Widening Intellectual Horizons

At the other end of the spectrum, the broadening of NUS' comprehensive curriculum to include degree programmes in the performing arts took root in the year. The Yong Siew Toh Conservatory of Music recruited 25 acclaimed musicians as its first complement of artist-faculty. Auditions were conducted in more

NEW GRADUATE SCHOOL IS HIGH ON SYNERGIES

THE NUS GRADUATE SCHOOL FOR INTEGRATIVE SCIENCES AND ENGINEERING (NGS) was set up to provide doctoral studies that will enlarge the pool of talent for high-end research. It is modelled on the best practices of graduate schools in leading US universities such as MIT and Caltech.

To attract talented and motivated students, NGS has assembled top faculty with a keen interest in mentoring students engaged in cutting-edge research. They include existing academics from NUS as well as leading scientists from the stable of research institutes under the Agency for Science, Technology and Research (A*STAR), and industry.

NGS' close collaboration with the three sectors provides opportunities for its students to be immersed in their vibrant research-intensive environments. The cornerstone of the graduate school is the close teaching-research nexus between staff of NUS and the A*STAR research institutes. To encourage top talent to come on board, NGS has set up the A*STAR Graduate Scholarship together with A*STAR Graduate Academy.

Students at NGS undergo a four-year programme that incorporates one year of coursework. The latter is tailor-made to expose students to other disciplines and broaden their perspectives. The research component is strong on integrated research based on cross-disciplinary synergies, especially between science, engineering and medicine. Students are also encouraged to propose their own inter-disciplinary topics.

A two-year post-doctoral fellowship in an internationally-renowned laboratory completes the programme. A core feature of the NGS curriculum is the requirement for students to undertake courses in ethics that combine the study of current moral issues together with best scientific practices.

Areas of study covered by NGS include stem cells/tissue engineering, nanoscience, materials science and engineering, data storage technologies, manufacturing technology, structural and chemical sciences, molecular and cell biology, computational science and high performance computing, biotechnology and molecular genetics/genomics.

than 10 cities in the Asia-Pacific in an exercise to enrol the best talent.

As part of the University's continuing effort to make learning more relevant, the Faculty of Law forged new ground by introducing coursework-based Specialist Master of Laws (LLM) degrees. Offered in three niche areas – Corporate and Financial Services, International and Comparative Law, and Intellectual Property and Technology – these specialist graduate programmes were introduced to keep pace with the growing globalisation of legal services.

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The Singapore-MIT interface – three partners, MIT, NTU and NUS came together, via video conferencing, to expand the scope of their collaboration in SMA-2.

Climbing New Heights

NUS' participation in the prestigious Singapore-MIT Alliance (SMA) was raised to a higher level. The University was a signatory of SMA-2, an undertaking to advance the partnership in distance teaching of engineering sciences between MIT (Massachusetts Institute of Technology) and both NTU (Nanyang Technological University) and NUS. Under this second phase, programmes jointly taught by NUS and MIT will be awarded dual degrees. The double endorsement by the partners speaks volumes for the quality of the student intake as well as NUS' standing in international academia. The scope of SMA-2 will be expanded to include life sciences education as

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The Yong Siew Toh Conservatory of Music heralds a new chapter in NUS education.

well as a stronger research focus that will see greater engagement of students with industry and research institutes.

Looking ahead, NUS is on track with its strategic directions. A proposal for NUS to evolve into a multi-campus university system was endorsed by the 2003 International Academic Advisory Panel. Three locations have been identified, with the existing Kent Ridge campus serving as anchor. Buona Vista was chosen for a research-intensive campus that will be able to tap into the buzz of Singapore's science and technology hub at Biopolis. Outram, in close proximity to Singapore General Hospital, will be the site for a campus dedicated to graduate-entry medical education.

In a step towards establishing NUS Outram, an MOU was signed with Duke University to set up a Graduate Medical School (GMS). The collaboration will enable NUS to groom a new generation of medical doctors and clinicians schooled in Duke University's trademark medical education with its distinctive research focus.

Plans for the NUS High School of Mathematics and Science also took shape in the review period. An operational framework was put in place that will see the school, dedicated to nurturing students who have a strong inclination in the two disciplines, operating as an independent school. It will design its own academic programmes and have an admissions system based on examination results as well as other criteria, including performance at mathematics and science Olympiads.

MUSIC CONSERVATORY IS NUS' NEWEST FACULTY

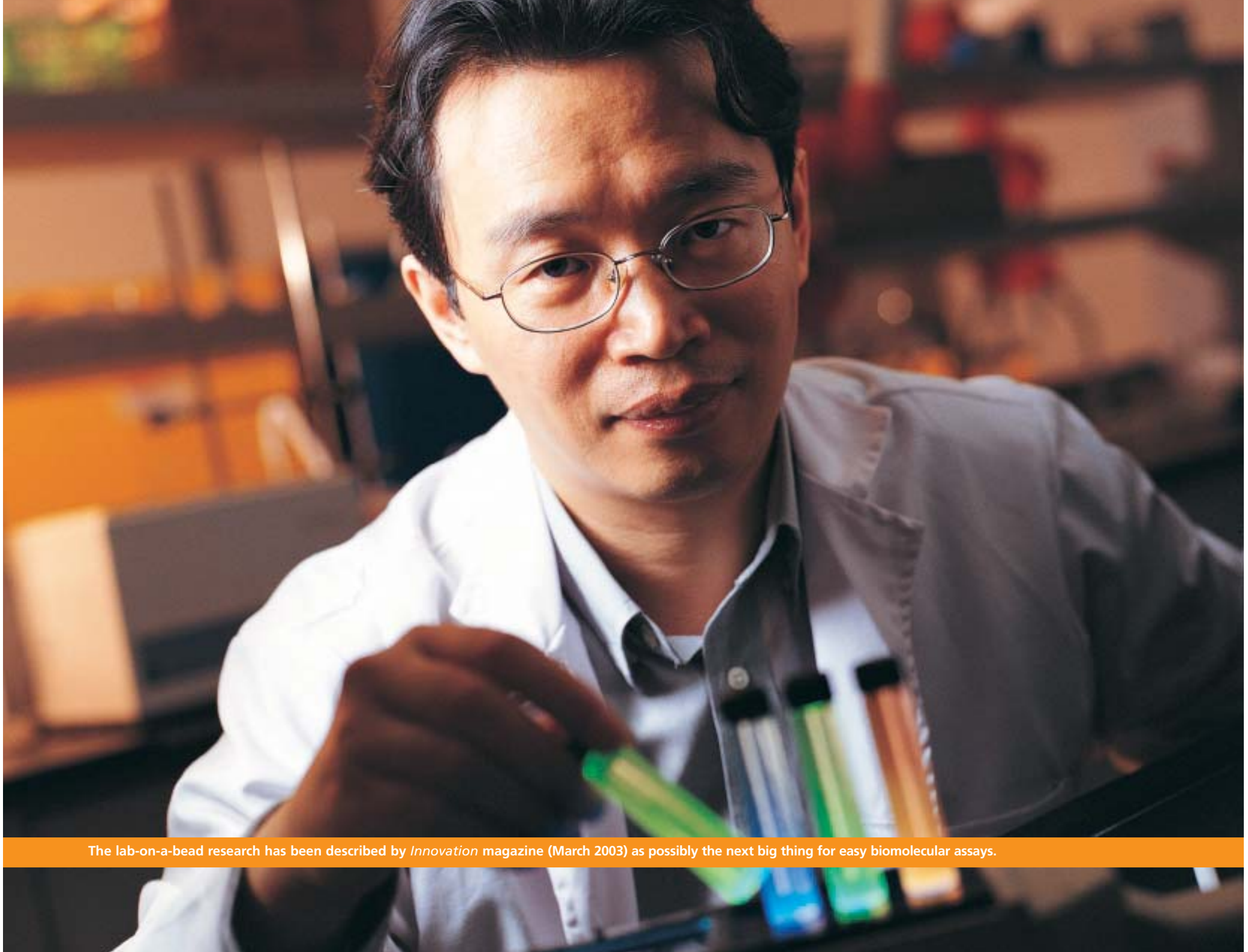
THE ESTABLISHMENT OF THE YONG SIEW TOH CONSERVATORY OF MUSIC enhanced the comprehensiveness of NUS education. Integrated into the larger framework of NUS' broad-based education, the Conservatory will offer a four-year honours music degree programme that is centred on Western classical music and complemented by a liberal arts education.

The curriculum is modelled after the Bachelor of Music programme offered at the Peabody Institute of Johns Hopkins University in the US. The Conservatory is a collaboration between NUS and the renowned Peabody. A core feature of the partnership is a reciprocal cross-visit stint that will enrich the learning experience of students in both campuses.

Set up as a focal point for the education, exchange and activities of musical and performing talents in the Asia-Pacific region, the Conservatory adds momentum to Singapore's development as a renaissance city for the arts.

Formerly known as the Singapore Conservatory of Music, the change in name was in recognition of a generous endowment made in memory of the late Miss Yong Siew Toh, a music teacher who taught generations of students. The eponymous Conservatory encapsulates its namesake's passion and dedication to the imparting of musical knowledge.

The Conservatory starts classes in the academic year 2003 – 2004 with Dr Steven Baxter, a former dean of the Peabody Institute, as its first director.



The lab-on-a-bead research has been described by *Innovation* magazine (March 2003) as possibly the next big thing for easy biomolecular assays.

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The name change to Bioengineering and Nanobioengineering Corridor better reflects the work conducted at its labs such as the Nano Biomechanics Laboratory.

RESEARCH

Research at NUS is a catalyst for the University's educational and entrepreneurial thrusts. It turns learning into discovery and translates knowledge into innovations.

Responding to National Needs

NUS research made an impact in the year by living out the University's mission "to serve country and society". Research by the Centre for Water Research on water reclamation and its health effects contributed to the success of NEWater, an initiative by the government to reclaim domestic-used water for indirect potable reuse and high-value industrial reuse applications.

The University also extended its expertise in separation science and environmental analysis to the testing of NEWater to validate its potability.

As an integral part of the medical community, the Faculty of Medicine joined the battle against Severe Acute Respiratory Syndrome (SARS) that broke out in Singapore. It took up as a new research focus, studies into the virology and immunology of SARS. The University contributed its expertise in epidemiology and, together with the Singapore General Hospital, played a key role in confirming the identity of the etiological agent. With an eye to long-term vigilance, the Department of Medicine contributed a paper in *Lancet* (May 2003) reflecting the protean presentations experienced in a non-SARS hospital.

NEW PROGRAMMES

New initiatives brought new dimensions to the University's research portfolio. NUS research was strengthened in the year with the onset of programmes as those listed below:

- An Advanced Planning and Decision System research initiative between the Department of Industrial & Systems Engineering and the Defence Science and Technology Agency under the Defence Innovative Research Programme.
- A Materials Science and Engineering Initiative (MSEI) focusing on strategic research in the science and engineering of new and advanced materials and related technologies.
- A Neurobiology Research Programme launched between the Department of Biochemistry and the Office of Life Sciences.
- An Offshore and Maritime Engineering research initiative with Professor Torgeir Moan, Professor of Marine Structure, Norwegian University of Science and Technology as Keppel Professor in Ocean, Offshore and Marine Technology.
- A Strategic Research Programme on Integrated Supply Chain Networks launched by The Logistics Institute – Asia Pacific in support of Singapore's vision to be a leading international logistics hub.
- Research digs at a new archaeological site in the vicinity of the old Parliament House that have turned up the first intact 14th century items ever found in Singapore.

Building Up Resources

The University continued to attract funding on the merits of its research initiatives and the talent of its researchers. Main sources of funds are the Ministry of Education, the Ministry of Health, the Agency for Science, Technology and Research (A*STAR) as well as public and private sector organisations. Total funding received in the financial year ending March 2003 was $277 million.

Building up critical mass needed for research excellence remained an important thrust of NUS research. The University's approach to leverage on synergies by pooling together resources and cross-fertilising ideas was reflected in the multi-disciplinary initiatives that emerged in the year.

Many of them were anchored on the close teaching-research nexus between the University and the national research institutes. Synergistic alliances to undertake high-impact research were also established in parallel with external communities, such as the public and private sectors and other universities.

Synergy building was carried out in tandem with the underscoring of talent and resource building. The identification of talent, especially promising young talent, was actively pursued. Many of the year's new research initiatives included a human development component, particularly in the provision of doctoral programmes to enlarge the pool of a new generation of researchers.

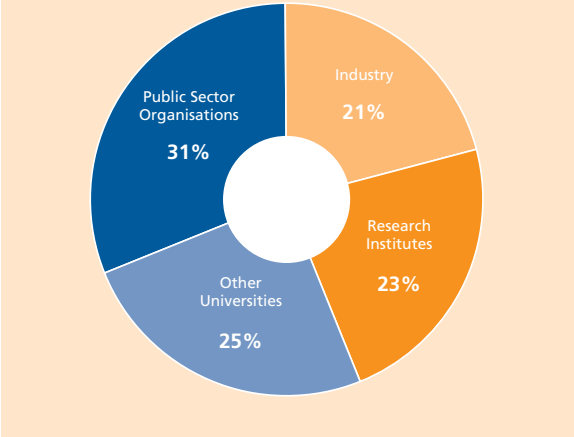
The year's new facilities provided platforms for the University to focus on niche research that make up the crux of NUS research excellence. As concentrations of research strengths, these dedicated facilities are strategic to Singapore's economic growth as well as the University's standing in the international research community.

One such cluster dedicated to bioengineering and biomedical research grew out of the University's strong positioning in the life sciences. The Disease Genetics Laboratory was conceived to look into the use of modern molecular techniques to uncover the genetic basis of human disease. The Laboratory for Experimental and Applied Pharmacokinetics and Pharmacodynamics is dedicated to cell-based and *in vivo* pharmacokinetic and pharmacodynamic studies of pharmaceutical compounds, including anti-leukemic, immunosuppresive and anti-cancer agents.

The Bioengineering Corridor proved so effective as Singapore's first joint-lab that it underwent a name change. The new name, Bioengineering and Nanobioengineering Corridor, better reflects the extent to which its portfolio has been enhanced by nanoscience and nanobiotechnology approaches to research in medicine and biology.

Building Research Synergies

Breakdown of NUS Research Collaborations by Sector



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NUS research contributed to the development of NEWater.

Research Activities

A total of 1,921 ongoing and new research projects made up the year's research vibrancy. Output, both in terms of quality and volume, was robust. More than 2,100 research articles were published in refereed journals, both local and international.

RESEARCH ACHIEVEMENTS

The year's contributions by NUS researchers in advancing the frontiers of knowledge included the following:

- The adoption of the *Asia Pacific Journal of Management*, published by NUS Business School, as the official journal of the Asian Academy of Management. The latter is the leading academic body for management researchers in Asia.
- The set up of a real-time 3-D mixed reality media developed by the Department of Electrical & Computer Engineering as a permanent exhibit at the Heureka Science Centre, Finland, and for two years at the prestigious Ars Electronica Museum of the Future, Austria.
- A breakthrough by the Department of Materials Science in preparing a new type of composition-tunable alloyed nanomaterials with high luminescence and stability tunable across the entire visible spectrum, especially in the blue-emitting regime. The technology is currently being incubated and was featured as the cover story of *Innovation* magazine (March 2003) and the *Journal of the American Chemical Society* (July 2003).
- The discovery by the NUS Nanoscience and Nanotechnology Initiative on how to carry out selective area growth of well-aligned carbon nanotubes by ion beam surface modification. This know-how suggests the possibility of fabricating electronic devices based on carbon nanotubes.
- A breakthrough by the Molecular Genetics team, Department of Obstetrics and Gynaecology, in understanding the aetiology and pathology of premature ovarian failure through the identification of a novel pathogenic mutation in one of the promoters of estrogen receptor-a gene.
- The successful isolation of mesenchymal stem cells from several sources, including the bone marrow, by the Tissue Engineering Group at the Department of Orthopaedic Surgery.
- The publication of the world's first report of a novel melanocortin 3 receptor gene mutation, associated with severe obesity, by the Human Genetics Research Group, Department of Paediatrics.
- The development of metal nitrides and imides as hydrogen storage media by the Surface Science Group. The findings were published in *Nature* (November 2002).

The campus buzzed with intellectual exchange and engagement as the research community learned the latest from the best. Those who came to share and enrich included Nobel Laureates, Professor Rudolph Mossbauer, Professor Emeritus of Technische Universitat Munchen and Professor Robert Huber, Director, Max-Planck Institute for Biochemistry.

Boardroom meets laboratory when value is created out of ideas and innovations.

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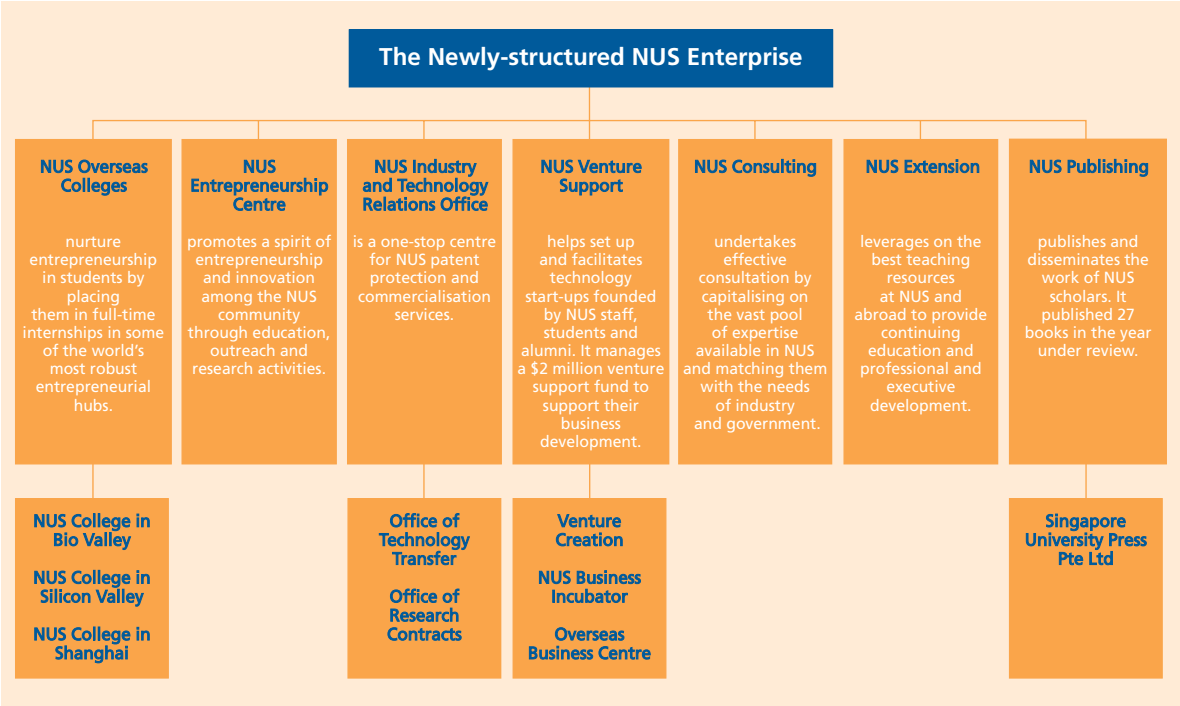
Graduate student, Dr Randall Cha Cher Liang, embodies the NUS entrepreneurial spirit with more than 80 granted patents in his name – the result of his research output for his industrial-track PhD.



ENTREPRENEURSHIP

An entrepreneurial dimension secures the vitality and relevance of NUS in the knowledge-driven economy. Expressed at multiple levels and sectors of the University, a spirit of enterprise infuses the discovery and application of knowledge at NUS.

The University's entrepreneurial pulse was palpable in the review year. The number of patents filed increased by 40 per cent from the previous year to 89, while the number of patents granted was double that of the preceding year. Consultancy work undertaken by faculty members amounted to more than $5 million.

Strengthening the Entrepreneurial Pulse

The entrepreneurial thrust started out the year re-energised with a more streamlined NUS Enterprise cluster, newly brokered from the merging of NUS Enterprise Singapore and NUS Enterprise International. Comprising a host of enabling facilities, the new cluster is committed to fostering a culture where robust innovators possess both the foresight and insight to create value from knowledge.

New grounds were breached with the set up of the NUS Enterprise Centre in Silicon Valley (NECSV) as the University's first overseas incubation centre to facilitate the smooth entry of NUS innovations into foreign markets. NECSV offers the same support services as

those offered by campus-based incubators, ranging from low-cost office facilities to networking and mentoring opportunities. The location of NECSV at the same site as NUS College in Silicon Valley opens doors for mutual win-win leveraging. Budding start-ups can tap into the ready pool of NUS students attending college there and in return offer them invaluable opportunities to gain hands-on experience.

Educating Enterprise

NUS has made the cultivation of entrepreneurial intelligence an integral focus of its learning experience by building synergies between education, research and entrepreneurship.

The University is on course to meet its target of setting up a network of overseas colleges to immerse highly-motivated students in the work culture of five of the world's thriving entrepreneurial hubs. Following the successful launch of NUS College in Silicon Valley and NUS College in Bio Valley, plans were in progress in the year to open an NUS College in Shanghai (NCS), with Fudan University as the teaching partner. The 12-month stint in Shanghai forms part of a NUS Bachelor's degree with a minor in Technopreneurship. At the Shanghai location, NUS students are strategically well placed to leverage on the innovative and entrepreneurial energies prevailing at the Fudan Science Park.

A new Summer Intensive Graduate Course on Technopreneurship was made available as a cross-faculty module for graduate students from the Science and Engineering Faculties and the Schools of Computing and Business. This course is an extension of the Summer Technopreneurship Course that NUS Entrepreneurship Centre has conducted for Norwegian students at the invitation of the Norwegian School of Entrepreneurship. The course provides a unique platform for intellectual discourse between students of both countries.

In stepping up the training of entrepreneurs-in-the-making, mentoring has become more structured. With the new Start-up@Singapore Mentored CEOs Growth Programme, contestants of the business plan competition can continue to tap on their mentors to give them inputs similar to those received during the competition, for as long as a year to help them act on their business plans. Another new mentoring scheme being offered is provided under a tie-up between

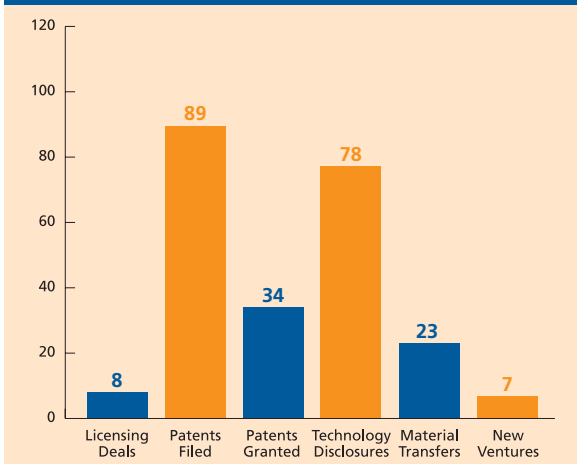
THE NUS ENTREPRENEURIAL DRIVE

Working with industry towards real-world application

In bringing ideas from the laboratory to the market place, the University has worked closely with industry partners. The collaborations listed below are some applications of research impacting the entrepreneurial profile of NUS.

- An agreement was reached between Biomedical Research and Support Services (BRASS), a NUS spin-off company, and North America Science Associates (NAMSA), a world leader in the non-clinical testing of medical devices, to represent the latter's testing services and product divisions in Singapore, Malaysia, Indonesia and Brunei.
- A licensing agreement was signed between the Faculty of Dentistry and Instron Singapore Pte Ltd for a micro-shear punch fixture that was developed for characterising dental biorestorative materials.
- A partnership was entered into by the Industry and Technology Relations Office (INTRO) with Panorama Research Inc (PRI) and Medlogics to incorporate NUS-developed pharmaceutical, des-aspartate-angiotensin (DAA-I), into coronary vascular stents to prevent restenosis.
- An on-going collaboration between NUS and BioWhittaker, an American biotech company, on the University's genetically-engineered compound, Factor C, has resulted in the commercial development of a sensitive endotoxin diagnostic tool called PyroGene.
- An industrial collaboration was established between the Paediatric Immunology and Allergy Group and GlaxoSmithKline Biologicals s.a. Belgium to work on the optimisation of DNA vaccines for allergic diseases.

The NUS Entrepreneurial Drive



NUS Entrepreneurship Centre and the Institution of Engineers Singapore (IES) to promote the grooming of engineer-entrepreneurs.

NUS was admitted to a conglomerate of public and private sector organisations that make up an island-wide network of hubs of technopreneurial activities. Designated a HOTspot (Hub of Technopreneurs), the University is now linked to a talent pool of 4,000 technopreneurs already working in the other eight HOTspots. The link-up is a measure of how far NUS has evolved in a short period to become one of Singapore's engines for growth and innovation.

THE NUS ENTREPRENEURIAL DRIVE

Making it real with ventures

The same passion and imagination driving NUS research were at play in bringing the following ventures to the market place.

Atsuma Technology Pte Ltd was incorporated to market a portable software technology for deploying general purpose grid computing applications and systems. Its product has been identified by the Infocomm Development Authority of Singapore as one of the key technologies in next-generation Internet applications.

Cadi Scientific Pte Ltd was set up to develop and market remote and wireless bio-signal medical devices. Its innovative products include a wireless continuous body temperature monitoring and analysis system, and an automatic basal temperature monitoring and analysis device for pregnancy planning.

Geo5 R&D Services Pte Ltd took off to focus on research and development on geosynthetic materials, recycling construction waste and other geotechnical problems in Singapore and the region. The company has won an Innovative Environmental Sustainability Grant from the National Environmental Agency to recycle marine clay for construction use.

Mikrotools Pte Ltd was spun off from a NUS-developed precision micro-level machining tool that is capable of producing part features below 100 microns and possesses a unique integrated multi-process capability. The proprietary technology for the machine was developed by researchers at the Department of Mechanical Engineering.

MoZat Pte Ltd is a high tech start-up spun off from the School of Computing. M2U, their proprietary MMS technology, aims to lead the trend towards mobile3 communications.

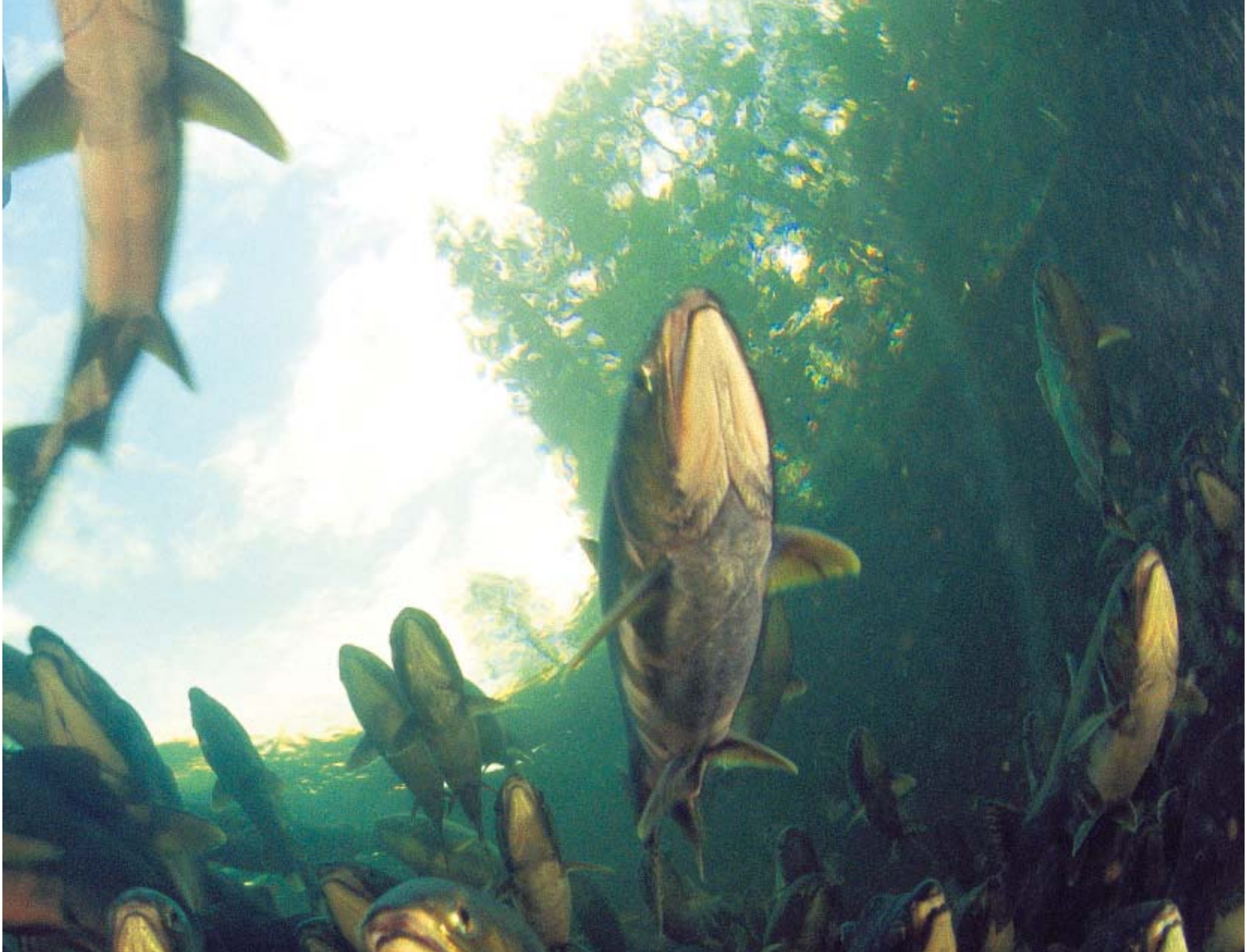
Multitrex Pte Ltd aims to be a premier solutions provider for interactive information management and services, targeted at mobile commerce, customer relations management (CRM) and business intelligence applications. The Ministry of Defence has purchased some of the company's text extraction products.

QuantaGen Pte Ltd is engaged in research and development to commercialise an integrated label-free portable detection system for DNA-based applications in research, healthcare and bio-defence testing markets. The QuantaGen team was this year's winner at the Fourth Start-up@Singapore National Business Plan Competition and Forums, qualifying them to represent Singapore at the inaugural Global Start-up@Singapore International Business Plan Competition, jointly organised by NUS and INSEAD.

In its talent for turning every waterscape to its advantage, the salmon manifests dynamic adaptability and agility. Nature has endowed it with an anadromus quality – the ability to live in both fresh and salt water.

NUS mirrors Nature's endowment with a "no-walls" culture. There are no borders and boundaries in the University's learning and research environments. The campus community builds synergies through integrated multi-disciplinary teaching, inter-disciplinary research collaborations and international connectivity. The outcome is a forward and outward-looking University with a community that sees and seizes opportunities beyond the parochial.

TRANSCENDING
BOUNDARIES



NUS' global road map calls for open minds keen to explore new ideas and different perspectives.

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A snapshot from the album of a student interning in Bio Valley, taken at a company outing.

GLOBALISATION

Globalisation defines the NUS knowledge enterprise. Plugged into the global community of knowledge workers and organisations working at the forefront of ideas, NUS learns of and from the best. Drawn by global networking to become an active player in international academe, the profile and visibility of NUS have been increasingly raised.

The year was a milestone in terms of NUS' globalisation. It opened with Professor Shih Choon Fong, NUS President, assuming the chairmanship of the Association of Pacific Rim Universities (APRU) and the University hosting the Association's secretariat on campus.

At an APRU Special Presidents' Meeting, a vote was taken to register APRU as a legal entity in Singapore. The endorsement paves the way for NUS to host the APRU secretariat permanently.

The NUS Global Classroom

The breadth of NUS learning stretches beyond Kent Ridge to cross-campus stints where minds are challenged and stimulated by cross-cultural perspectives and new insights. Student exchange, the flagship of NUS' cross-campus programmes, continued to be active. The number of students who went on exchange increased by 30 per cent and the number hosted by NUS increased by nine per cent over the same period in the previous year. New student exchange programmes brought the number of partner

GLOBAL CONNECTIONS

NUS' quality education is also expressed as jointly-taught programmes with some of the world's best teaching resources in niche specialties. Such courses have given impetus to the growth of graduate education at the University. The list for the year is impressive both in numbers and the stature of the teaching partners:

- Dual degree Executive Master of Business Administration programme with Anderson School, University of California at Los Angeles
- Graduate Programme in Immunology with Johns Hopkins University School of Medicine
- Joint PhD programme in Genetic and Molecular Epidemiology and other aspects of Molecular Medicine with Karolinska Institutet, Sweden
- Joint MSc programme in Construction Law & Arbitration with King's College London
- Joint PhD in Indoor Environment and Energy with Technical University of Denmark
- Joint MSc programme in Industrial Chemistry with Technische Universitat Munchen
- Joint MSc programme in Industrial & Financial Mathematics with Technische Universitat Munchen
- Double master's programme in Transportation and Logistics with Tsinghua University
- Joint MSc in Chemical Engineering with University of Illinois at Urbana-Champaign
- Joint PhD in Chemical Engineering with University of Illinois at Urbana-Champaign

THE NUS-APRU CONNECTION

NUS' PARTNERSHIP WITH THE ASSOCIATION OF PACIFIC RIM UNIVERSITIES (APRU) dates back to the opening chapter. The University is a founding member of this consortium of 35 leading trans-Pacific universities that stretch across 16 economies in the Pacific Rim.

APRU members are distinguished by their strong research focus, pursuit of excellence and possession of a strong sense of civic and social responsibility. An important objective of APRU is to support the efforts of the Asia-Pacific Economic Cooperation (APEC), the region's primary vehicle for promoting free trade and practical economic co-operation.

It is with this in mind that Professor Shih Choon Fong, APRU chairman and NUS President mooted the establishment of APRU Enterprise, a platform to promote best entrepreneurial programmes and practices among member universities, and as a knowledge freeway to launch their innovations.

Some of the initiatives on the drawing board are entrepreneurship programmes, a synergistic network of innovation and enterprise among member universities and intelligent partnerships between research universities and knowledge enterprises. Through such activities, it is hoped that APRU Enterprise can be a catalyst for advancing knowledge, transferring technologies and creating wealth for the Pacific Rim.

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Cross-campus stints bring an external dimension to NUS education.

universities offering reciprocal exchange programmes with NUS to a total of 207.

Two new measures introduced in the year boosted the viability of student exchange as a quality learning experience. An internship component added value to the overseas stint. In many cases, this work element not only provided hands-on learning experience for students but supplemented their finances.

A Chinese Language Preparation Programme was introduced as part of the cultural immersion that prepares students for exchange to non-English speaking countries. It is the first Asian language in the Programme's portfolio, the other languages on offer being French and German. Its introduction is indicative of the growing popularity of Chinese universities as exchange destinations.

International Collaborations

There was no let up in the intensity with which the University collaborates with international partners both to synergise and benchmark. One partnership that stands out for its scope and impact is the German Institute of Science and Technology (GIST).

Officially opened in February 2003, GIST brings together NUS and Technische Universitat Munchen (TUM) to jointly offer graduate programmes, executive training and research opportunities. Set up with a strong industry focus and close links between its teaching and research strengths, GIST stands out as the biggest initiative established by a German university overseas. The programmes it offers are designed to meet the needs of globally-active companies. It started out the review year with an offering of master's programmes in Industrial Chemistry, and Industrial and Financial Mathematics.

International Profile

NUS continued to grow in reputation as a confluence where talents meet to explore and interact. Steps made by the University to conduct summer schools gained ground in the year.

The first Norwegian Summer Technopreneurship course conducted by NUS Entrepreneurship Centre for the Norwegian School of Entrepreneurship, a consortium of seven leading Norwegian universities, proved so successful that it was repeated in the review year. The Faculty of Arts and Social Sciences similarly initiated a successful summer school for students of the University of North Carolina at Chapel Hill.

NUS faculty and students through their sterling efforts proved they can hold their own against the best in international academia. Faculty members continued to be identified by their international peers for the quality of their work. Many of them were invited to serve as external examiners, academic consultants, members of International Advisory Panels and on editorial boards of internationally-refereed journals.

Several faculty members set new records by being the first Asians to receive international recognition in their respective fields. Associate Professor David Chan (Faculty of Arts and Social Sciences) was the first non-American to be awarded the *Distinguished Early Career Contributions Award 2003* by the Society of Industrial and Organisational Psychology, American Psychological Association. Assistant Professor Muhammad Faishal Ibrahim (School of Design and Environment) and graduate student Ng Chye Wee enjoyed the same distinction in being the first researchers from an Asian university to win the *Best Paper Award* at the *18th Annual Meeting of the American Real Estate Society.*

Awards won by NUS students for their research efforts in the year augur well for NUS' graduate education. Increasingly, these awards have been won on the international platform. They included the *Young Investigator Award* conferred on Mr Ye Lei (Faculty of Medicine) for his research on myoblast therapy and angiogenesis at the *12th International Congress on Cardiovascular Pharmacotherapy* held in Barcelona, Spain; the *Best Paper Award* won by Ms Zhang Jing (School of Business) at the *Academy of Management Conference* held in Seattle, Washington and the *Acton Institute's 2002 Novak Award* won by Mr Jude Chua Soo Meng (Faculty of Arts and Social Sciences).

When it comes to seizing the day, the salmon does not compromise. It braves the perils of the ocean knowing that, for every year spent in the abundance of its waters, it will double in size. However, to ensure that the species thrives, it returns to its humble origins to spawn future generations.

NUS spares no effort in providing its students with resources and opportunities for growth. On campus, living is integrated with learning. Campus buzz is augmented by an international community of talent. The University's infrastructure is state-of-the-art and underscored by the application of IT. A vibrant artistic and cultural life adds to a robust and well-rounded education.

OPTIMISING
FOR GROWTH

RESOURCES AND SERVICES

NUS is served and supported by a network of resources and services that enables and facilitates the smooth functioning of the University.

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At the interim alumni house, the past comes together with the present to shape the University's future.

IT Enhancement

A wired campus, NUS leverages on IT resources for education, research and administration. Impetus was given in the year to building up mobile computing to facilitate borderless learning.

The NUS Virtual Classroom made its appearance on campus, broadening the scope of cross-boundary learning provided by the NUS Global Classroom. While the latter offers real-time classes taught via state-of-the-art distance learning technology, the Virtual Classroom facilitates multi-location interactive teaching. It positions NUS for any e-learning challenges posed by the University going global and moving towards a multi-campus environment.

The University's in-house developed Integrated Virtual Learning Environment (IVLE) entered a new phase of portability. With the introduction of Mobile IVLE, students can now access the student-centred and Internet-based learning management system anytime and anywhere, from their Personal Digital Assistants.

As walls continued to be breached, a Centralised Online Registration System was introduced in the year to facilitate cross-disciplinary enrichment by offering students a common interface to register for modules.

Library Resources

The strengthening of library resources kept pace with the development of the University's core competencies.

A central repository of digital works was launched to support teaching and learning. Better known as the Digital Media Gallery, it allows users to search and preview digital content with an interface to link the resources to IVLE.

Acquisitions made in the year were directed mainly at building up a music reference collection to support programmes at the Yong Siew Toh Conservatory of Music. As of 30 June 2003, the NUS Libraries' collection consisted of more than 1.2 million unique titles. Total loan transactions were over 1.55 million and membership exceeded 56,000.

Arts and Cultural Enrichment

Arts and cultural vibrancy complemented the University's intellectual rigour and vigour, enriching living, learning and working at NUS. The University's arts and culture scene resonates as part of the larger national scene. Both The Centre for the Arts and the NUS Museums

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Print resources at the Chinese library.

carried out active outreach programmes to engage external audiences in the year.

The Centre for the Arts saw an increase of 12 per cent in its membership, testifying to the well-rounded robustness of the campus community. A total of 257 events covering a kaleidoscope of artistic expressions brought verve and sparkle to the campus, enhancing the University's reputation as one of the nation's cultural hubs.

Inroads were made into the visual arts with the launch of a water-colouring and sketching group.

More than 24,000 visitors were received by NUS Museums in a year that saw it organising a record schedule of six exhibitions and acquiring 250 pieces of rare Khmer art and artefacts.

Community Building

Building of strong bonds between the University's stakeholders is close to the heart of the campus community.

A new chapter opened in residential living when Sheares Hall and Kent Ridge Hall moved to brand-new premises. Residents marked the transition from the old to the new with a mass march, symbolising the carrying over of traditions and activities that lie at the heart of hall camaraderie.

Starting with a clean slate were residents of the Prince George's Park Residences, which was officially opened in the year. Built as a self-contained university village with studio apartments and independent dormitory-style living, the complex fleshed out the NUS experience of living with learning.

A leap was made in fostering enduring bonds when the University took its first step towards establishing a permanent home for its 130,000 alumni with the opening of the interim alumni house. An Alumni Complex will be completed in 2006.

With a dedicated facility, NUS alumni groups will have a focal point to network with each other and the campus community. The Complex will also serve as the cornerstone of an intelligent partnership that will see NUS alumni bringing back to the campus their insights and experiences in the real world and, at the same time, engaging in life-long learning by attending campus-based seminars and courses. The Alumni Complex project has received strong endorsement from the National University of Singapore Society (NUSS), the University's largest alumni body, which has made a $20 million donation towards its development.

Integrating Living with Learning

NUS students complement learning with pursuits beyond the classroom and laboratory. The broad, multi-dimensional NUS experience is marked by rich diversity and the development of well-rounded individuals.

International Student Festival, Norway

At NUS, students live and learn in an international community. International students make up 35 per cent of the University's total student population. The diversity of cultural perspectives heightens intellectual discourse.

Community service is an integral part of NUS student life. Thirteen student organisations carried out 17 fund-raising projects in the year involving more than 6,700 students. In step with the University's global pursuits, they have stretched their spirit of volunteerism beyond Singapore to rural communities in Vietnam, Thailand and Myanmar.

The NUS experience extends beyond the campus. Through cross-campus links and stints abroad, NUS students are connected to global issues and the international student community.

International Student Festival, Norway

Residential living is about learning to be resourceful and independent. Community living provides students with the platform to explore and learn from each other, even if it is just a basic lesson in baking cookies.

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Residential living gives students myriad opportunities to express themselves. The hall calendar is packed with concerts, cultural nights, *xinyao* performances, dance productions and talentime competitions. The annual hall production is a highlight of residential life.

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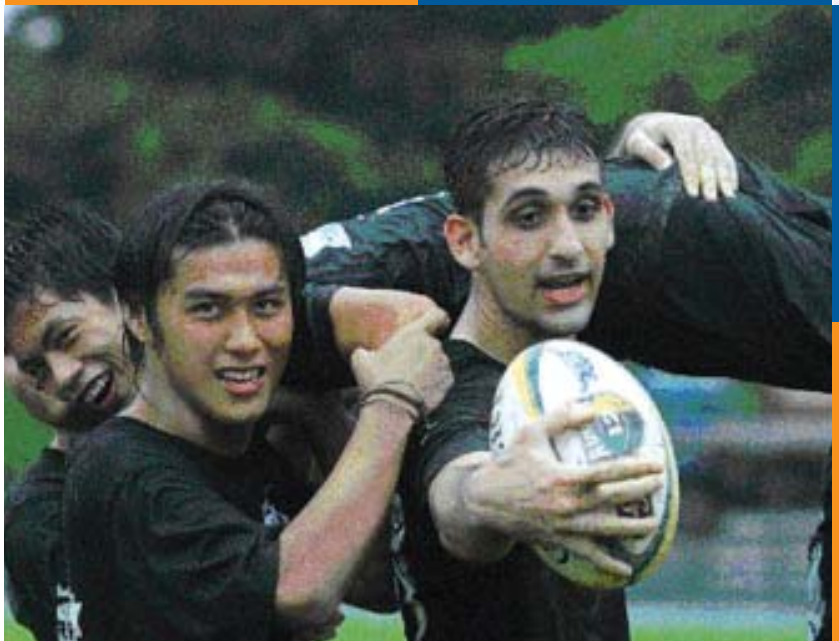
Integrated living and learning makes for character building. The Make It Real mountaineering programme, initiated and driven by NUS students, put words into action. Members were hard at work in the year raising funds and undertaking training expeditions in Nepal and the Himalayas, to realise their final goal – the conquest of Mount Everest to mark NUS' centennial celebrations.



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NUS' no-walls culture is translated to teamwork on the sports field.

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Bonding and networking make for open minds and broad outlooks. The annual Rag and Flag Day builds camaraderie as students come together, to compete under the banners of their faculties or hostels, by building floats and raising funds for charity. More than 5,000 undergraduates participated in the event this year and raised more than $400,000.

World Universities Debating Championships 2003

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NUS students live by the University's tradition of excellence. They have made a strong impression in international debating and moot court competitions. The year's wins included taking the top prize at the ASEAN Environmental Debating Championship, Bangkok and the Anna Alano Memorial Trophy at the World Universities Debating Championships 2003, South Africa.

No

The salmon is no whale nor shark. Yet it seeks out the wide, open ocean and is not daunted by it.

NUS is a relatively young university in a small country. We have set our sights on becoming a global knowledge enterprise that is internationally benchmarked. Our students pit themselves with the best in the world as part of the learning experience. NUS strives at the cutting edge of knowledge and contributes to pushing its frontiers.

Small Fry

Ratings and Rankings

NUS is pegged to international benchmarks. International rankings and accreditations received by NUS in the year validate the University's aspiration to become a global knowledge enterprise.

- NUS Business School received accreditation by the US-based AACSB (The Association to Advance Collegiate Schools of Business) International, the premier accrediting agency for business administration and accounting programmes. It is the first ASEAN business school to have met the high standards set by AACSB.

- NUS Business School's MBA programme was rated 3rd best in Asia Pacific by *Asia Inc* (August 2002) and one of the 100 best full-time programmes world-wide by the Economist Intelligence Unit (October 2002), the business information arm of *The Economist*. The *Chief Executive China* (December 2002) recognised it as the best home-grown business school in Asia.

- The Economics Department was ranked, in terms of publication output, as one of the top 200 departments in the world and 7th among departments in Asia-Australia by T. Coupe of the Free University of Berlin.

- NUS undergraduate programmes in Electrical Engineering, Computer Engineering and Electronic Engineering received full accreditation from the Institution of Electrical Engineers, UK. The accreditation gives NUS graduates the same recognition as having met the academic requirements for registration as Chartered Professional Engineers.

- The Logistics Institute – Asia Pacific (TLI-AP) was presented with the *Best Educational Course Provider Award* at the *Asian Freight and Supply Chain Awards 2003* which was organised by *CargoNews Asia*, a prestigious regional publication for the freight industry.

- NUS undergraduate programmes in Mechanical Engineering were accredited by the Institution of Mechanical Engineers, UK, at its new Master of Engineering level. The accreditation is valid for five years.

- The Division of Graduate Medical Studies will conduct co-joint examinations with the Royal College of Surgeons, Edinburgh (RCSEd), in General Surgery and Orthopaedic Surgery that will enable successful candidates to obtain both the Singapore specialist certification and the Fellowship of the RCSEd.

- The Department of Real Estate was named by the American Real Estate Society in its November 2002 newsletter as the top international team in terms of research publication output.

- The *Singapore Journal of Tropical Geography* was ranked 15th in a survey of geographical journals conducted by the *ISI Journal Citation Report* (2002).

First Strikes

A first is significant as it sets new parameters and opens new vistas. The University's continuing journey towards excellence was marked by several firsts.

- The NUS Business School was the only Asian business school to make it to the top 10 participants at the 2002 annual conference of the Academy of Management. This premier conference for management research was held at Denver, US.

- Researchers at the Centre for Ion Beam Applications achieved proton beam spot sizes of 35 x 75 nm at 2MeV, the best performance currently recorded worldwide.

- Teams from the School of Computing made a clean sweep of the prizes in the *Best Commercial Value* category at the first student entrepreneur competition organised by the Java Wireless Competency Centre.

- A suite of Field Environment Chambers at the School of Design and Environment is the first facility of its kind in the tropics. It will enable state-of-the-art research to be conducted that is in line with the paradigm of "field laboratory" defined for the study of human and indoor environment phenomena.

- The first institution to be named after Senior Minister Mr Lee Kuan Yew will be set up at NUS. The Lee Kuan Yew School of Public Policy will build on the University's existing public policy programme which is jointly taught with John F Kennedy School of Government, Harvard University. The School will establish Singapore as a global point of reference for the study of public policy and administration.

- The Faculty of Medicine has designed a unique new module that studies the economical, ethical, legal and social implications of an epidemic which has a global reach. To be taught as part of the University's initiative to nurture a global mindset, it will be read by all undergraduates. The course uses the SARS outbreak as a model.

- The Tropical Marine Science Institute developed the world's first fully-digital and broadband 2D Ambient Noise Imaging (ANI) camera. The Remotely Operated Mobile Ambient Noise Imaging System (ROMANIS) deploys a number of cutting-edge technologies such as applying for the first time a Fibre Channel technology for data management in an underwater acoustic system.

THE VOYAGE PREVAILS

Progress and prosperity come with renewal and rejuvenation. The salmon knows by instinct that it must return home to spawn in order to renew the species. Hence, it battles currents and swims upstream to where its journey first began.

The global knowledge enterprise can be realised with NUS alumni taking the same homeward-bound route. The University will soar as it is re-energised and recharged by each generation of fresh talent. In turn, the growing reputation of NUS will enhance the standing of its alumni. The health of the University and the future of its graduates are intertwined.

APPENDIXES

Faculty Members on Secondment	54
Achievements – Faculty Members and Staff	57
Statistics – Faculty Members and Staff	61
Enrolment Statistics	68
Graduate Statistics	79
International Visitors	87
Benefactions	88

FACULTY MEMBERS ON SECONDMENT

The following faculty members were on secondment during the review year (July 2002 to June 2003), serving the country in different capacities:

Associate Professor BALAKRISHNAN, VIVIAN (Ophthalmology)
– as Minister of State, Ministry of National Development

Professor CHAN HENG CHEE (Political Science)
– as Singapore's Ambassador to the United States of America

Associate Professor CHEUNG PO LO, PAUL (Social Work & Psychology)
– as Chief Statistician, Ministry of Trade & Industry

Professor CHING CHI BUN (Chemical & Environmental Engineering)
– as Deputy Director, Institute of Chemical and Engineering Sciences, Agency for Science, Technology & Research

Professor CHONG TOW CHONG (Electrical & Computer Engineering)
– as Director, Data Storage Institute

Professor HANG CHANG CHIEH (Electrical & Computer Engineering)
– as Deputy Chairman, Agency for Science, Technology & Research

Associate Professor HO PENG KEE (Law Faculty)
– as Senior Minister of State, Ministry of Home Affairs, and Senior Minister of State, Ministry of Law

Professor SHANMUGAM JAYAKUMAR (Law Faculty)
– as Minister for Foreign Affairs and Minister for Law

Professor KOH, TOMMY T B (Law Faculty)
– as Ambassador-at-Large, Ministry of Foreign Affairs

Associate Professor KONG HWAI LOONG (Medicine)
– as Executive Director, Biomedical Research Council, Agency for Science, Technology & Research

FACULTY MEMBERS ON SECONDMENT

Professor LAM KHIN YONG (Mechanical Engineering)
– as Director, Managing Director's Office, Agency for Science, Technology & Research and Director, Agency for Science, Technology & Research Graduate Academy

Associate Professor LEE HEOW PUEH (Mechanical Engineering)
– as Acting Executive Director, Institute of High Performance Computing

Associate Professor LIM KHIANG WEE (Electrical & Computer Engineering)
– as Director, Science & Engineering Research Council, Agency for Science, Technology & Research

Professor LIU TAK BUN, EDISON (Medicine)
– as Executive Director, Genome Institute of Singapore

Associate Professor LOH HAN TONG (Mechanical Engineering)
– as Deputy Director (Education), Design Technology Institute

Associate Professor LONG, PHILIP M (Computer Science)
– as Senior Group Leader, Genome Institute of Singapore

Professor LOW TECK SENG (Electrical & Computer Engineering)
– as Principal, Republic Polytechnic

Associate Professor LOY WEE LOON (Law Faculty)
– as Deputy Director, Intellectual Property Academy

Professor LYE KIN MUN (Electrical & Computer Engineering)
– as Deputy Executive Director (Industry), Institute for Infocomm Research

Associate Professor REN EE CHEE (Microbiology)
– as Deputy Director, Genome Institute of Singapore

Professor TAN CHORH CHUAN (Medicine)
– as Director of Medical Services, Ministry of Health

FACULTY MEMBERS ON SECONDMENT

Associate Professor TAN, MILTON (Architecture)
– as Project Director, National Arts Council

Professor WONG WAI CHOONG, LAWRENCE (Electrical & Computer Engineering)
– as Executive Director, Institute for Infocomm Research

Professor WOON CHEONG MING, WALTER (Law Faculty)
– as Singapore's Ambassador to Germany

Associate Professor YAACOB IBRAHIM (Industrial & Systems Engineering)
– as Minister for Community Development & Sports and Minister-in-charge of Muslim Affairs

Professor YAP GEK SIM, MIRANDA (Chemical & Environmental Engineering)
– as Executive Director, Bioprocessing Technology Centre, Agency for Science, Technology & Research

INTERNATIONAL ACCOLADES

NUS faculty members continue to make an impact in their niche areas of expertise. Below are some of the many whose work has been internationally acknowledged.

Professor BONGSO, ARIFF (Faculty of Medicine) was one of 10 scientists worldwide awarded the Fellowship of the Royal College of Obstetricians and Gynaecologists *(ad eundem)*, UK, for year 2003.

Professor CHEN HSIAO YUN, LOUIS (Faculty of Science) was appointed President-elect of the Institute of Mathematical Statistics, US.

Associate Professor CHOO YOO SANG (Faculty of Engineering) received the *International Society of Offshore & Polar Engineers Award* in recognition of his invaluable contributions to the society as a member of the Board of Directors and leader of its International Structures and Materials Committee.

Associate Professor HSU, STEPHEN (Faculty of Dentistry) received an *American Academy of Paediatric Dentistry Foundation Research Award* for his study on laser-matrix-fluoride interactions, which unveiled the potential of combined laser-fluoride therapy in preventing enamel caries.

Professor ILETO, REYNALDO (Faculty of Arts & Social Sciences) was one of the winners of the *Fukuoka Asian Culture Prizes 2003* established by the city of Fukuoka, Japan. He was awarded the Academic Prize for his outstanding research on the Philippine Revolution at the turn of the 19th century.

Associate Professor KUMAR, SENTHIL (Faculty of Engineering) was bestowed the *Serope Kalpakjian Outstanding Young Manufacturing Engineer Award* conferred by the Society of Manufacturing Engineers, US in recognition of his significant achievements and leadership in the field.

Professor LEONG WAI KUM (Faculty of Law) was appointed the first Visiting Researcher of the Clarke Programme at Cornell Law School.

Associate Professor LIM, JOSEPH (School of Design & Environment) received an Honourable Mention at the *Kenneth F Brown Asia Pacific Culture & Architecture Design Award* programme for his project titled *The Lee Treehouse*.

Assistant Professor LIM JIUN, IVOR (Faculty of Medicine) was the first Singaporean to be awarded the Fellowship of the Royal College of Surgeons (Plastic Surgery), UK.

Professor OULIARIS, SAM (School of Business) was identified as one of the most frequently cited economists for 1999-2000 according to the *Social Sciences Citation Index,* Institute for Scientific Information.

Assistant Professor TAN HAO YANG (Faculty of Medicine) was one of the winners of the *2002 Young Minds in Psychiatry International Awards* (International/Schizophrenia Category) organised by the American Psychiatric Association and pharmaceutical company AstraZeneca.

NATIONAL SCIENCE AND TECHNOLOGY AWARDS 2002

NUS faculty members were among the recipients of the National Science and Technology Awards 2002, Singapore's highest honour for contributions to advancing the nation's scientific and technological frontiers. Their achievements are in keeping with the strategic build-up of NUS research strengths to support the nation's development.

Professor BONGSO, ARIFF (Faculty of Medicine) received the *National Science Award* for pioneering work in human embryonic stem cell research.

Professor NEE YEH CHING, ANDREW (Faculty of Engineering) and **Dr JIANG RIDONG (Institute of High Performance Computing)** were presented the *National Technology Award* for the development of a knowledge-based tooling design system.

Assistant Professor SIM WEE SUN (Faculty of Science) and **Associate Professor LOBIE, PETER (Institute of Molecular and Cell Biology)** were each honoured with a *Young Scientist Award* for research on how atoms and molecules behave on surfaces and on the role of growth hormones in cancer cell biology respectively.

UNIVERSITY AWARDS 2003

The University Awards are given by NUS in recognition of the singular achievements of faculty in education, research or service. In raising the benchmark of excellence in the University's core services, these award winners have contributed towards the development of NUS as a global knowledge enterprise.

OUTSTANDING EDUCATOR AWARDS

Associate Professor SEAH KAR HENG (Faculty of Engineering) for innovative teaching and bringing a real-world dimension to the classroom.

Associate Professor WIRTZ, JOCHEN (School of Business) for commitment to proactive teaching and contribution to the education of services marketing.

YOUNG RESEARCHER AWARDS

Associate Professor LI BAOWEN (Faculty of Science) for research to help physicists gain a better understanding of irreversible macroscopic phenomena.

Associate Professor WU YIHONG (Faculty of Engineering) for research at the forefront of nano-carbon science and spintronics.

ACHIEVEMENTS – FACULTY MEMBERS AND STAFF

OUTSTANDING RESEARCHER AWARD

Associate Professor TOH KIM CHUAN **(Faculty of Science)** for pioneering work on semidefinite programming that has advanced optimisation research.

OUTSTANDING SERVICE AWARD

Professor LIM PIN **(Faculty of Medicine)** for his signal stewardship of 19 years as Vice-Chancellor of the University.

NATIONAL DAY AWARDS 2002

The following staff members received National Day awards:

PUBLIC ADMINISTRATION MEDAL (GOLD)

Professor CHONG CHI TAT **Deputy President and Provost**

PUBLIC ADMINISTRATION MEDAL (SILVER)

Professor CHEN HSIAO YUN, LOUIS **Head, Department of Statistics & Applied Probability, Faculty of Science and Director, Institute for Mathematical Sciences**

EFFICIENCY MEDAL

Mdm NG SOEK CHENG, MARY **Management Support Officer, Office of Student Affairs**

Mr TAN ENG HIN **Principal Laboratory Officer, Department of Civil Engineering**

Mrs TAN MEI LENG **Management Support Officer, Office of Finance**

ACHIEVEMENTS – FACULTY MEMBERS AND STAFF

LONG SERVICE MEDAL

Mr MOHAMMAD HERMAN KUM BIN ABDULLAH Operations Support Officer, Registrar's Office

Mr RASIDI BIN HAMIDON Technical Support Officer, Office of Estate and Development

Miss HO LENG JOO Senior Laboratory Officer, Department of Electrical and Computer Engineering

Mr ANTHEN WILMETTT BASKARAN JOSEPH Technical Support Officer, Dean's Office, Faculty of Dentistry

Mr SULAIMAN BIN KAMSARI Technical Support Officer, Office of Estate and Development

Miss LEE CHUI LING Management Support Officer, Office of Admissions

Mr LIM HUAY BAK Principal Laboratory Officer, Department of Civil Engineering

Mrs LUI KIM POH, LISA Management Support Officer, Office of Safety, Health and Environment

Mr KRISHNAN S/O MANIKAM Estate Maintenance Officer, Office of Estate and Development

Mrs SEAH PAU FAH, ROSE Senior Laboratory Officer, Department of Electrical and Computer Engineering

Mr SEOW HUNG CHENG Senior Laboratory Officer, Department of Electrical and Computer Engineering

Mdm TAN BOH CHIN, MARY Management Support Officer, Office of Admissions

STATISTICS – FACULTY MEMBERS AND STAFF

SUMMARY TABLE FOR 2002 – 03

Faculty Members and Research Staff	2,746*
Administrative staff	571
Professional staff in Library, Computer Centre and Administrative Departments	244
General staff	2,618
Total	**6,179**

* including 94 visiting staff and 56 staff from Institute of Systems Science

VISITING STAFF FOR 2002 – 03

New Appointments	191
Total	**191**

STATISTICS – FACULTY MEMBERS AND STAFF

NEW APPOINTMENTS 2002 – 03

Faculty/Centre	Professor	Associate Professor	Assistant Professor	Lecturer	Teaching Assistant*	Total
Arts & Social Sciences	1	1	10	–	9	21
Business	1	2	–	–	1	4
Computing	–	–	10	1	27	38
Dentistry	–	–	2	–	–	2
Design & Environment	–	–	5	–	1	6
Engineering	1	–	9	–	1	11
Law	–	1	2	–	–	3
Medicine	2	1	11	–	7	21
Science	–	–	4	–	16	20
Singapore Conservatory of Music#	–	–	1	–	–	1
University Scholars Programme	–	–	–	–	–	–
Centre for English Language Communication	–	–	–	1	–	1
Total	**5**	**5**	**54**	**2**	**62**	**128**

* including Senior Tutor and Instructor

\# renamed as Yong Siew Toh Conservatory of Music with effect from 1 August 2003

Note: 213 new research appointments were also made to research institutes/centres and various faculties.

STATISTICS – FACULTY MEMBERS AND STAFF

PROMOTIONS 2002 – 03

Faculty	To Professorships	To Associate Professorships	Total
Arts & Social Sciences	2	7	9
Business	3	–	3
Computing	–	–	–
Dentistry	–	–	–
Design & Environment	–	–	–
Engineering	5	2	7
Law	1	–	1
Medicine	3	3	6
Science	1	3	4
Total	**15**	**15**	**30**

STATISTICS – FACULTY MEMBERS AND STAFF

DISTRIBUTION OF FACULTY MEMBERS BY APPOINTMENT AS AT END OF JUNE 2003

Faculty/Centre	Professor	Associate Professor	Assistant Professor	Senior Lecturer	Lecturer	Teaching Assistant*	Total
Arts & Social Sciences	14	100	136	22	20	51	343
Business	10	58	38	1	17	9	133
Computing	8	34	32	7	5	73	159
Dentistry	2	12	9	1	–	–	24
Design & Environment	1	30	29	6	2	8	76
Engineering	47	142	74	5	2	11	281
Law	9	32	13	–	–	–	54
Medicine	36	102	75	2	–	13	228
Science	33	112	66	11	7	35	264
Singapore Conservatory of Music#	–	–	2	–	–	–	2
University Scholars Programme	–	–	13	1	–	–	14
Centre for English Language Communication	–	–	–	3	41	–	44
Total	**160**	**622**	**487**	**59**	**94**	**200**	**1,622**

* including Senior Tutor and Instructor

\# renamed as Yong Siew Toh Conservatory of Music with effect from 1 August 2003

STATISTICS – FACULTY MEMBERS AND STAFF

DISTRIBUTION OF FACULTY MEMBERS AND RESEARCH STAFF BY NATIONALITY AS AT END OF JUNE 2003

Faculty/Centre	S'pore	M'sia	India	PRC	Other Asian Countries	UK	USA/ Canada	Aust/ NZ	Others	Total
Arts & Social Sciences	152	17	17	18	53	17	43	11	15	343
Business	76	14	7	5	15	1	10	3	2	133
Computing	74	13	9	36	10	–	6	5	6	159
Dentistry	18	2	1	1	2	–	–	–	–	24
Design & Environment	45	11	–	4	6	1	3	–	6	76
Engineering	138	37	26	14	25	5	20	8	8	281
Law	36	8	–	1	1	3	4	1	–	54
Medicine	131	44	9	7	5	12	6	7	7	228
Science	118	34	10	33	12	12	20	13	12	264
Singapore Conservatory of Music[#]	1	–	–	–	1	–	–	–	–	2
University Scholars Programme	2	–	–	1	–	2	7	–	2	14
Centre for English Language Communication	25	5	–	2	5	2	4	1	–	44
Sub-Total (Faculty Members)	**816**	**185**	**79**	**122**	**135**	**55**	**123**	**49**	**58**	**1,622**
Research Staff	180	93	101	464	50	17	17	18	34	974
Total	**996**	**278**	**180**	**586**	**185**	**72**	**140**	**67**	**92**	**2,596**

[#] renamed as Yong Siew Toh Conservatory of Music with effect from 1 August 2003

STATISTICS – FACULTY MEMBERS AND STAFF

HIGHEST ACADEMIC QUALIFICATIONS OF FACULTY MEMBERS 2002 – 03

Faculty/Centre	PhD	Masters	Bachelors	Others	Total
Arts & Social Sciences	276	43	24	–	343
Business	105	22	6	–	133
Computing	83	32	43	1	159
Dentistry	7	16	1	–	24
Design & Environment	60	9	6	1	76
Engineering	271	6	4	–	281
Law	10	40	4	–	54
Medicine	131	58	39	–	228
Science	232	18	14	–	264
Singapore Conservatory of Music#	2	-	–	–	2
University Scholars Programme	13	1	–	–	14
Centre for English Language Communication	10	34	–	–	44
Total	**1,200**	**279**	**141**	**2**	**1,622**

renamed as Yong Siew Toh Conservatory of Music with effect from 1 August 2003

STATISTICS – FACULTY MEMBERS AND STAFF

ADJUNCT APPOINTMENTS 2002 – 03

Faculty/Research Institutes/Centres	Teaching	Research	Total
Arts & Social Sciences	12	–	12
Business	8	–	8
Computing	11	–	11
Dentistry	–	1	1
Design & Environment	12	1	13
Engineering	37	5	42
Law	14	–	14
Medicine	84	10	94
Science	23	10	33
University Scholars Programme	1	–	1
Research Institutes/Centres	3	3	6
Total	**205**	**30**	**235**

ENROLMENT STATISTICS

SUMMARY TABLE FOR 2002 – 03

	Male	Female	Total
Full-Time (Undergraduate) students	10,516	11,653	22,169
Part-Time (Undergraduate) students	678	290	968
Graduate students	4,477	2,341	6,818
Diploma students	195	175	370
Total	**15,866**	**14,459**	**30,325**

BASIC DATA ON STUDENTS 2002 – 03

	Male	Female	Total
Undergraduates	11,194	11,943	23,137
Graduate students			
– By Research	2,459	1,396	3,855
– Coursework	2,018	945	2,963
Diplomas	195	175	370
Total	**15,866**	**14,459**	**30,325**

ENROLMENT STATISTICS

UNDERGRADUATE ENROLMENT BY COURSE AND YEAR OF STUDY AS AT 30 SEPTEMBER 2002

Full-time	Year	Male	Female	Total
Architecture	1	52	68	120
Architecture	2	53	60	113
Architecture	3	48	60	108
Architecture	Honours	0	2	2
Sub-Total		**153**	**190**	**343**
Arts & Social Sciences	1	466	1,314	1,780
Arts & Social Sciences	2	394	1,012	1,406
Arts & Social Sciences	3	422	1,056	1,478
Arts	4	59	158	217
Social Sciences	4	122	219	341
Sub-Total		**1,463**	**3,759**	**5,222**
Building/Real Estate	1	82	151	233
Building	2	33	52	85
Building	3	45	62	107
Building	4	53	49	102
Real Estate	2	40	106	146
Real Estate	3	61	69	130
Real Estate	4	47	74	121
Sub-Total		**361**	**563**	**924**
Business Administration	1	137	240	377
Business Administration	2	200	297	497
Business Administration	3	91	197	288
Business Administration	Honours	84	122	206
Sub-Total		**512**	**856**	**1,368**
Computer Engineering (B.Comp.)	1	91	15	106
Computer Engineering (B.Comp.)	2	55	23	78
Computer Engineering (B.Comp.)	3	44	23	67
Sub-Total		**190**	**61**	**251**
Computing	1	372	221	593
Computing/Computer Science	2	364	245	609

ENROLMENT STATISTICS

Full-time	Year	Male	Female	Total
Computing/Computer Science	3	416	255	671
Computing	4	131	64	195
Sub-Total		**1,283**	**785**	**2,068**
Dentistry	1	20	15	35
Dentistry	2	21	12	33
Dentistry	3	17	18	35
Dentistry	4	22	11	33
Sub-Total		**80**	**56**	**136**
Chemical Engineering	1	146	105	251
Chemical Engineering	2	107	100	207
Chemical Engineering	3	96	108	204
Chemical Engineering	4	95	88	183
Civil Engineering	2	145	60	205
Civil Engineering	3	148	51	199
Civil Engineering	4	139	57	196
Computer Engineering (B.Eng.)	1	66	24	90
Computer Engineering (B.Eng.)	2	104	15	119
Computer Engineering (B.Eng.)	3	62	27	89
Computer Engineering (B.Eng.)	4	99	25	124
Electrical Engineering	2	390	138	528
Electrical Engineering	3	444	126	570
Electrical Engineering	4	358	135	493
Engineering	1	688	217	905
Environmental Engineering	1	13	19	32
Environmental Engineering	2	10	33	43
Environmental Engineering	3	14	23	37
Environmental Engineering	4	15	13	28
Industrial & Systems Engineering	2	27	13	40
Mechanical Engineering	2	310	84	394
Mechanical Engineering	3	306	98	404
Mechanical Engineering	4	279	71	350
Sub-Total		**4,061**	**1,630**	**5,691**

ENROLMENT STATISTICS

Full-time	Year	Male	Female	Total
Industrial Design	1	13	13	26
Industrial Design	2	13	12	25
Industrial Design	3	19	24	43
Industrial Design	4	3	0	3
Sub-Total		**48**	**49**	**97**
Law/Approved Graduate Law	1	71	139	210
Law/Approved Graduate Law	2	60	123	183
Law/Approved Graduate Law	3	54	96	150
Law	4	60	77	137
Sub-Total		**245**	**435**	**680**
Medicine	1	147	83	230
Medicine	2	138	96	234
Medicine	3	126	88	214
Medicine	4	124	75	199
Medicine	5	136	68	204
Sub-Total		**671**	**410**	**1,081**
Pharmacy	1	25	61	86
Pharmacy	2	15	70	85
Pharmacy	3	12	74	86
Pharmacy	4	16	52	68
Sub-Total		**68**	**257**	**325**
Science	1	422	729	1,151
Science	2	321	668	989
Science	3	317	593	910
Science	4	106	149	255
Applied Science	1	55	148	203
Applied Science	2	45	131	176
Applied Science	3	91	142	233
Applied Science	Honours	24	42	66
Sub-Total		**1,381**	**2,602**	**3,983**
Total		**10,516**	**11,653**	**22,169**

ENROLMENT STATISTICS

Part-time	Year	Male	Female	Total
B.Building (Construction Management & Economics)	1	20	11	31
B.Building (Construction Management & Economics)	2	15	5	20
B.Building (Construction Management & Economics)	3	19	16	35
B.Building (Construction Management & Economics)	4	13	20	33
Sub-Total		**67**	**52**	**119**
B.Real Estate (Property Management)	1	12	10	22
B.Real Estate (Property Management)	2	10	13	23
B.Real Estate (Property Management)	3	6	13	19
B.Real Estate (Property Management)	4	6	10	16
Sub-Total		**34**	**46**	**80**
B.Real Estate (Valuation)	1	4	1	5
B.Real Estate (Valuation)	2	3	12	15
B.Real Estate (Valuation)	3	2	5	7
B.Real Estate (Valuation)	4	5	14	19
Sub-Total		**14**	**32**	**46**
B.Technology (Chemical Engineering)	1	24	19	43
B.Technology (Chemical Engineering)	2	31	13	44
B.Technology (Chemical Engineering)	3	17	10	27
B.Technology (Chemical Engineering)	4	18	11	29
Sub-Total		**90**	**53**	**143**
B.Technology (Electronics Engineering)	1	79	27	106
B.Technology (Electronics Engineering)	2	78	13	91
B.Technology (Electronics Engineering)	3	56	24	80
B.Technology (Electronics Engineering)	4	51	16	67
Sub-Total		**264**	**80**	**344**
B.Technology (Mechanical & Manufacturing Engineering)	1	60	7	67
B.Technology (Mechanical & Manufacturing Engineering)	2	62	6	68
B.Technology (Mechanical & Manufacturing Engineering)	3	43	6	49
B.Technology (Mechanical Engineering)	4	32	6	38
B.Technology (Manufacturing Engineering)	4	12	2	14
Sub-Total		**209**	**27**	**236**
Total		**678**	**290**	**968**
Grand Total		**11,194**	**11,943**	**23,137**

ENROLMENT STATISTICS

GRADUATE STUDENT ENROLMENT 2002 – 03 BY RESEARCH AS AT 30 JUNE 2003

Faculty/Institute/School	Male	Female	Total
Arts & Social Sciences	194	210	404
Business	37	56	93
Computing	299	105	404
Dentistry	12	12	24
Design & Environment	62	42	104
Engineering	1,061	382	1,443
Law	15	6	21
Medicine	256	233	489
Science	468	320	788
Institute of Materials Research & Engineering	6	1	7
Institute of Molecular & Cell Biology	9	9	18
Laboratories for Information Technology	3	1	4
National University Medical Institutes	3	5	8
Singapore-MIT Alliance	34	14	48
Total	**2,459**	**1,396**	**3,855**

ENROLMENT STATISTICS

GRADUATE STUDENT ENROLMENT 2002 – 03 BY COURSEWORK & DISSERTATION AS AT 30 JUNE 2003

Faculty/Institute/School	Course	Male	Female	Total
Arts & Social Sciences	Grad.Dip.English Studies	7	44	51
	Grad.Dip.Social Work	8	26	34
	M.A. (Chinese Studies)	14	34	48
	M.A. (English Studies)	15	76	91
	M.A. (Southeast Asian Studies)	20	20	40
	Master in Public Management	17	3	20
	Master in Public Policy	22	26	48
	M.Soc.Sci. (Applied Economics)	32	20	52
	M.Soc.Sci. (Applied Psychology)	7	11	18
	M.Soc.Sci. (Applied Sociology)	12	20	32
	M.Soc.Sci. (Economics)	8	13	21
	M.Soc.Sci. (International Studies)	16	24	40
	M.Soc.Sci. (Social Work)	8	37	45
Business	Grad.Dip.Bus.Admin.	0	1	1
	Asia-Pacific Executive M.B.A. (conducted in Chinese)	14	4	18
	International M.B.A.	5	4	9
	M.B.A.	103	54	157
	M.B.A. (for Senior Executives)	20	2	22
	M.Sc. (Asia-Pacific Human Resource Management)	1	1	2
	M.Sc. (Management of Technology)	9	1	10
Computing	M.Comp.	99	38	137
Dentistry	M.D.S. (Endodontics)	4	1	5
	M.D.S. (Oral & Maxillofacial Surgery)	5	1	6
	M.D.S. (Orthodontics)	2	5	7
	M.D.S. (Periodontology)	1	1	2
	M.D.S. (Prosthodontics)	4	2	6

ENROLMENT STATISTICS

Faculty/Institute/School	Course	Male	Female	Total
Design & Environment	M.A. (Urban Design)	1	0	1
	M.Arch.	46	46	92
	M.Sc. (Building Science)	27	11	38
	M.Sc. (Environmental Management)	14	10	24
	M.Sc. (Project Management)	26	8	34
	M.Sc. (Real Estate)	15	12	27
Engineering	Grad.Dip. (Defence Technology & Systems)	25	2	27
	Grad.Dip.Aviation Mgt.	5	4	9
	Grad.Dip.Environmental Engineering	20	12	32
	Grad.Dip.Maritime & Port Mgt.	10	1	11
	M.Sc. (Chemical Engineering)	34	15	49
	M.Sc. (Civil Engineering)	80	19	99
	M.Sc. (Defence Technology & Systems)	53	3	56
	M.Sc. (Electrical Engineering)	163	37	200
	M.Sc. (Environmental Engineering)	42	22	64
	M.Sc. (Industrial & Systems Engineering)	144	53	197
	M.Sc. (Materials Science & Engineering)	50	24	74
	M.Sc. (Mechanical Engineering)	98	3	101
	M.Sc. (Mechatronics)	28	3	31
	M.Sc. (Safety, Health & Environmental Technology)	34	13	47
	M.Sc. (Transportation Systems & Management)	28	11	39
	NUS-UIUC M.Sc. (Chemical Engineering)	9	1	10
Law	Grad.Dip.Law	3	2	5
	Joint LL.M.	1	0	1
	LL.M.	4	3	7

ENROLMENT STATISTICS

Faculty/Institute/School	Course	Male	Female	Total
Medicine	Grad.Dip.Basic Ultrasonography (Obstetrics & Gynaecology)	3	7	10
	Grad.Dip.Family Practice Dermatology	14	10	24
	Grad.Dip.Geriatric Medicine	8	1	9
	Grad.Dip.Occup.Medicine	1	1	2
	Grad.Dip.Psychotherapy	8	9	17
	M.Med. (Anaesthesiology)	10	11	21
	M.Med. (Emergency Medicine)	18	2	20
	M.Med. (Family Medicine)	30	14	44
	M.Med. (Internal Medicine)	14	6	20
	M.Med. (Obstetrics & Gynaecology)	0	1	1
	M.Med. (Occupational Medicine)	2	1	3
	M.Med. (Ophthalmology)	5	3	8
	M.Med. (Orthopaedic Surgery)	13	0	13
	M.Med. (Otorhinolaryngology)	2	0	2
	M.Med. (Psychiatry)	2	1	3
	M.Med. (Public Health)	2	0	2
	M.Med. (Surgery)	27	8	35
	M.Nursing	2	13	15
	M.Sc.Bioinformatics	20	5	25
Science	Grad.Dip.Analytical Chemistry	30	18	48
	Grad.Dip.Math	18	11	29
	Joint M.Sc. in Industrial Chemistry	11	9	20
	M.Pharm. (Clinical Pharmacy)	4	15	19
	M.Sc. (Applied Physics)	11	1	12
	M.Sc. (Financial Engineering)	65	16	81
	M.Sc. (Mathematics)	6	6	12
	M.Sc. (Physics)	17	1	18
	M.Sc. (Statistics)	9	15	24

ENROLMENT STATISTICS

Faculty/Institute/School	Course	Male	Female	Total
Design Technology Institute	MTD (Embedded Systems)	33	3	36
	MTD (Mechatronics)	4	1	5
	MTD (Rapid Product Development)	22	4	26
Institute of Systems Science	Grad.Dip.Systems Analysis	34	26	60
	Grad.Dip. (Knowledge Engineering)	1	0	1
	M.Tech. (Knowledge Engineering)	119	30	149
	M.Tech. (Software Engineering)	197	60	257
Regional Language Centre	M.A. (Applied Linguistics)	2	15	17
Singapore-MIT Alliance	S.M. (Advanced Materials for Micro- and Nano- Systems)	0	1	1
	S.M. (Computer Science)	15	5	20
	S.M. (High Performance Computation for Engineered Systems)	2	1	3
	S.M. (Molecular Engineering of Biological & Chemical Systems)	0	1	1
The Logistics Institute – Asia Pacific	M.Sc. (Logistics & Supply Chain Management)	19	4	23
Total		**2,213**	**1,120**	**3,333**

ENROLMENT STATISTICS

PERCENTAGE BREAKDOWN OF GRADUATE STUDENT ENROLMENT BY RESEARCH	
Arts & Social Sciences	10.48%
Computing	10.48%
Engineering	37.43%
Medicine	12.68%
Science	20.44%
Others	8.48%

PERCENTAGE BREAKDOWN OF GRADUATE STUDENT ENROLMENT BY COURSEWORK	
Arts & Social Sciences	16.20%
Business	6.57%
Design & Environment	6.48%
Engineering	31.38%
Institute of Systems Science	14.01%
Others (See Below)	25.35%
OTHERS	
Computing	4.11%
Dentistry	0.78%
Law	0.39%
Medicine	8.22%
Science	7.89%
Design Technology Institute	2.01%
Regional Language Centre	0.51%
Singapore-MIT Alliance	0.75%
The Logistics Institute – Asia Pacific	0.69%
Total	**25.35%**

GRADUATE STATISTICS

FIRST DEGREE GRADUATES 2002 – 03

Faculty/Full-time Degree	Male	Female	Total
Arts & Social Sciences			
B.A.	274	773	1,047
B.A. (Honours)	59	157	216
B.Soc.Sci. (Honours)	119	216	335
Sub-Total	**452**	**1,146**	**1,598**
Business			
B.B.A.	124	238	362
B.B.A. (Honours)	53	81	134
Sub-Total	**177**	**319**	**496**
Computing			
B.Comp.	253	180	433
B.Comp. (Honours)	121	60	181
B.Sc. (Computer & Information Sciences)	1	1	2
Sub-Total	**375**	**241**	**616**
Dentistry			
B.D.S.	21	11	32
Sub-Total	**21**	**11**	**32**
Design & Environment			
B.A. (Architecture)	49	66	115
B.A. (Architecture) Honours	0	2	2
B.A. (Industrial Design)	11	10	21
B.Sc. (Building)	53	49	102
B.Sc. (Real Estate)	50	74	124
Sub-Total	**163**	**201**	**364**
Engineering			
B.Eng. (Chemical)	92	89	181
B.Eng. (Civil)	138	59	197
B.Eng. (Computer)	88	23	111
B.Eng. (Electrical)	337	138	475
B.Eng. (Environmental)	15	14	29

GRADUATE STATISTICS

Faculty/Full-time Degree	Male	Female	Total
B.Eng. (Mechanical)	269	64	333
Sub-Total	**939**	**387**	**1,326**
Law			
LL.B.	59	81	140
Sub-Total	**59**	**81**	**140**
Medicine			
M.B.,B.S.	128	66	194
Sub-Total	**128**	**66**	**194**
Science			
B.Sc.	178	458	636
B.Sc. (Honours)	106	146	252
B.Appl.Sci.	56	93	149
B.Appl.Sci. (Honours)	23	43	66
B.Sc. (Pharmacy)	1	3	4
B.Sc. (Pharmacy)(Honours)	14	45	59
Sub-Total	**378**	**788**	**1,166**
Total	**2,692**	**3,240**	**5,932**

Part-time Degree	Male	Female	Total
Design & Environment			
B.Bldg. (Construction Management & Econs)	12	20	32
B.R.E. (Property Management)	6	10	16
B.R.E. (Valuation)	5	14	19
Sub-Total	**23**	**44**	**67**
Engineering			
B.Tech. (Electronics Engineering)	54	20	74
B.Tech. (Mechanical Engineering)	36	7	43
B.Tech. (Manufacturing Engineering)	15	2	17
Sub-Total	**105**	**29**	**134**
Total	**128**	**73**	**201**
Grand-Total	**2,820**	**3,313**	**6,133**

Note: The figures are based on students' conferred date up to 30 June 2003.

GRADUATE STATISTICS

HIGHER DEGREE AND DIPLOMA GRADUATES 2002 – 03

Faculty/Institute/School	Degree/Diploma	Male	Female	Total
Arts & Social Sciences	Grad.Dip.English Studies	3	11	14
	Grad.Dip.Public Policy	0	1	1
	Grad.Dip.Social Research	2	1	3
	Grad.Dip.Social Work	14	14	28
	M.A.	13	14	27
	M.A. (Chinese Studies)	4	14	18
	M.A. (English Studies)	4	26	30
	M.A. (Southeast Asian Studies)	13	25	38
	Master in Public Management	13	7	20
	Master in Public Policy	17	11	28
	M.Soc.Sci.	11	9	20
	M.Soc.Sci. (Applied Economics)	11	21	32
	M.Soc.Sci. (Applied Psychology)	1	7	8
	M.Soc.Sci. (Applied Sociology)	7	18	25
	M.Soc.Sci. (Economics)	15	28	43
	M.Soc.Sci. (International Studies)	4	8	12
	M.Soc.Sci. (Social Work)	3	6	9
	Ph.D.	8	4	12
Sub-Total		**143**	**225**	**368**

GRADUATE STATISTICS

Faculty/Institute/School	Degree/Diploma	Male	Female	Total
Business	Grad.Dip.Bus.Admin.	4	1	5
	Asia-Pacific Executive M.B.A. (conducted in Chinese)	45	9	54
	International M.B.A	22	7	29
	M.B.A.	53	33	86
	M.B.A. (conducted in Chinese)	33	7	40
	M.B.A. (for Senior Executives)	14	5	19
	M.Sc. (Applied Finance)	0	2	2
	M.Sc. (Asia-Pacific Human Resource Mgt.)	4	4	8
	M.Sc. (E-Business)	6	2	8
	M.Sc. (Management)	9	11	20
	M.Sc. (Management of Technology)	29	9	38
	Ph.D.	1	1	2
Sub-Total		**220**	**91**	**311**
Computing	M.Comp.	53	20	73
	M.Sc.	53	25	78
	M.Sc. (Computer & Information Sciences)	1	0	1
	Ph.D.	7	4	11
Sub-Total		**114**	**49**	**163**
Dentistry	M.D.S. (Endodontics)	1	1	2
	M.D.S. (Oral & Maxillofacial Surgery)	2	1	3
	M.D.S. (Orthodontics)	1	2	3
	M.D.S. (Prosthodontics)	1	1	2
	M.Sc.	0	2	2
Sub-Total		**5**	**7**	**12**

GRADUATE STATISTICS

Faculty/Institute/School	Degree/Diploma	Male	Female	Total
Design and Environment	M.A. (Architecture)	0	3	3
	M.A. (Urban Design)	7	6	13
	M.Arch.	31	37	68
	M.Bldg.Sc.	1	0	1
	M.Sc. (Building)	2	0	2
	M.Sc. (Building Science)	22	5	27
	M.Sc. (Environmental Management)	8	7	15
	M.Sc. (Estate Management)	0	1	1
	M.Sc. (Project Management)	21	13	34
	M.Sc. (Real Estate)	15	15	30
	Ph.D.	1	1	2
Sub-Total		**108**	**88**	**196**
Engineering	Grad.Dip. (Defence Technology & Systems)	40	0	40
	Grad.Dip.Aviation Mgt.	3	0	3
	Grad.Dip.Environmental Engineering	2	3	5
	M.Eng.	187	74	261
	M.Sc. (Chemical Engineering)	26	11	37
	M.Sc. (Civil Engineering)	51	15	66
	M.Sc. (Electrical Engineering)	103	19	122
	M.Sc. (Environmental Engineering)	29	31	60
	M.Sc. (Industrial & Systems Engineering)	58	24	82
	M.Sc. (Materials Science & Engineering)	20	12	32
	M.Sc. (Mechanical Engineering)	68	6	74
	M.Sc. (Mechatronics)	14	3	17
	M.Sc. (Safety, Health & Environmental Technology)	19	11	30
	M.Sc. (Transportation Systems & Management)	13	4	17
	NUS-TU/E Joint Ph.D.	1	1	2
	NUS-UIUC M.Sc. (Chemical Engineering)	5	5	10
	Ph.D.	58	16	74
Sub-Total		**697**	**235**	**932**

GRADUATE STATISTICS

Faculty/Institute/School	Degree/Diploma	Male	Female	Total
Law	Grad.Dip.Law	3	3	6
	Grad.Dip.Sing.Law	25	29	54
	Joint LL.M.	2	1	3
	LL.M.	13	18	31
	Ph.D.	1	0	1
Sub-Total		**44**	**51**	**95**
Medicine	Grad.Dip.Family Practice Dermatology	19	21	40
	Grad.Dip.Occupational Medicine	12	4	16
	M.D.	2	1	3
	M.Med. (Anaesthesiology)	7	8	15
	M.Med. (Emergency Medicine)	4	1	5
	M.Med. (Family Medicine)	15	9	24
	M.Med. (Internal Medicine)	6	5	11
	M.Med. (Obstetrics & Gynaecology)	0	1	1
	M.Med. (Occupational Medicine)	2	1	3
	M.Med. (Ophthalmology)	2	0	2
	M.Med. (Orthopaedic Surgery)	12	0	12
	M.Med. (Otorhinolaryngology)	2	0	2
	M.Med. (Psychiatry)	2	1	3
	M.Med. (Public Health)	5	3	8
	M.Med. (Surgery)	25	7	32
	M.Sc.	9	22	31
	M.Sc. (Clinical Science)	7	11	18
	Ph.D.	9	9	18
Sub-Total		**140**	**104**	**244**

GRADUATE STATISTICS

Faculty/Institute/School	Degree/Diploma	Male	Female	Total
Science	Grad.Dip.Analytical Chemistry	6	10	16
	Grad.Dip.Math	4	3	7
	M.Pharm. (Clinical Pharmacy)	0	1	1
	M.Sc.	40	34	74
	M.Sc. (Financial Engineering)	16	10	26
	M.Sc. (Mathematics)	2	1	3
	M.Sc. (Pharmacy)	3	3	6
	M.Sc. (Physics)	2	2	4
	M.Sc. (Statistics)	15	10	25
	Ph.D.	51	16	67
Sub-Total		**139**	**90**	**229**
Institute of Materials Research and Engineering	M.Sc.	0	1	1
	Ph.D.	1	0	1
Sub-Total		**1**	**1**	**2**
Institute of Molecular & Cell Biology	Ph.D.	8	7	15
Sub-Total		**8**	**7**	**15**
Institute of Molecular Agrobiology	Ph.D.	1	0	1
Sub-Total		**1**	**0**	**1**
Institute of Systems Science	Grad.Dip. (Knowledge Engineering)	4	1	5
	Grad.Dip. (Software Engineering)	1	1	2
	M.Tech. (Knowledge Engineering)	27	8	35
	M.Tech. (Software Engineering)	83	34	117
Sub-Total		**115**	**44**	**159**
Laboratories for Information Technology	M.Sc.	4	0	4
Sub-Total		**4**	**0**	**4**
National University Medical Institutes	M.Sc.	1	1	2
	Ph.D.	1	0	1
Sub-Total		**2**	**1**	**3**
Regional Language Centre	M.A. (Applied Linguistics)	1	4	5
Sub-Total		**1**	**4**	**5**

GRADUATE STATISTICS

Faculty/Institute/School	Degree/Diploma	Male	Female	Total
Singapore-MIT Alliance	M.Eng. (Singapore-MIT Alliance)	2	1	3
	S.M. (Advanced Materials for Micro- and Nano- Systems)	22	6	28
	S.M. (Computer Science)	29	4	33
	S.M. (High Performance Computation for Engineered Systems)	25	10	35
	S.M. (Molecular Engineering of Biological & Chemical Systems)	26	15	41
	Ph.D.	1	0	1
Sub-Total		**105**	**36**	**141**
Temasek Life Sciences Laboratory	Ph.D.	1	2	3
Sub-Total		**1**	**2**	**3**
The Logistics Institute – Asia Pacific	M.Sc. (Logistics & Supply Chain Mgt.)	21	6	27
Sub-Total		**21**	**6**	**27**
Total		**1,869**	**1,041**	**2,910**

Note: The figures are based on students' degree conferred date between 3 September 2002 and 30 June 2003.

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BENEFACTIONS

Total donations received in the year for period 1 July 2002 to 30 June 2003 amounted to more than $70 million. The following list sets out the donations of $25,000 or more received by the University during the same period. The University records its thanks to all donors.

NAME OF DONOR	AMOUNT RECEIVED $
Yong Loo Lin Holdings Pte Ltd	25,000,000.00
Government of Singapore	17,268,711.17
Maritime and Port Authority of Singapore	8,000,000.00
Singapore Totalisator Board	5,520,000.00
Toh Kian Chui Foundation	2,000,000.00
Yong Pung How (Chief Justice)	1,750,000.00
Offshore Technology Development Pte Ltd	1,500,000.00
Lee Foundation, States of Malaya	1,333,886.30
Lee Foundation, Singapore	1,195,615.30
National Kidney Foundation	586,752.00
Saw Swee Hock (Prof)	540,400.00
Cheng Siok Hwa (Dr)	500,000.00
Wong Hock Boon (Emeritus Prof)	300,000.00
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ExxonMobil Asia Pacific Pte Ltd	108,000.00
Saw Seang Mei (Dr)	100,423.75
Lee Seng Tee (Dr)	100,000.00
Lien Foundation	100,000.00
Saw Seang Kuan	100,000.00
Saw Seang Pin	100,000.00
Tan Poh Leng, Stanley	100,000.00
Hitachi Asia Ltd	87,028.00
Chan Tat Keong (Dr)	80,000.00
Singapore Press Holdings Ltd	80,000.00
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Capitaland Ltd	75,250.00
Singapore Airlines Ltd	75,000.00

NAME OF DONOR	AMOUNT RECEIVED $
The Shaw Foundation Pte	72,000.00
Tan Beng Hee (Dr)	70,000.00
Ericsson (China) Company Ltd	61,777.89
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Singapore Rubber Millers Association	60,000.00
Singapore Red Cross Society	54,000.00
Glaxo Wellcome Manufacturing Pte Ltd	50,000.00
Lim Sharon	50,000.00
NTUC Income Insurance Co-operative Ltd	50,000.00
Seraya Chemicals Singapore (Pte) Ltd	50,000.00
Exel Singapore Pte Ltd	48,000.00
Singapore Telecommunications Ltd	45,000.00
The Ford Foundation	43,320.00
Astrazeneca Singapore Pte Ltd	40,000.00
Subhash Gupta	38,316.00
ECS Computers (Asia) Pte Ltd	36,000.00
World Orthopaedic Concern	35,000.00
Asiawide Holdings Pte Ltd	30,835.20
Oakwell Engineering Limited	30,823.76
G & W Group (Holdings) Limited	30,694.40
Materials Research Society (Singapore)	30,200.00
Chettiars' Temple	30,000.00
Christopher Tang (Prof)	30,000.00
Local Organising Committee, IFDEA Global Conference Meeting	30,000.00
Q&M Dental Surgery	30,000.00
Singapore Technologies Pte Ltd	30,000.00
Shell Eastern Petroleum (Pte) Ltd	27,735.19
Children's Cancer Foundation	26,802.70
Comfort Group Limited	25,000.00
NTUC Fairprice Co-operative Limited	25,000.00
Tang See Chim	25,000.00