The column-free spiral stairway at University Hall.
President’s Message

Dear Colleagues and Friends of NUS

It is with pleasure and pride that I report on NUS’ progress and accomplishments during the 2004-05 academic year. The pages that follow provide glimpses into the broad spectrum of initiatives, activities and achievements of our university community. Although covering a single year, this account is limited by the space available and does not pretend to be comprehensive. It can be taken only to illustrate the excellence and vitality that characterize NUS.

We have kept up the momentum in global initiatives. NUS’ leadership of the Association of Pacific Rim Universities (APRU) continues to enable NUS and Singapore to lead and facilitate major discussions with important stakeholders on the future of higher education, research and enterprise in the Pacific Rim. The hosting of the first-ever joint Presidents Roundtable of the Association of American Universities (AAU) and APRU at NUS made it the largest gathering of university presidents from the Americas and Pacific Rim in Singapore. It marked a promising start for AAU and APRU in building a ten thousand mile bridge across the Pacific, linking member universities through collaborative initiatives and programs.

A significant milestone was reached during the year – NUS turned 100. From its modest beginning as a medical school with 23 students in 1905, NUS has become Singapore’s homegrown global university. NUS’ diverse community is now a confluence of Singaporean and global talents, both faculty and students, embracing a ‘no-walls’ organizational culture that supports multi-disciplinary education and research.
Our year-long Centennial Celebrations got off to a resounding start with the NUS Everest Expedition team’s successful summit of the world’s highest peak. Our global team, reflecting the diversity of the NUS community of students, staff and alumni from Singapore and around the world, unfurled the NUS flag at the summit and put our University on top of the world. The Everest team showed us all that with NUS, no dream is too high in the quest for excellence.

As NUS celebrates its first centennial, it stands among the top 20 universities in the 2004 global ranking of the world’s best universities by The Times of London. We are setting our sights higher for the second centennial. NUS’ aspiration is to be the first Asian university to be recognized by the global knowledge community to stand among the world’s top 10 universities.

To rise to the challenge and realize this shared aspiration, I look to our stakeholders – students, alumni, faculty, staff and friends – to take ownership and persevere in our unrelenting quest for excellence in the virtuous circle of creating, imparting and applying knowledge. We will continue to push beyond boundaries and overcome limitations to realize our institutional and personal aspirations.

I hope this report on the state of the University will provide a sense of NUS’ intellectual vibrancy, passion for global pursuits, and desire to serve country and society. May I also thank our stakeholders, friends and well-wishers for sharing our vision.

SHIH Choon Fong
President

Global Initiatives

- In June 2005, NUS hosted the first-ever joint Presidents Roundtable of the Association of American Universities (AAU) and the Association of Pacific Rim Universities (APRU), which drew the participation of 52 university presidents from the Americas, Asia and Australasia. AAU is the premier consortium of 62 research universities in North America, including Harvard, Yale, Duke, Johns Hopkins, Stanford and MIT. APRU comprises 36 leading universities around the Pacific Rim, including Stanford, Berkeley, Caltech, Chile, Australian National, Tokyo, Peking and NUS.

- A significant outcome of the APRU 9th Annual Presidents Meeting chaired by and held at NUS in July 2005 was the setting up of the APRU World Institute (AWI). This institute for advanced studies will draw on a deep and wide pool of talent from diverse political systems, regions, and cultures to foster basic research on questions and issues of global importance, e.g. the impact of globalization on cultures, energy and the environment, and communicable diseases. NUS chairs the AWI Pro-Tem Governing Board.
In July 2005, NUS and seven top research universities in Asia Pacific, Europe and USA – Australian National, Peking, Tokyo, ETH Zurich, Copenhagen, Berkeley, and Yale – signed an agreement to create a global alliance of research universities. The alliance will provide a platform for research and education that transcends disciplinary, cultural and geographical boundaries.

Global Standing

- The 2004 global ranking of universities by The Times of London placed NUS
  - 18th overall
  - 9th for Engineering and IT
  - 10th for Social Sciences
  - 17th for Arts and Humanities
  - 25th for Biomedicine
  - 35th for Science

- Asia Inc ranked NUS Business School’s Master in Business Administration (MBA) program as top in South-east Asia in 2004.

- The Institute for Scientific Information (ISI) Essential Science Indicators 2005 rated NUS in terms of publication output
  - 10th for Computer Science
  - 10th for Engineering
  - 21st for Materials Science
  - 21st for Mathematics

- The Logistics Institute-Asia Pacific received the Best Education Course Provider title for the third consecutive year at the 2005 Asian Freight and Supply Chain awards, widely regarded as the most authoritative and prestigious award for the industry in Asia.

Celebrating the First Centennial

- The Centennial Everest Expedition put NUS on top of the world when it reached the world’s highest peak on 31 May 2005, marking the first successful ascent by a Singapore university team.

- The Centennial sculpture was unveiled and the new NUS flag raised for the first time on campus on 25 June 2005 at the new University Hall.

Initiatives launched to mark NUS’ 100th year

- The bond-free Global Merit Scholarships for top Singaporean students were launched. Available for any course leading to a first degree (except medicine and dentistry), these scholarships provide the opportunity for scholars to spend a year at overseas partner universities or to enrol for double degrees.

- The NUS Centennial Global Education Convention in July 2005 attracted about 180 students and staff from universities around the world to discuss aspects of global education under the theme “Global Pursuits, Mindsets and Aspirations”.

- New endowed professorships, the Centennial Chairs, were established to attract renowned experts to NUS.

- The NUS Centennial Nobel Laureate Public Lecture Series kicked off in July 2005 with Nobel Laureates Professors Steven Chu, Roald Hoffmann and Carl Wieman sharing their passion and expertise at the frontiers of knowledge with the NUS and wider communities.
Students

Enrollment
- Total enrollment: 28,222
- Total international students: 7,789
- Undergraduates: 21,761
- Graduate students: 6,461

Graduation statistics
- Bachelor degrees: 5,780
- Total higher degrees: 3,053
  Graduate diplomas = 356
  Master degrees = 2,417
  PhD = 280

Examples of Student Achievements

- **Mustafa Izzuddin** (Arts and Social Sciences) was Singapore’s representative at the 2004 Youth Summit at the United Nations’ New York Headquarters.

- **Tan Peng Ting** (Arts and Social Sciences; University Scholars Program) received the 2004 Bayer Young Environmental Envoy Award.

- **Gitta Juwita** and **Melanie Chng** (Law) won the 2004 Asia Cup International Law Moot Court Competition, Japan.

- **Kimberley Huston, Tan Toh Ken, Celeste Chong** and **Teng Pei Yun** (Business) won first prize in the Copenhagen Business School Case Competition held in Denmark.

- **Jet Teong Yi Heong** (Arts and Social Sciences; University Scholars Program) emerged winner in the Young Speakers Forum at the 7th ASEAN University Network Education Forum in May 2005.

- **Ho Pei Ni, Diana Zhang** and **June Shaul Hameed** (Business) emerged national champions in the L’Oréal Brandstorm marketing competition in March 2005. Ms Hameed was named “Most Outstanding Presenter”.

- **Steven Zhou** (Engineering) was second in the Info Tech and Engineering section of the 2004 International Idea to Product Competition, which drew entries from universities such as Stanford, Imperial College, Georgia Tech and University of Southern California.

- **Lee Tze Ming** (Design and Environment) was second in the Professional Category of Intermot Designpreis competition in Germany.

- **Randall Law** (Engineering) won a silver award at the Asia Pacific Young Inventors Awards 2004 for using laser lithography to produce lines of 20

<table>
<thead>
<tr>
<th>Faculty/School/Institute</th>
<th>Undergraduate</th>
<th>Graduate</th>
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<tbody>
<tr>
<td>Arts and Social Sciences</td>
<td>4,969</td>
<td>779</td>
</tr>
<tr>
<td>Business</td>
<td>1,077</td>
<td>344</td>
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<tr>
<td>Computing</td>
<td>1,703</td>
<td>383</td>
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<tr>
<td>Dentistry</td>
<td>137</td>
<td>55</td>
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<tr>
<td>Design and Environment</td>
<td>1,527</td>
<td>353</td>
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<tr>
<td>Engineering</td>
<td>5,971</td>
<td>1,847</td>
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<tr>
<td>Law</td>
<td>813</td>
<td>185</td>
</tr>
<tr>
<td>Medicine</td>
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<td>692</td>
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<tr>
<td>Science</td>
<td>4,310</td>
<td>983</td>
</tr>
<tr>
<td>Yong Siew Toh Conservatory of Music</td>
<td>114</td>
<td>-</td>
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<tr>
<td>Lee Kuan Yew School of Public Policy</td>
<td>-</td>
<td>92</td>
</tr>
<tr>
<td>NUS Graduate School for Integrative Sciences and Engineering</td>
<td>-</td>
<td>81</td>
</tr>
<tr>
<td>Design Technology Institute</td>
<td>-</td>
<td>87</td>
</tr>
<tr>
<td>Institute of Molecular and Cell Biology</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Institute of Systems Science</td>
<td>-</td>
<td>312</td>
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<tr>
<td>Laboratories for Information Technology</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>National University Medical Institutes</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Regional Language Centre</td>
<td>-</td>
<td>22</td>
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<tr>
<td>Singapore-MIT Alliance</td>
<td>-</td>
<td>107</td>
</tr>
<tr>
<td>Temasek Defence Systems Institute</td>
<td>-</td>
<td>102</td>
</tr>
<tr>
<td>The Logistics Institute-Asia Pacific</td>
<td>-</td>
<td>31</td>
</tr>
</tbody>
</table>
nanometers (5,000th of a hair’s width) on light-sensitive film.

- **Sudesh Wijesinghe** (Engineering) was among 20 students worldwide who received travel grants for poster presentations at the 2004 National Association of Corrosion Engineers conference in New Orleans, USA.

- **Yu Hongyu** (Engineering) received a Graduate Student Fellowship from the US-based Institute of Electrical and Electronics Engineers Electron Devices Society for academic excellence and contributions to advanced gate stack research.

- **Gao Quan** (Music) won third prize at the 1st Fox International Bassoon Competition in Beijing, China, in July 2005.

- **Tran Thi Tam Ngoc** (Music) came in third at the inaugural ASEAN International Chopin Piano Competition held in Malaysia.

International awards received for papers

- **Lee Keng Leong** (Business) – winner of the first undergraduate student paper competition of the Council of Logistics Management, Philadelphia, USA.

- **Boh Jaw Woei** (Engineering) and **Associate Professor Choo Yoo Sang** (Engineering) – James Watt Medal 2005, The Institution of Civil Engineers, UK.

- **Zhang Songhua** (Engineering) and **Professor Kam Pooi Yuen** (Engineering) – Best Paper Award, 2004 Vehicular Technology Conference, Los Angeles, USA.

- **Wu Dongrui** (Engineering) – Best Student Paper Award, 2005 IEEE International Conference on Fuzzy Systems, Reno, USA.

- **Mirtha Laban** (Medicine) – Best Poster Award, 1st International Symposium on Cancer Metastasis and the Lympho-vascular System: Basis for Rational Therapy, San Francisco, USA.

**Alumni**

- Inaugural **Eminent Alumni Awards** were conferred on Mr Lee Kuan Yew, Mr Goh Chok Tong and Dr Tony Tan to honor their singular achievements and exceptional contributions to society, Singapore and beyond.

- **Mr Lee Kuan Yew**: Singapore’s nation builder and world statesman

- **Mr Goh Chok Tong**: Prime Minister of and for the people

- **Dr Tony Tan**: Visionary architect of Singapore’s university sector

- In recognition of their outstanding and sustained service to NUS, its predecessor institutions or alumni community, **Distinguished Alumni Service Awards** were presented to Mr Harry Chan Keng Howe, Dr Chee Phui Hung, Emeritus Professor Kiang Ai Kim, Professor Arthur Lim Siew Ming, Professor Saw Swee Hock, Dr William Tan Kian Meng, and Mr Wong Ah Long.

- At the Bash@Bukit Timah Campus, an alumni reunion organized by the Class of ‘72 in May 2005, Dr Tony Tan announced that the Bukit Timah Campus would be NUS’ again.

- Dr **William Tan Kian Meng** (Class of ‘80) set a new world record by completing 10 marathons on 7 continents in 70 days to raise funds for a Professorship in Paediatric Oncology.

- Overseas alumni chapters now total 12 with the launch of chapters in Shanghai, China in October 2004 and Auckland, New Zealand in March 2005.

- The Alumni Complex design competition was won by Architects Vista, led by **Mr Kim Loh Fong** (Class of ‘71). The Complex will be a home on campus for alumni around the world.
Faculty and Staff

- Total faculty and staff: 6,205
- Academic and research faculty: 2,852
- International faculty: 1,771
- Administrative, professional and support staff: 3,353

University Awards 2005

Outstanding Educator Awards
Assistant Professor Chan Wai Meng (Arts and Social Sciences)
Associate Professor Cheng Li (Engineering)
Professor Alex Ip Yuen Kwong (Science)
Associate Professor Kulwant Singh (Business)

Outstanding Researcher Awards
Associate Professor Hong Yunhan (Science)
Associate Professors Marie-Veronique Clement and Shazib Pervaiz (Medicine) – Team Award

Young Researcher Awards
Assistant Professor Joseph Ooi Thian Leong (Design and Environment)
Associate Professor Edward Teo (Science)
Assistant Professor Yao Shao Qin (Science)

Outstanding Service Award
Professor Wang Gungwu (Director, East Asian Institute)

Examples of Faculty Achievements

- Professor Shih Choon Fong (NUS President) was inaugurated in October 2004 as the first Singaporean member of the US National Academy of Engineering.

- Professor Louis Chen (Science) received the French government decoration, Chevalier de l’Ordre des Palmes Academiques, in April 2005 for his service to education. Professor Chen was also appointed President, Institute of Mathematical Statistics, USA.

- Professor Philip Keith Moore (Medicine; Head, Pharmacology) was made a Fellow of the British Pharmacological Society, the professional association for pharmacologists in the UK and one of the world’s leading pharmacological societies.

- Professor Colin J R Sheppard (Engineering; Leader, Bioengineering Program), was elected a Fellow of the Institute of Physics. He was also elected Vice-President, International Society for Optics within Life Sciences.

- Professor Tan Cheng Han (Dean, Law) was appointed a Young Global Leader by the World Economic Forum.

- Professor Barry Halliwell (Medicine; Head, Biochemistry; Director, NUS Graduate School for Integrative Sciences and Engineering) was elected a member of the World Health Organization Expert Panel to recommend levels of intake for nutrients and related substances.

- Professor Fwa Tien Fang (Engineering) was selected by the Transportation and Development Institute of the American Society of Civil Engineers (ASCE) for ASCE’s Frank M Masters Transportation Engineering Award 2005.
• Associate Professor Ganesan Adaikan (Medicine) was installed as the eighth and first Asian President of the International Society for Sexual Medicine at its 11th World Congress.

• Associate Professor Victor Savage (Arts and Social Sciences) was re-elected President, Commonwealth Geographical Bureau, UK.

• Associate Professor Ong Seow Eng (Design and Environment) received the International Real Estate Society Achievement Award for outstanding research, education and practice at the international level at the 2005 European Real Estate Society conference.

• Professor Teoh Swee Hin (Engineering), Associate Professor Lim Thiam Chye (Medicine), Associate Professor Dietmar Hutmacher (Engineering), Assistant Professor Jan-Thorsten Schantz (Medicine) and their team received a Gold Award at the 2004 Asian Innovation Awards for their outstanding work on bone regeneration.

• Associate Professor Tan Ngoh Tiong (Arts and Social Sciences) was elected Co-Chairman, Commonwealth Organisation for Social Work, UK.

• Associate Professor Wong Tien Yin (Medicine) was given the 2005 Distinguished Service Award by Asia Pacific Academy of Ophthalmology.

• Dr Manuel Salto-Tellez (Medicine) received the 2004 World Scientific Forum International Award from the International Research Promotion Council, India, for contributions to the field of onco-cytology.

• Assistant Professor Ng Huck Hui (Science) received the Young Scientist Award at National Science and Technology Awards 2004 for his research on gene regulation.

• Associate Professor John Potter and his team of research engineers at the Tropical Marine Science Institute won the Defence Technology Prize Team Award (R&D) for developing the world’s first broadband digital ambient noise imaging camera.

• The 2004 Singapore Youth Awards (Science and Technology) were awarded to Associate Professor Ong Soh Khim (Engineering) and Assistant Professor Chew Fook Tim (Science) for her scientific excellence and efforts in promoting manufacturing engineering and for his research in translating DNA sequences of proteins found in allergy-causing dust mites respectively.

• Professor Yong Eu Leong, and Assistant Professors Aung Tin, Lynette Shek and Allen Yeoh (Medicine) received inaugural Clinician-Scientist Investigator Awards from the Biomedical Research Council and National Medical Research Council in April 2005.

• Associate Professor Thang Leng Leng (Arts and Social Sciences) received the 2005 Japanese Chamber of Commerce and Industry Singapore Foundation Education Award for her commitment in promoting inter-generational integration.

• Mr Ashvin Thambyah (Medicine) received the Albert Trillat Young Investigator Award from the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine at its 5th Biennial Congress in April 2005.

• Ms Low Siew Leng (Medicine) received a Young Investigator Award at the International Society for Clinical Densitometry 2005 Annual Meeting in New Orleans, USA.
Education

- The Lee Kuan Yew School of Public Policy marked its official opening in April 2005. The first institution to bear the name of Singapore’s founding Prime Minister, the School aims to be a global center of excellence in public policy with a distinct Asian focus.

- An agreement was signed with Duke University in April 2005 to set up the NUS Graduate School of Medicine, which will offer a four-year graduate medical program leading to the Doctor of Medicine.

- The second phase of the Singapore-MIT Alliance (SMA-2), launched in July 2005, offers Master and PhD degrees, as well as double degrees from MIT and NUS, in Advanced Materials for Micro- and Nano-Systems, Computational Engineering, and Manufacturing Systems and Technology. The scope has also been expanded to cover the life sciences.

- New joint degree programs with overseas partners that got off the ground included PhD in Physics, Master of Arts (Southeast Asian Studies) and Bachelor of Social Sciences (Hons) in Actuarial Studies and Economics offered together with The Australian National University, and Joint PhD in Electrical Engineering with Ecole Supérieure d’Electricité.

- Joint degree programs are being expanded with the Joint Master of Technological Design (Industrial Design) with Technische Universiteit Eindhoven; the Joint Bachelor of Engineering (Civil Engineering) with the University of Melbourne; the Joint Bachelor of Philosophy (Hons) and Bachelor of Science (Hons) in Chemistry, Mathematics or Physics with The Australian National University; and the Joint Master of Science by research in Infectious Diseases, Vaccinology and Drug Discovery with University of Basel.

- The Law Faculty’s first overseas degree program, a specialist Master in International Business Law conducted in Shanghai, is a collaboration with the East China University of Politics and Law. Another specialist Master in Chinese Law, in partnership with the East China University of Politics and Law and Peking University Law School, will offer law practitioners in-depth study into the Chinese legal system.

- The first undergraduate double degree program, Bachelor of Social Sciences (Hons) in Economics and Bachelor of Laws, will be followed by the Bachelor of Engineering (Materials Science and Engineering) and Bachelor of Science or Bachelor of Science (Hons) in Physics; and Bachelor of Business Administration (Hons) and Bachelor of Laws.

- Other degree programs in the pipeline include the Master of Science (Chemistry); Master of Science (Management of Technology); Master in Public Administration; and Bachelor of Science (Nursing) or Bachelor of Science (Hons, Nursing).

- The University Scholars Program (USP) was enhanced to enable students to pursue their interest and passion along one of three tracks:
  - the academic inquiry track provides opportunities to explore the frontiers of knowledge and gain multidisciplinary insights
  - the bicultural immersion track grooms students with strong bicultural capabilities through immersion at partner universities, e.g. with USP’s counterpart in Peking University, the Yuanpei Program
  - the entrepreneurial development track allows students to examine entrepreneurship critically as well as gain internship experience through the NUS Overseas Colleges.

- The Department of Materials Science and Engineering was established at the Faculty of Engineering to offer undergraduate and graduate degrees with a strategic focus on materials based on nanoscience and nanotechnology.
• The Faculty of Arts and Social Sciences’ Information and Communications Management Program was restructured to a **Communications and New Media Program**, with an expanded Interactive Media and a new Communication Management area.

• **Overseas educational experiences** to foster global perspectives were enhanced:
  - The Student Exchange Program was expanded with the signing of more than 30 agreements with overseas partners, including University of Copenhagen, University of Helsinki and Royal Holloway, University of London. Students will now be able to study, live and play in more non-traditional destinations like Budapest, Miami, Poitier, Sichuan, St Petersburg, Tilburg, and Zagreb.
  - Summer programs also provided overseas exposure, e.g. the new ‘Topics in Real Estate-China’ program by the Department of Real Estate; the first joint program between the University Scholars Program, The Chinese University of Hong Kong and Fudan University; and the NUS-Zhejiang University program.
  - Experiential learning through field studies programs saw students venturing into the region for extended periods, e.g. Geography students to Malaysia to study tourism, Political Science students to Indonesia to understand its politics, and Architecture students to Malaysia on joint studio programs.
  - Students participated in international conferences and forums drawing participation from universities around the world, e.g. the 2004 Harvard Project for Asian and International Relations, the inaugural U21 Undergraduate Research Conference, the East Asian Common Space Youth Forum, and INNOVATE 2005.

• The **NUS High School of Mathematics and Science**, the first pre-tertiary school with seamless curricular links to NUS, enrolled its pioneer batch of 227 students in January 2005. Its students will be exposed to the excitement of research and discovery-based learning.

### Research

• Faculty members produced more than 3,100 research papers in international, regional and local journals, and over 2,000 international conference papers.

• The Institute for Scientific Information (ISI)’s latest list of the world’s highly cited researchers, a respected indicator and global benchmark for research accomplishment, includes four from Singapore. Publications by Professors **Barry Halliwell**, **Philip Keith Moore**, **Harald Niederreiter** and **Shih Choon Fong** were highly cited in the categories of Biology and Biochemistry, Pharmacology, Mathematics and Engineering respectively.

Examples of significant research findings

• Associate Professor **Lim Chwee Teck** (Engineering) and Assistant Professor **Kevin Tan** (Medicine) teamed up with Massachusetts Institute of Technology researchers to study how the elasticity of red blood cells changes as parasites from female Anopheles mosquitoes mature within them. A paper on this research won a Ribbon Award at the 2004 Materials Research Society, Fall Meeting in Boston, USA.

• Associate Professor **Vincent Chow** (Medicine), working with researchers at India’s International Centre for Genetic Engineering and Biotechnology, found that a protein in the SARS virus causes host cells to commit suicide. Their
findings, which could lead to a way to fight SARS, were published in Biochemical Journal.

- A team led by Associate Professor Mary Ng Mah Lee (Medicine) is the first in the world to identify the receptor protein which facilitates the entry of the West Nile virus. Their findings have significant implications for antiviral drug development.

- Associate Professor Shazib Pervaiz (Medicine) has tied up with researchers at the Karolinska Institutet to successfully investigate why B-cell lymphoma do not respond to chemotherapy. Their findings were published in Blood.

- The collaboration between Associate Professor Peter Ho (Science), research fellow Ms Chua Lay Lay (Science) and Sir Richard Friend of Cambridge University to develop plastics that act like semiconductors and metals has led to the world’s first general working n-type plastic transistor. The feat, which received input from A*STAR’s Institute of Materials Research and Engineering, was carried in Nature.

- Associate Professor Hong Yunhan (Science) achieved a major breakthrough as the first to cultivate test-tube sperm. This was reported in more than 100 newspapers worldwide.

- Research by Associate Professor Liu Xiang-Yang (Science) on in-situ observations and direct imaging of a 2-D nucleation process of charged colloidal particles was published in Nature.

- The Office of Life Sciences’ Cardiovascular Program reported that an animal model of diabetes has revealed down-regulation of hydrogen sulphide (H₂S) biosynthesis in various tissues. These novel results imply a potential role for H₂S in cardiac disease.

- A team of NUS and A*STAR’s Genome Institute of Singapore scientists led by Dr Stephen Hsu (Medicine) developed a new synthetic protein fragment that can target and kill cancer cells. This was featured on the cover of Cell Cycle.

New initiatives and programs

- The NUS Nanoscience and Nanotechnology Initiative was officially launched, raising its global profile through research collaboration and international conference organization and participation.

- Life science initiatives included the Health and Environmental Impact of Nanomaterials, in close coordination with the Faculties of Engineering, Medicine and Science; and a new Immunology Program.

- The Institute of South Asian Studies was set up as an autonomous research institute to promote economic-oriented research on contemporary South Asia, with a principal focus on India.

- The Centre for Maritime Studies, launched in June 2005 as a university-level research center focusing on maritime issues, aims to help position Singapore as a global maritime hub.

- The Centre for Offshore Research and Engineering, a joint effort of the Faculty of Engineering and the Economic Development Board, will help strengthen Singapore’s development as an oil and gas hub.

- Sweden’s Karolinska Institutet (KI), one of Europe’s largest medical universities, set up its first overseas office at NUS. A coordinating center for KI’s research collaborations in Singapore, the office will also facilitate programs (e.g. the NUS-KI Joint PhD Program in Genetic and Molecular Epidemiology) and new initiatives.

- The Structural Biology Research Group was the first in ASEAN to receive an IBM Shared University Research award, in the form of a S$1.2 million supercomputer, for research on protein structures which could lead to cures for diseases like SARS.

- The Faculty of Arts and Social Sciences’ Singapore Centre for Applied and Policy Economics was set up to conduct research to support economic policy formulation for Singapore as well as to serve as an international reference point for studies on the Singapore and other Asian economies.
The fourth NUS Overseas College was launched in Stockholm in partnership with KTH, Royal Institute of Technology, in May 2005.

96 students were successfully placed in the NUS Overseas Colleges in Silicon Valley, Bio Valley and Shanghai, bringing the total number of students enrolled in the program since its launch in January 2002 to 302 students.

Reflecting the broad scope of NUS research, projects with external funding exceeding S$500,000 each include the following:

- Development of a combined nanofabrication/characterization tool for research on nanometer scale spintronics
- Development of high mobility channel layer formation technology for high speed CMOS devices
- Near-infrared autofluorescence and Raman spectroscopy and imaging for non-invasive, in vivo cancer detection
- Development of maskless, nano-patterned porous silicon for controlled light emission
- Mechanisms of 2D/3D colloidal assembly and fabrication of functional colloidal crystals
- Differentiation of human stem cells into oligodendrocytes for use in treating demyelinating diseases including diabetic neuropathy
- Industrial collaboration project on in-vitro and in-vivo testing of bio-scaffold for bone re-construction and implants
- Advanced underwater acoustic sensor technology research
- Investigation of Gibberellin signalling in flowering process
- Genetic diversity and patterns of speciation in selected tropical Southeast Asian taxa: Using molecular tools to identify conservation priorities in a region undergoing catastrophic extinctions
- Fate, transport and impact of persistent organic pollutants in Singapore's coastal marine environment
- Molecular regulation of mammalian spinal neurulation: A genome-wide analysis
- Physical modelling and simulation of nano-scale electronic device phenomena
- Development of building energy efficiency labeling system

NUS Overseas College student teams DermaTech, Inc. (Joshua Shoo, Jasmine Ong and Cheryl Lee) and TMD Corporation (Teh Huay Hoon, Ho Chee Chen and Karen Chua) won the top two prizes in the 2004 Lee Kuan Yew Global Business Plan Competition, making them the first Singaporean winners in the contest.

Renuga Gopal (Engineering) and Karen Teo (Dentistry) started a company, BioMers, which emerged champions at the Start-Up@Singapore 2005 business plan competition. They also received Honorable Mention at the University of San Francisco – Pacific Specialty Insurance International Business Plan Competition.

NUS Business Incubation of Global Organisations (NUS BINGO) entrepreneurship awards were launched in February 2005 to honor student and alumni entrepreneurial achievements at the individual, start-up and international levels.
The NUS Student Enterprise Program launched in October 2004 gave awards of S$40,000 each to promising student business ventures.

132 invention disclosures were received, 152 patents filed and 45 patents granted. 125 research collaboration agreements and 28 license agreements were signed.

NUS College in Silicon Valley student Peh Ruey Feng filed more than 10 US patent applications with a team from USGI Medical, a medical device start-up company in Silicon Valley.

A collaboration was forged with Hyflux Ltd, a home-grown Singapore-based company, to conduct joint research on polymers and composites to develop membrane materials suitable for applications in the chemical and life science industries.

Associate Professor Anjam Khursheed (Engineering), research engineer Nelliyan Karuppiah and Czech firm Delong Instruments have made available mobile scanning electron microscopes that are compact and cheaper.

Associate Professors Chandra Sekhar, Tham Kwok Wai and David Cheong (Design and Environment) have set up Enhanced Air Quality Pte Ltd to make NUS’ patented technology, the single-coil twin fan system, commercially viable. The system won The Enterprise Challenge Innovator 2004 Award.

An exclusive worldwide licensing agreement with American biotech company BioDtech, Inc (BDT) will use and further develop a technology developed by Professor Ding Jeak Ling (Science) and Associate Professor Ho Bow (Medicine). The technology for genetically engineering the protein sequence in an enzyme in the horseshoe crab will be used to market a quick, user-friendly sterility test for medical equipment.

Benefactors and friends gave or pledged a total of S$388 million (including Government matching grants of S$149 million). Major gifts included the following:

The Faculty of Medicine was named the Yong Loo Lin School of Medicine following a S$200 million gift. In the single largest gift made to the University, the Yong Loo Lin Trust donated S$100 million, which attracted another S$100 million in Government matching. The gift will help transform the medical school from one of Asia’s leading medical schools to one that can compete with the world’s best.

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The Lee Foundation pledged S$30 million to establish the Lee Kong Chian Scholarships, the Alice Lee Centre for Nursing Studies and two Lee Kong Chian Centennial Professorships. The Lee Kong Chian Wing at University Hall was named in recognition of this gift.

A gift of more than S$29 million in cash and shares was received from The Tan Foundation to establish four Tan Chin Tuan Centennial Professorships, to name the Tan Chin Tuan Wing at University Hall, and to support collaborative projects with University of Malaya to further Singapore-Malaysia relations.
• Madam Agnes Tan donated S$4 million for the purchase and restoration of an original Peranakan house to be named the Tan Cheng Lock Baba House. The gift will promote the study and preservation of Peranakan architecture and culture in Singapore and beyond.

A gift of Peranakan heritage at 157 Neil Road

• A consortium led by Tan Sri Frank Tsao’s IMC Pan Asia Alliance Pte Ltd, PSA Corp and the Maritime and Port Authority of Singapore (each giving S$1 million) made gifts and pledges amounting to S$3.78 million to establish the Centre for Maritime Studies.

• Professor Saw Swee Hock gave S$2.6 million to establish NUS’ first Centennial Chair, the Saw Swee Hock Centennial Professorship in Medical Sciences.

• The Chen Su Lan Trust pledged S$2.5 million to the Yong Loo Lin School of Medicine to establish the Chen Su Lan Centennial Professorship in Medical Ethics.

• The Yong Loo Lin Trust gave a S$1 million top-up to the Yong Loo Lin Professorship in Medical Oncology, raising its endowment to S$7 million with Government matching, and making it NUS’ highest endowed chair.

• The Lien Foundation gave S$1 million to the Lien Ying Chow Professorship in Medicine previously established by Overseas Union Bank.
President’s Message

Dear Colleagues and Friends of NUS

It is with pleasure and pride that I report on NUS’ progress and accomplishments during the 2004-05 academic year. The pages that follow provide glimpses into the broad spectrum of initiatives, activities and achievements of our university community. Although covering a single year, this account is limited by the space available and does not pretend to be comprehensive. It can be taken only to illustrate the excellence and vitality that characterize NUS.

We have kept up the momentum in global initiatives. NUS’ leadership of the Association of Pacific Rim Universities (APRU) continues to enable NUS and Singapore to lead and facilitate major discussions with important stakeholders on the future of higher education, research and enterprise in the Pacific Rim. The hosting of the first-ever joint Presidents Roundtable of the Association of American Universities (AAU) and APRU at NUS made it the largest gathering of university presidents from the Americas and Pacific Rim in Singapore. It marked a promising start for AAU and APRU in building a ten thousand mile bridge across the Pacific, linking member universities through collaborative initiatives and programs.

A significant milestone was reached during the year – NUS turned 100. From its modest beginning as a medical school with 23 students in 1905, NUS has become Singapore’s homegrown global university. NUS’ diverse community is now a confluence of Singaporean and global talents, both faculty and students, embracing a ‘no-walls’ organizational culture that supports multi-disciplinary education and research.