Employers’ choice! New NTU graduates like Ivan Ng Wei Chean – who received five job offers – are grinning from ear to ear. And why not? Studying at NTU has landed them plum jobs with higher pay. That’s what the annual Graduate Employment Survey revealed. The results, released on 7 March, showed that more NTU graduates are finding jobs, and getting hired faster and paid better, too.

In fact, 9 in 10 from the Class of 2004 found full-time work within five months of graduation. Fresh NTU graduates earn an average of $2,500 per month, not including bonuses.

Salary increases were the greatest for Business, Accountancy and Computer Engineering graduates – 12%, 13% and 10% respectively – although the highest paid graduates came from all degree programmes, with 50 earning $4,000 or more a month.

The number of graduates who ventured abroad to work more than doubled, too.

Says Prof Er Meng Hwa, NTU Deputy President: “We are certainly proud of our graduates and are excited that our efforts to groom global leaders for the real world have borne fruit.”

About 9 in 10 found full-time jobs within 5 months of graduation, earning higher salaries of around $2,500 per month.

More than half received at least 2 job offers and 77% were snapped up by the private sector!
We’re fifty!

1955-2005. This is a landmark year – and we have reason to cheer...

Facets of our new global, comprehensive university will be unveiled in a series of 50th anniversary events this year.

NTU President Dr Su Guaning says: “We are not only looking backwards to our Nanyang University and Nanyang Technological Institute beginnings. Instead, it focuses on the next fifty years, when we foresee our graduates leading and excelling in Singapore society, spreading out and venturing far afield, beyond their major disciplines and their home base.” This vision is being translated into reality.

Our three new schools – the Schools of Humanities & Social Sciences, Physical & Mathematical Sciences, and Art, Design & Media – will go into full operation this July.

Expanding rapidly on a solid foundation of science and technology, we are also breaking new ground in global education as a comprehensive university with innovative programmes that groom entrepreneurial global leaders.

From a grassroots movement to a Global University of Excellence

Fifty years ago, in 1955, Nanyang University, or Nantah, was brought to life by Singaporeans and people all over Southeast Asia through a grassroots movement involving large-scale fund-raising efforts. Our beautiful campus in Jurong was donated by the Hokkien Huay Kuan.

We experienced a rebirth in 1981 as Nanyang Technological Institute (NTI), established with government funding on the Yunnan Garden campus to educate practice-oriented engineers for the burgeoning Singapore economy.

In 1991, we took on our present name, Nanyang Technological University (NTU), with the absorption of the National Institute of Education (NIE).

Today, we are a research-intensive and comprehensive university ranked among the top 50 universities in the world.

The New Undergraduate Experience, launched in 2003, featuring multi-country immersion and an unforgettable campus experience, is a tangible outcome.

Evidently on the right track, we are rising in the global league.

In The World University Rankings, published in the 5 November 2004 edition of The Times Higher Education Supplement (THES), NTU secured the 50th spot among the world’s top 200 universities – no small feat considering our relative youth.

Colourful start to birthday celebrations

Showcasing GlobalNANYANG

Dazzling diversity. This is our strength, says NTU President Dr Su Guaning, who opened the two-day International Cultural and Food Festival on 26 January.

“To tap this strength, we need a good understanding of each others’ cultures.”

The vibrant ethnic showcase in the Nanyang Auditorium kickstarted NTU’s 50th anniversary celebrations.

In the spirit of inter-cultural sharing, NTU students teamed up to present the food, sights, sounds, and customs of their countries, raising the international profile of NTU.

The event, organised by the NTU Students’ Union, followed the launch of International House. This one-stop centre for international and internationally-bound students is located at the heart of the campus. It houses the International Student Centre, the International Relations Office, and the NTU Student Counselling Centre.
The move towards university autonomy in 2006 was endorsed by the International Academic Advisory Panel (IAAP) – a group of distinguished university and industry leaders – at its fifth meeting in Singapore in January 2005.

The 12-member panel, which visited NTU on 11 January, deliberated on the preliminary recommendations of the University Autonomy, Governance and Funding (UAGF) Steering Committee, one of which is to devolve greater autonomy to NTU.

Such autonomy, the members noted, would boost the university’s ability to compete for talent and become world-class. The IAAP was established by Singapore’s Ministry of Education (MOE) in 1997 to help Singapore universities develop into international centres of excellence in scholarship and research.

Benefits of autonomy

When freed of operational regulations imposed on statutory boards, NTU will be able to channel funds to areas of priority, such as talent development and new academic programmes.

The NTU Council will assume greater responsibility for key decisions affecting the university, ensuring the proper use of resources.

An upshot is a culture of ownership on the part of university stakeholders, says NTU President Dr Su Guaning.

Indeed, the university will seek out private-sector funding to support its various programmes such as the building of more student hostels.

Dr Su notes that in the longer term, privatisation would help NTU realise its vision of being a student-centric and professor-centric Global University of Excellence. This empowerment is through policies that shape graduates and professors who are passionate, creative, and entrepreneurial global leaders.

Discovering Nanyang

“Discover Nanyang” – that brewed as a plan for the IAAP programme this year, and materialised at NTU when the panel visited.

The IAAP members were impressed with the greater breadth of opportunities for holistic development available to our students, as well as the quick establishment of the new NTU schools – mere plans on paper when they last visited in January 2003.
More branded global programmes

A real-world university, NTU furthers the career goals of global citizens by offering an international education on local shores. Many of our programmes are established with top universities and with industry. Here are some new ones.

NTU and Cornell further hospitality management education

A new joint Master of Management in Hospitality programme, the first of its kind in Asia, has been developed at NTU in conjunction with Cornell University’s School of Hotel Administration, the world’s leading hospitality management school.

The one-year programme, beginning July 2006, will be administered by the Cornell-Nanyang Institute of Hospitality Management (CNI), Singapore’s pioneer graduate school for hospitality housed at NTU’s Nanyang Business School (NBS).

To be co-taught by NTU and Cornell faculty, the new offering, part of Cornell’s redesigned Master of Management in Hospitality programme, aims to groom talent who can bring tourism in Singapore and the region to the next lap.

Up to 50 students will be enrolled each year. They will divide their time between the hotel school in Ithaca and NTU to build depth in their chosen specialty, be it food and beverage management, lodging, or real estate and revenue management. They will also enjoy many opportunities to network and learn from industry leaders.

According to Dr David W Butler, Dean of the Cornell Hotel School, students will benefit from a unique education that prepares them for leadership positions in the rapidly growing Asian hospitality industry. He adds that Cornell welcomes the “strategic partnership with one of Asia’s leading universities”.

Prof Hong Hai, Dean of NBS, envisions CNI at NTU offering “high-potential hospitality professionals the opportunity to learn from a renowned leader in hospitality management, working in collaboration with an Asian business school which understands management practices in the region”.

Prof Judy Siguaw from the Cornell Hotel School has been named founding dean of CNI. “Her appointment is an important step forward for CNI, which aims to set the standard for hospitality management education in this part of the world,” says Prof Hong.

Prof Siguaw, a noted scholar in sales and marketing, is J Thomas Clark Professor of Entrepreneurship and Personal Enterprise at Cornell. “I look forward to the opportunities and challenges this new venture will present,” she says.

A milestone for Singapore’s Global Schoolhouse vision, CNI will also bolster Singapore’s position as the region’s centre of excellence for learning and research in Asia-centric hospitality.

Elevating healthcare standards in China

NTU and China’s Ministry of Health (MOH) have sealed an agreement to provide custom-made management education programmes for China’s senior hospital management staff.

About 500,000 Chinese hospital managers will undergo the tailored Executive Master of Business Administration (EMBA) programme in hospital management, which aims to raise healthcare standards in China.

“China’s MOH evaluated a number of leading universities worldwide and selected NTU as one of a small group of universities, and the only one from Asia, to collaborate on this important national project,” says Prof Hong Hai, Dean of NTU’s Nanyang Business School (NBS).

Taught mostly in Mandarin by bilingual faculty from NBS, the EMBA covers all areas critical to modern hospital management. Participants will have the opportunity to observe first-hand how Singapore hospitals are run.
GlobalNANYANG

Forging regional maritime expertise

NTU is shaping up to be a focal point in Asia for education in maritime transport, shipping, and related disciplines.

It has partnered the renowned BI Norwegian School of Management (BI) to design and disseminate graduate programmes in maritime studies to the region, and to establish a scheme for faculty training.

The collaboration with BI, the largest business school in Norway and Europe, arose out of an R&D initiative between Norway and Singapore that is supported by the Maritime & Port Authority of Singapore (MPA).

In July 2004, NTU and BI launched Singapore’s first Bachelor and Master of Science programmes in Maritime Studies. The response was overwhelming and the programmes are now being marketed in Asia. NTU and BI are also exploring offering PhD programmes in Maritime Studies.

“BI appreciates working with NTU, a well recognised university. It is also good for Norway and Singapore to cooperate on shipping issues, as this is a key area for both countries,” says Ms Cathrine Bjune, Director of BI.

Double MBA route to world leadership

Those who need help applying technology to business or vice versa can turn to a new Double Master’s programme in Management of Technology.

NTU has teamed up with Waseda University, a leader in technology management and business management education, to launch the programme in 2006. It will be the first time a Japanese university is offering its degree together with a university outside Japan.

To be developed and taught by NTU’s Nanyang Business School (NBS) and the Waseda Business School of Waseda University, the one-year full-time programme will lead to a Master of Business Administration (MBA) conferred by NTU and a Master of Business Administration (MBA) in Technology Management conferred by Waseda University.

A unique aspect of the programme is the access it offers to the know-how and practices of world-class Japanese enterprises in manufacturing and quality management.

Students will take core management courses taught mainly by NTU faculty, specialised courses conducted mainly by Waseda faculty in Singapore, and a three-week study trip to Japan.

NTU runs two other double master’s programmes through the Nanyang MBA – ranked the fourth best MBA programme in Asia by the Economic Intelligence Unit last year – with the University of St Gallen in Switzerland and Essec Business School in France, both top European business schools.

NIE’s leadership brand goes international, too

The National Institute of Education (NIE) at NTU has wrapped up a successful international leadership programme for 15 senior educators from the United Arab Emirates (UAE).

Based on the successful Leaders in Education Programme (LEP) brand, the Singapore Leadership Programme for Abu Dhabi gave the principals and vice-principals a taste of why Singapore is winning acclaim for its school leadership.

The participants took part in seminars, visited schools, and attended syndicate meetings, benefiting from a perfect blend of state-of-the-art thinking about leadership and a strong practitioner’s perspective.

Designed and administered by a team of NIE staff and school principals – all former LEP graduates – the inaugural programme is part of NIE’s expanding contribution to innovation and educational development in Abu Dhabi.

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More ideas for school leadership: The UAE principals and vice-principals with their lecturers and tutors at NIE.
It’s confirmed – the revolutionary four-month graduate diploma Technopreneurship & Innovation Programme (TIP) works.

Modeled after the entire venture creation cycle, it is producing entrepreneurs and even serial-entrepreneurs who strike while the iron is hot. The statistics bear this out. About 40% of graduates from the first two cohorts started businesses or joined start-ups, while 45% of the third and latest cohort of 38 graduates are turning real-world entrepreneurs. TIP has graduated 130 students so far.

Most ventures were formed with TIP classmates and alumni, often using products, ideas or technology developed or exploited during TIP business plan assignments or competitions.

The third TIP graduation ceremony was held at the Nanyang Auditorium on 7 January 2005.

For the first time, past and recent graduates showcased their business ventures – from e-commerce to nanotechnology – at a one-day fair.

“TIP was instrumental in helping my team realise our dreams of setting up our own company,” says Manfred Seow, one of three TIP graduates running a biomedical start-up, GISTLabs.
Grooming global leaders

180 students head for China and the US under NTU’s multi-country Global Immersion Programme (GIP)

Imran Halimi Bin Ibrahim, a third-year Mechanical & Aerospace Engineering student, is enjoying a six-month adventure overseas at Georgia Institute of Technology in Atlanta.

Richardo Chua Wei Lien, a second-year student from the School of Communication & Information, is similarly broadening his horizons, pursuing communications at the same university.

He quips: “What is more important is the experience of studying in the US rather than the subjects I’ll be studying. The rigours of a new environment and meeting new people will prove invaluable.”

Imran and Richardo are just two of over 180 students from NTU who went to the US and China in January 2005 under the university’s flagship Global Immersion Programme (GIP).

An integral part of The New Undergraduate Experience at NTU, GIP provides a value-added international experience in addition to a local campus education. It aims to groom entrepreneurial leaders who can excel in a global environment.

NTU President Dr Su Guaning notes that GIP is “more than the regular student exchanges and overseas attachments”, as it is tailored to achieve an immersion effect similar to that of a three-year or four-year education overseas.

GIP students will be encouraged to study and/or work in more than one country, to obtain “a unique multi-country experience of language, culture, industry, entrepreneurship”.

Already popular with NTU students, the programme is being expanded to benefit up to 20% of NTU undergraduates in five years’ time and will cover India, Indonesia, Australia, New Zealand, and countries in Europe.

New bridges in education and research...

... with IIT Bombay, India: Engineering and infoomms

Next up: New technologies in bio and molecular engineering, infrastructural engineering and management, and information-communications.

These look set to arise from a new tie-up that aims to foster education and research with the Indian Institute of Technology Bombay (IIT Bombay), recognised as one of India’s main centres of academic excellence.

As early as July 2005, NTU students will leave for IIT Bombay for academic exchange. The newly minted alliance also covers faculty exchange and the development of joint research programmes.

The scope of collaboration may be expanded to include disciplines like the sciences and humanities, notes NTU President Dr Su Guaning.

... with USM, Malaysia: Pharmaceutical engineering

To leverage mutual strengths in education and research, NTU and Universiti Sains Malaysia (USM) have formalised a plan for faculty exchange.

Teaching and research will be the key activities, with pharmaceutical engineering identified as a major research focus.

USM is one of only three Malaysian universities designated as research-intensive.

The tie-up complements an arrangement established in 1997 by the two universities for student exchange.
Biggest MEMS research centre in SEA

The new building for the Micromachines Centre (MMC) at NTU was recently showcased as the biggest MEMS research facility in the region. It boasts a new 600m$^2$ 10k/100 clean room and provides a complete research environment for MEMS development – from the idea to the final product.

The clean room, for example, supports everything from thin-film deposition and photolithography to etching and characterisation.

Hosted by the School of Mechanical & Aerospace Engineering (MAE), the Micromachines Centre is the key laboratory for the school’s MEMS Strategic Research Programme. It also hosts the world’s first dual Master of Science programme in MEMS engineering with Ecole Superieure d’Ingenieurs en Electrotechnique et Electronique (ESIEE), a top French university.

Besides serving NTU students and researchers, the centre provides consultation and MEMS fabrication services to the wider research community and industry.

MEMS (Micro-Electro-Mechanical System) technology, part of nanotechnology, is the critical ingredient for smaller, lighter and more functional electro-mechanical devices that are also cheaper to produce. Typical examples include airbag crash sensors and inkjet printer heads.

Largest educational research unit in the Pacific Rim

In barely 18 months, the Centre for Research in Pedagogy & Practice (CRPP) at NTU’s National Institute of Education (NIE) has gone from a start-up to the largest educational research unit in the Pacific Rim.

It now has 77 research and academic staff working on 55 projects ranging from a highly successful drama intervention project with community schools to studies of the teaching of reading.

Its core research project – a comprehensive overview of Singaporean students, teachers and classroom practice – is yielding “a fascinating overview of the system”, says the centre’s Dean, Prof Allan Luke.

“The data from this project is rolling in. We have just completed our first round of ministerial briefings and the first wave of technical reports and papers will be out soon. We are also taking the data and key messages back to schools and teachers who participated in the studies.”

According to Prof Luke, this research will provide the basis and platform for the “next wave” of educational policy and innovation in Singapore schools.

The centre has won international recognition, with its achievements cited in presentations to staff of Montreal’s McGill University, University of California, Berkeley, and Hong Kong University.

Behind Vietnam’s first virtual reality lab

Vietnam is getting its first virtual reality (VR) laboratory with the help of the School of Computer Engineering (SCE).

Since January this year, ten SCE professors and researchers have been working with the Vietnamese Academy of Science and Technology’s Institute of Information Technology (IOIT) to design and set up the key national laboratory.

The IOIT Virtual Reality Laboratory will be outfitted with VR technology and applications designed by the SCE team. These tools enable virtual reality to be harnessed in teaching and learning.

According to Dr Le Hai Khoi, Director of IOIT, the laboratory is part of Vietnam’s National Key Lab on Network Technology and Multimedia, and represents a major thrust for Vietnam in IT research.

On why NTU’s expertise was chosen over others in the region, he said: “We are impressed with NTU’s reputation for and expertise in virtual reality and augmented virtual reality, and more so with their willingness to share their expertise.”

Besides designing software and hardware for the lab, SCE will send its experts to Vietnam to conduct training workshops and provide technical support.

SCE and IOIT are now fine-tuning a long-term research alliance which will begin after the IOIT laboratory opens in April 2005.
Chemistry coup

Prof James Tam wins Ralph F Hirschmann Award

Prof James Tam, founding Dean of the School of Biological Sciences, has received the highly prestigious 2005 Ralph F Hirschmann Award for his outstanding contributions to peptide and protein chemistry.

The award, administered by the American Chemical Society (ACS) and sponsored by Merck Research Laboratories, recognises achievements in the chemistry, biochemistry, and biophysics of peptides at a global level.

Prof Tam is particularly well known for his research achievements in peptide and protein chemistry. He holds more than a dozen patents, including several for the Multiple Antigen Peptide System commonly used in laboratories today. His expertise is sought by major pharmaceutical companies.

Prof Tam will deliver an award lecture in March 2005 at a symposium in his honour at the 229th ACS National Meeting in San Diego.

In Scientific American’s top 50

A prolific inventor with more than 120 US patents has been named to Scientific American’s global Top 50 list which recognises leadership in research, business and policymaking.

Dr Beng Ong from the Class of 1971 (Nanyang University) was crowned the 2004 “Business Leader in Chemicals and Materials” for his milestone contributions in plastic electronics research, at the New York Academy of Sciences in New York City on 16 November.

A world figure in organic electronics research, Dr Ong aspires to replace costly silicon technology with inexpensive printed plastic circuits to create a new generation of flexible electronics that can power e-paper, paper-thin PC monitors, large-screen TVs, and wearable electronics.

He currently manages advanced materials and organic electronics at the Xerox Research Centre of Canada.

One-two finish at ASEAN University Games

Nathaniel Sim sprints to victory, bagging Singapore’s first Gold medal in ten years; seven other NTU students win Silver and Bronze medals

First-year common engineering student Nathaniel Sim did NTU and Singapore proud when he bagged Singapore’s only Gold medal at the ASEAN University Games in Surabaya, Indonesia, last December.

The 22-year-old’s winning moment came in the 800m run, which he finished in 2 minutes and 1 second.

His schoolmate, Electrical & Electronic Engineering student Goh Meng Keng, also 22, won a Silver in the same event.

“It was a neck-and-neck race till the last 150m and we were cheering till our voices went hoarse,” recalls Ms Royce Yap, Assistant Manager (Sports) from NTU’s Sports & Recreation Centre.

Six other NTU students helped Team Singapore secure Bronze medals in track and field, swimming, tennis, and table tennis, adding to Singapore’s final medal tally of 12 at the biennial games which saw 10 countries participating.

Nathaniel said he didn’t expect to win.

“I was up against strong runners, some of whom have better personal best timings.”

The middle-distance runner adds that the conducive environment at NTU has been a factor in his sporting success.
Hat-trick at tech Olympics

Three NTU students have won the Asian leg of the “Olympics of Computing” for the third consecutive time.

The latest win comes courtesy of Computer Engineering (SCE) students Thanh Hoai Tran, Nguyen Phuong Ngoc, and Hoang Duc Viet Dung, who placed first in the Asia Regional Contest of the prestigious ACM International Collegiate Programming Contest (ICPC), held in Bombay last December.

The ACM-ICPC, started 27 years ago by the Association for Computing Machinery (ACM), is the oldest, largest, and most prestigious programming contest in the world.

Held annually, it requires students, working in three-person teams, to apply their programming skills and creativity during a gruelling five-hour battle in which they tackle eight questions covering topics from geometry to physics.

Some 3,000 teams from over 70 countries regularly compete in the regional contests, which are held around the world. The winners of the regionals then battle it out in a final showdown.

The SCE team worked hard for their fantastic win under the tutelage of SCE lecturer Kevin Jones.

Following their success at the Asia regionals in Bombay on 5 and 6 December 2004, they will advance to the World Finals in Shanghai in April 2005.

Doubly good

Two pairs scoop four best paper awards!

Two doctoral students and their professors from the School of Computer Engineering (SCE) have engineered a double coup.

Ho Sy Loi and Assoc Prof Jagath C Rajapakse wrote a paper – “Highly sensitive technique for translation initiation site detection” – which won the Best Student Paper Award and Overall Best Paper Award at the 2004 IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology.

Another student-professor pair, Zhao Qiankun and Asst Prof Sourav S Bhowmick, snared two awards at the 13th ACM Conference on Information and Knowledge Management. Their co-authored paper, “Discovering frequently changing structures from historical structural deltas of unordered XML”, was named the Best Interdisciplinary Paper and also judged worthy of the Distinguished Hyperion Travel Grant award, given to five selected papers whose first author is a student.

The stunning wins came within two months of each other in October and November 2004.

Engineering pioneers feted

Prof Pan Tso-Chien, Prof Tay Joo Hwa, and Assoc Prof Lawrence Koe were feted by the Institution of Engineers, Singapore (IES) on 5 November.

The professors – from the School of Civil & Environmental Engineering (CEE) – bagged three of seven Prestigious Engineering Achievement Awards for leading outstanding projects that have advanced the engineering profession and improved the quality of life here.

The awards were presented by Rear-Admiral (NS) Teo Chee Hean, Minister for Defence and IES Honorary Fellow, at IES’ 38th Annual Dinner and Dance.
GlobalNANY ANG

Assoc Prof Ang Peng Hwa, Dean of the School of Communication & Information (SCI), has joined a high-level working group on Internet governance (WGIG). One of four from Asia and the only one from Southeast Asia, he is among 40 members from a wide cross-section of the global community personally appointed to the group by the United Nations (UN) Secretary-General himself.

The group was set up after the World Summit on the Information Society (wsis.org) to address issues of Internet regulation. Among its tasks are developing a working definition of Internet Governance and building international consensus on e-governance. The group, which first met in Geneva last November, will present a report at the next WSIS meeting in Tunisia in June 2005.

Assoc Prof Ang’s expertise in Internet law and policy will contribute greatly to the group’s report. His new book, *Ordering Chaos: Regulating the Internet*, addresses many of the issues.

Clean sweep at 5th Young Inventors Awards

EEE students win the Gold and Bronze Awards – two of only three given out; 87 entries received from the region

Higher surfing bandwidth at no added cost. Do-it-yourself cancer diagnosis.

These possibilities look set to materialise with the help of four award-winning research students from the School of Electrical & Electronic Engineering (EEE).

Wang Qijie, 25, who picked up the Gold Award at the 5th Young Inventors Awards organised by *The Asian Wall Street Journal* in association with Hewlett-Packard, discovered an innovative way to build cheaper optical interleavers/de-interleavers for fibre-optic networks.

**World’s first**

Using low-cost optical fibre, he created the world’s first fully functional all-fibre three-port interleaver in 18 months.

His invention, the result of a research project between EEE and the Singapore Institute of Manufacturing Technology (SIMTech), also won the top prize in the Photonics Innovation Village Competition at Photonics Europe 2004. A US patent was filed in mid-2004.

Bronze medallists Liang Xiaojun, 25, Sun Yi, 22, and Zhang Xuming, 32, developed a user-friendly chip-based diagnostic kit that makes detecting cancer easy and quick.

**Three patents filed**

Their biomedical chip marks cancerous cells by identifying their larger nuclei and smaller cytoplasm in a mere hour and with just a single drop of blood. Even the odd cancer cell is picked up. In tests, the chip was highly effective in detecting early-stage cancer. The team has filed three US patents and discussions are underway to commercially manufacture the chip.

The annual Young Inventors Awards aim to recognise research and innovation among students in the Asia-Pacific region. This year’s competition, which ended in January, drew 87 entries from well-known universities. Twelve were short-listed and three awarded prizes. Four of the eight finalists from Singapore were from NTU.
Putting Singapore on the world map of energetic materials research

The new Energetic Materials Research Centre (EMRC) at NTU, headed by defence science luminary Emeritus Professor Ang How-Ghee, is pioneering the development of a new generation of energetic materials. “The recent emergence of a new class of energetic materials, containing high contents of nitrogen, has generated some excitement among the scientific community,” says Prof Ang.

Apart from performance, the energetic materials must comply with high safety standards before they can qualify as explosives, propellants or pyrotechnics.

At EMRC, researchers will introduce techniques for the development of these novel concepts and materials. “There are gaps in our understanding of energetic materials and the science of detonation,” explains Prof Ang.

The centre hopes to put Singapore on the world map of energetic materials research by tapping the international research community, including prominent scientists from Sweden, Germany and China. EMRC will also conduct lectures and groom research talent.

For your ears only

What a sound idea – music that’s “beamed” to you, and only you

Checking out music at HMV? In future, you may no longer need headphones to listen to Robbie Williams’ latest single.

Just stand still and enjoy the music in your own private listening space as Singapore’s first directional sound projection system works its magic.

Developed over three years by eight researchers from the School of Electrical & Electronic Engineering (EEE), the NTU Audio Beam System (ABS) enables sound waves to be directed to specific listeners only, so no one else can hear what is being transmitted.

Lead researcher Assoc Prof Gan Woon Seng describes it as “beaming sound in a tight spot” or getting the sound to “behave like a flashlight”.

The researchers first found a way to “pack” and shape sound waves into beams. They then developed Audio Beam speakers to direct these sound beams to specific listeners.

Conventional loudspeakers, by comparison, can only produce omni-directional sound which is heard when the sound waves fill the entire room.

“We no longer need physical walls to block and contain sounds, and can instead project sounds in specific directions. In the library, for example, I can message someone without using the PA system or disturbing other people.”

The team has filed several patents on the processing techniques and system configurations of Audio Beam speakers. Says Assoc Prof Gan: “This is the first such system for Singapore and we hope it will bring about exciting applications for industry users and the man-in-the-street.”
Elisha Teo, a second-year Nanyang Business School student, was a man with a challenging and noble mission – which he accomplished with distinction. "We managed to do what we came to do – providing healthcare to the refugees." And no mean feat it was, considering the disease and devastation he faced while providing aid to 10,000 patients in eight refugee camps in Trincomalee.

You might have seen one decked out in colourful hearts and signatures, bearing the NTU logo.

Or perhaps this tagline – NTU… Moving Hearts – caught your eye.

Before plying Singapore streets, the NTU Heart Bus (service 76) made a pit stop on campus on 17 December.

The bus itself encapsulates the spirit of sharing and caring evident in NTU’s support for the President’s Challenge charities, as enough money was raised for a dedicated NTU Heart Bus.

At 22, Elisha was the youngest and only student in a 15-member team of Red Cross volunteers and doctors who visited Sri Lanka from 5 to 17 January.

Overall, NTU’s response to the devastation wreaked by the Asian tsunamis was overwhelming.

The School of Civil & Environmental Engineering donated a mobile water reclamation system and ten membrane hand pumps to tsunami-hit areas, and also mobilised staff and students to teach the locals how to operate and maintain the equipment, which supplies clean drinking water.

In three weeks, the NTU community, including NIE staff and trainee teachers, raised almost $110,000 in cash and $40,000 in kind.

Heart buzz!

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NTU’s “Operation Moving Hearts” takes on a life of its own as staff and students race to bring relief to tsunami-stricken communities.

In one week, the NTU community raised almost $100,000 for tsunami victims. Elisha (centre, left) with Dr Su Guaning, NTU President (with cheque).

Neighbourhood patrol

Not your usual men in blue, but they’re making their rounds in the Jurong Neighbourhood anyway, to promote security and safety. Displaying their spirit of neighbourliness, these students from the NTU National Police Cadet Corps (NPCC) teamed up with police officers from the Nanyang Police Centre on 19 January to patrol housing estates near the NTU campus.

They have started a new NPCC tradition in Singapore.
Literary windfall

The Chinese embassy gives the gift of knowledge – 1,000 books and CDs

Tree cheers for alumni!

A sense of belonging to his alma mater was what motivated Mr Zaqy bin Mohamad to return to NTU for an alumni homecoming on 27 November 2004.

Little did he expect that he would literally leave his roots permanently behind – by planting a tree on campus!

“It is a privilege to be able to leave a mark on one of NTU’s famed landmarks – the Yunnan Garden. Visiting ‘my tree’ will definitely be a new item on my list of to-do’s each time I visit NTU.”

A total of 57 trees were planted by more than 100 alumni, students, staff, as well as grassroots leaders from the South West District constituencies on NTU Alumni Day 2004.

Leading the tree-planting activity were Guest-of-Honour and Nanyang University alumna Mrs Yu-Foo Yee Shoon, Minister of State for Community Development, Youth & Sports and MP for Jurong GRC; Dr Amy Khor, South West District Mayor; and Dr Su Guaning, President of NTU.

More than a homecoming, Alumni Day also saw the flowering of new ties with residents of the South West CDC, who joined the Alumni Day Carnival in the afternoon.

About 4,000 people thronged Yunnan Garden, enjoying games, nature walks, belly-dancing, wine-tasting, music, and even speed dating.

Stronger alumni network

At a pre-carnival lunch for alumni, Dr Su revealed that an Alumni Council was being formed to strengthen ties between the alumni and administration.

“Our alumni are key stakeholders in this institution,” he said in the Nanyang Auditorium. “We are working on building the framework for a more united and stronger alumni body, as well as ways to engage the alumni better in the operations and vision of the university.”

Six alumni received Alumni Service Awards from Dr Su. They are Mr Allan Ng Wai Yee (‘85), Mr Roger Tan Kay Chia (‘85), Mr Simon Lee Zee Sye (‘89), Mr Simon Wong Kee Siang (‘91), Dr Nicholas G Aplin (‘99), and Mr Ng Siau Yong (‘01).
Manipulating DNA, these pre-university students discover the allure of one of life’s wonders under the watchful eyes of Asst Prof Curt Davey from the School of Biological Sciences (SBS). It was all part of the fun for some 150 science students from Singapore’s 16 junior colleges and Millennia Institute, at the NTU-JC-HSA Challenge organised by SBS and the Health Sciences Authority. This year’s challenge, themed “Life’s Wonders”, started on 29 November 2004 with a five-day residential camp featuring games, laboratory sessions, visits to research institutes, and talks by leading life sciences experts. Guided by NTU professors and undergraduate student counsellors, the students then worked in groups to come up with creative life sciences innovations in time for the challenge finale on 18 February 2005.

Not laborious, but fun!

Visitors

During the period November 2004 to January 2005, NTU received these distinguished visitors:

18 Nov  Prof Dato’ Dzulkiflli Abdul Razak, Vice-Chancellor, Universiti Sains Malaysia
15 Dec  Md Saifiqul Islam, Joint Secretary, Local Government Division, Bangladesh
19 Dec  Dr Joy Shi, President, Hong Kong Institute of Technology, Hong Kong
5 Jan  Mr Hawazi Daipi, Senior Parliamentary Secretary, Ministry of Education, and members of the Government Parliamentary Committee (Education), Singapore
6 Jan  Prof Xu Zhihong, President, Peking University, PRC
7 Jan  Dr Richard Herman, Chancellor, University of Illinois at Urbana-Champaign, USA
10 Jan  Prof Ashok Misra, Director, Indian Institute of Technology, Bombay, India
11 Jan  International Academic Advisory Panel
17 Jan  Prof Alan Gilbert, President and Vice-Chancellor, University of Manchester, UK
19 Jan  Prof James Gustave Speth, Lee Kuan Yew Distinguished Visitor

We also hosted visiting delegations from Changwon Polytechnic College, Daegu University, Ajou University, Dong Yang University, and Chung-ju University, Korea; Payap University, Thai Commission on Higher Education, and Prince of Songkla University, Thailand; Ministry of Education & Training, Institute of Culture & Information, and Vietnam University of Hanoi, Vietnam; Ministry of Education, Culture, Sports, Science & Technology, Ibaraki University, and Shibaura Institute of Technology, Japan; Gadjah Mada University, Indonesia; Zhejiang University City College, Shandong University of Technology, Shaanxi Provincial Education Department, Lan Zhou University, and Anhui University of Technology, PRC; and University of Toronto, Canada.

Two schools renamed...

The School of Materials Engineering has been renamed the School of Materials Science & Engineering (MSE). The School of Mechanical & Production Engineering is now known as the School of Mechanical & Aerospace Engineering (MAE). In addition, a new division – the Division of Aerospace Engineering – has been established at the School of MAE. The changes took effect in January 2005.

... new school formed

The School of Chemical & Biomedical Engineering (CBME) was formed in February from the merger of two departments under the College of Engineering – Bioengineering (BioE) and Chemical & Biomolecular Engineering (CBE). CBME is the 12th school at NTU after the recent additions of the School of Humanities & Social Sciences (HSS), School of Physical & Mathematical Sciences (SPMS), and School of Art, Design & Media (SADM).

Strong demand for NTU’s career services

The university career centre has added three coaching and interviewing rooms to its existing facilities at the Student Services Centre.

The expansion is timely as the demand for the centre’s CareerHub services has been rising over the last few months.

CareerHub, which offers a comprehensive suite of services including career coaching and career advising, has even caught the eye of fresh graduates and alumni of other universities.

“We have been receiving requests by phone and email from graduates of other universities who wish to use some of our CareerHub services. The majority of these requests come from Singaporeans who have graduated from leading overseas universities, while a couple are from local universities,” says Mr Ng Boon Hwang, Director of NTU’s Office of Professional Attachments, which manages CareerHub.

One such graduate is Liu Huifang, a recent alumnus of the Australian National University. “I heard about CareerHub through my friends who were studying in Singapore. After surfing its website, I decided to call the centre to find out how to tailor my skills to the local employment market. The brief encounter with the staff at CareerHub has definitely been worth the effort.”
Three months of music, drama, dance? The picky need apply. And for a good cause, too.

To touch more lives through art, the annual NTU Festival of Arts, organised by the NTU Cultural Activities Club (CAC), aimed to raise funds for victims of the Boxing Day tsunamis, ST School Pocket Money Fund, and Very Special Arts.

“Arts from the Hearts” on 12 March reflected this strong charity element visually – more than 10,000 origami pieces were pieced together to form a gigantic picture symbolising the art of giving.

The concept of art as nourishment for the soul also ran through the Opening pARTy on 11 January 2005; dazzling acrobatic performances and traditional craft, among others, were featured alongside colourful handiwork by the elderly and handicapped.

“Art acts as therapy,” observes Dean of Students Prof Koh Tai Ann, who launched the festival in the Nanyang Auditorium.

“It makes us contemplate and helps us understand our own frail humanity.”

Other takeaways from the opening campus carnival included two new magazines by the CAC. One is Art Jam, a free monthly covering the arts scene on campus and in Singapore. The other, Jeune, focuses on the club’s activities.

More than 1,000 students from the CAC, its member clubs and other arts-related groups on campus contributed to the exciting festival line-up this year, doing their part to nourish souls, touch lives, and enrich minds.

“As NTU develops into a comprehensive university... the arts scene will grow even more.”

– Prof Koh Tai Ann, Dean of Students