

## NTU starts integrated programme for Singapore's top sporting talent

*The novel "through-train" scheme, a partnership with Republic Polytechnic (RP) and the Singapore Sports School (SSS), enables top student-athletes to balance sports and higher education through a flexible curriculum. Outstanding Sports School graduates can enter Republic Polytechnic without an O Level certificate and pursue a degree at NTU if they do well in polytechnic*

Sports School student Dominique Lee, 13, is a talented sprinter who dreams of one day making it to university.

The traditional route to university, however, requires clearing several hurdles such as the GCE Cambridge examinations, and major sports meets have been known to clash with these examinations.

Thanks to an innovative "through-train" scheme initiated by NTU, this perennial problem faced by top athletes has now become a thing of the past.

This is because NTU has inked an agreement with Republic Polytechnic (RP) and the Singapore Sports School (SSS) to provide SSS graduates a "seamless passage" to university that will include three years at Singapore's newest polytechnic.

Dominique, who is being groomed as a champion sprinter, is pleased that he can now get ahead in both track and field and his studies.

If a major sports meet – like the South-east Asia (SEA) Games or Asian Games – coincides with his O Level examinations some years down the road, he can simply skip the exams and apply for admission to RP on the strength of his performance in an entrance exam. If he does well in RP, he can vie for a place at NTU under the university's discretionary admissions criteria. At NTU, he can apply for any degree course as long as he meets the pre-requisites.

SSS, which opened this year, will graduate its first batch of students in 2006. RP will admit SSS graduates from 2007, and NTU, SSS-RP graduates from 2010.



**Future NTU students?** Dominique Lee (left), who trains at the Sports School in track and field, wants to concentrate on doing the nation proud. But he is looking far ahead, too, and is glad an NTU degree is within reach. His pals, sailor Sherman Cheng (centre) and bowler Ang Wei Xiang (right), can also breathe easy now

Both RP and NTU will offer students like Dominique a flexible curriculum that will leave sufficient time for training and competitions.

*"Sportspeople are no different from say a genius in music who goes to the Julliard School in New York... or a genius in physics or computing. Even geniuses need an education. This means sportspeople have legitimate needs for a strong academic preparation although they cannot spend as much time on academic pursuits."*

*– NTU President Dr Su Guaning on the rationale behind the integrated programme for Sports School graduates*

For Dominique, the chance to join a tailored degree programme (in sports studies, his choice) would be too good to pass up. The secondary one student, who has heard a lot about NTU's flexible and broad-based curriculum, said: "The tie-up is beneficial to us. We won't feel so stressed thinking about our studies and can focus on doing well in sports first."

NTU President Dr Su Guaning, who planted the idea for the tripartite

partnership, believes in helping our student-athletes strive for sporting excellence within a supportive academic environment.

"Singapore sportsmen and sportswomen are definitely in the class of leaders that we would like to educate," he explained. "After Sports School, when they are expected to compete at the international level, the athletes need a flexible arrangement so that they can continue their education to the level that will prepare them well for their careers, whether in sports or other fields."

The new broad-based "integrated programme for sportsman and sportswomen", he added, would "create a community of students with diverse talents and strengths, and transform the sporting culture in NTU".

Dr Vivian Balakrishnan, Acting Minister for Community Development, Youth & Sports, and Senior Minister

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of State for Trade & Industry, who witnessed the MOU-signing at the Sports School on 22 October, described the new partnership as “fresh and radical” and “groundbreaking”.

Under the new arrangement, he said, top athletes could “continue building on their sporting excellence over a longer term through the education process”. He added that these students no longer had to make difficult decisions between their sporting and academic pursuits.

Dr Balakrishnan also praised the three institutions for firming up the agreement – a “wonderful present to the sporting fraternity” – in record time. “They saw the potential and made up their minds in a couple of weeks”, which “in public policy implementation terms”, he said, was akin to “running the 100m in sub-nine seconds”.



**Supporting sporting excellence:** (From right) Dr Su Guanng, NTU President, and Dr Vivian Balakrishnan, Acting Minister for Community Development, Youth & Sports, affirm the partnership, while Prof Low Teck Seng, Principal of RP, Ms Lim Soo Hoon, Chairman of the SSS Board, and Mr Moo Soon Chong, Principal of SSS, look on

## Student leaders, administrators dialogue

**NTU student leaders took the initiative to engage chief university administrators on 18 September in frank discussions on a wide range of topics. NTU President Dr Su Guanng kickstarted the full-day event with his views on being student-centric and professor-centric**

**T**his morning I had two conflicting engagements... What does it mean to be student-centric? Should the students win out each time for my attention?”

In saying this to 111 student leaders – from faculty club presidents to hall committee members – at the first ever Student Leaders’ Conference organised by the NTU Students’ Union (NTUSU), Dr Su had an important message: There are no ready answers – and whatever decision we make, we live with it.

It was indeed with a view to making good decisions that the student leaders decided to come together with the university administrators to discuss issues close to their hearts.

As Taiyabi Ahmad Shadab, newly elected President of the 14<sup>th</sup> NTUSU, put it, the student bodies wanted to do their utmost to “bring out the identity” of *The New Undergraduate Experience*, an initiative started by Dr Su Guanng last year to transform the student landscape and learning experience at NTU.

Dr Su took the opportunity to clarify what he meant when he raised the clarion call in March 2003 – at his inauguration as the President of NTU – for the university to refocus on being “student-centric” and “professor-centric”.

“I meant, first of all, that our mission

in life here in the university is to do the best for our students, and it is the result that counts,” he explained.

“That means the report card is not going to be ready until the subject of attention, the student, has graduated, has gone through his life... and even then, an assessment of what the university has contributed to his life and to the life of others, cannot be definitive.”

Dr Su added that the most important

***“We have been given the privilege to voice out our opinions on various matters that affect us, and the university administration is giving us the freedom to be active players in the decision-making process.” – Taiyabi Ahmad Shadab, NTUSU President, urging students to help shape the landscape for The New Undergraduate Experience***

way we educate our students to prepare them for life is through the professor. University administrators could help the professors do their best for the students so that the professors, in turn, fulfil their functions focussing on the student.

On being student-centric, he said: “In our case, it means not going strictly by the book, but looking after the students’ needs.”

Indeed, a “customer-centric” retail store like Robinsons, he noted, would not make its annual sale “a looter’s free-for-all”. Instead, to show it cared for the customer, it had in place a goods return policy.

The equivalent at NTU, he added, would be “flexible administrative procedures”, “flexibility on the part of the professors when there is hardship on the part of the students”, and “support from the administration when the students take worthwhile initiatives”.

To spark discussion among the students, he urged them to think about two issues: Who they thought best represented them and could interface with the administration; and how best to consult with the student population at large.

Later, during a question-and-answer session, the students and university administrators discussed topics ranging from the implementation of the five-day work week to the opening up of more venues for student activities.

According to Shadab, the student leaders saw the conference as a good start to more fruitful discussion. “They were all anxious to follow up on the various things discussed,” he said after the event, adding that focus groups were being formed to discuss the issues in depth.

# Grooming scientists and mathematicians who can “cross-communicate”

*The new School of Physical & Mathematical Sciences will turn out versatile graduates through a flexible, broad-based education that is interdisciplinary in scope and global in outlook*

**W**hen operational next July, NTU's new School of Physical & Mathematical Sciences (SPMS)

– previously referred to as the School of Physical Sciences – will offer dynamic programmes that cut across several sub-fields of science and mathematics.

In providing a broad-based education and exposure to industry and research innovations through attachments both locally and abroad, the school aims to groom graduates who can tackle challenging science and technology questions that increasingly draw on interdisciplinary knowledge.

For example, the study of cancer today requires knowledge of chemistry, physics, and mathematics, in addition to biology. Informed decisions related to issues of science, technology and society, such as global climate change and even consumer decision making, also draw on a broad spectrum of science and mathematics.

SPMS' main offerings – the Bachelor of Science (Honours), Master of Science (MSc), and Doctor of Philosophy (PhD) degree programmes – can be tailored. Talented undergraduates may accelerate their studies by engaging in research from their first year, and, along the way, preparing for dissertation work in partial fulfilment of the MSc or PhD degree.

Besides acquiring knowledge in their respective majors of chemistry, physics, physical sciences or mathematics, SPMS students will also be able to study a wide variety of subjects outside the school, such as biological sciences, engineering, social sciences, business, and education. “As fundamental science and mathematics concepts are applied widely across all disciplines,” NTU President Dr Su Guaning points out, other NTU schools can likewise draw on SPMS' expertise.

Although the demand for places is expected to be high, SPMS will initially cap undergraduate enrolment at 150 and graduate enrolment at 30. By 2010, the intake will be expanded to 600 undergraduates and 100 graduate students annually.

“SPMS aspires to provide a quality of undergraduate education similar to that of top universities such as Caltech and Massachusetts Institute of Technology,” says Prof Lee Soo Ying, 54, newly appointed Dean-designate of SPMS.

“Our graduates will be a versatile group with good problem-solving skills. Besides being equipped with the necessary science and technological skills, they will be exposed to a full array of disciplines at NTU during their studies.” He adds that SPMS graduates can work in diverse sectors



**Prof Lee Soo Ying**, Dean-designate of the new School of Physical & Mathematical Sciences (SPMS) of the economy, including commerce, education, technopreneurship, R&D, and “areas beyond our imagination today”.

A well-known figure, Prof Lee, winner of a 2003 National Science Award for his work in elementary chemical reaction dynamics, has more than 20 years of academic and management experience. He is widely published and a frequent speaker at international conferences. His research interests include Raman spectroscopy, nonlinear spectroscopy, and chemical reaction dynamics.

## Nanyang MBA: Best in Southeast Asia, fourth best in Asia

*NTU is the only Singapore university – indeed the only university in ASEAN – on the Economic Intelligence Unit's list of the world's top 100 MBA programmes. Among Asian schools, the Nanyang MBA is ranked first for student diversity and third for faculty quality*

**N**TU's Nanyang MBA (Master of Business Administration) programme has been ranked first in Southeast Asia by the Economist Intelligence Unit (EIU), the business information arm of The Economist Group, a leading global publisher.

EIU, in its ranking of the world's top 100 MBA programmes, also placed the Nanyang MBA fourth overall among Asian schools. On specific criteria, NTU's programme was ranked top in Asia for having a culturally diverse student body and third in Asia for having a first-rate faculty.

The EIU ranking, released online

on 6 October 2004, is respected and widely referenced by the global business community. “The latest ranking reflects the accelerated growth that we have achieved with the programme,” says Assoc Prof Ooi Lee Lee, Director of the MBA programme at the Nanyang Business School (NBS).

Indeed, Prof Hong Hai, Dean of NBS, notes that the Nanyang MBA is relatively “young” compared to other MBA programmes, having started in 1991. “So to be placed in the 100 best MBA programmes,” he says, “is a strong indication of the true value of the Nanyang MBA.”

He adds: “This ranking comes soon after we were formally accredited by the European Foundation for Management Development (efmd) and its accreditation body, EQUIS, in July 2004. Again, we achieved top honours for Singapore as we were the first Singapore business school and only the fifth in Asia to achieve this accreditation.”

Reputed for offering a global perspective with an Asian focus, the Nanyang MBA draws participants from around the world. A wide choice of subject specialisations and overseas business study missions are other unique features of the programme.

# What's hot – the business of shipping



**Strong support for NTU's maritime courses:** (From left) Mr Chua Lian Ho, Director (Training), MPA, and NTU President Dr Su Guaning mark MPA's donation of S\$3.54 million as Dr Sadasivan looks on

*Sea-surge of interest in first local BSc and MSc programmes in Maritime Studies (Shipping); bachelor's programme oversubscribed six times*

**W**hen the pioneer batch of 87 students graduate from Singapore's first degree programmes in Maritime Studies (Shipping), they will be highly sought after as leaders and top executives for the maritime industry.

As Dr Balaji Sadasivan, Senior Minister of State, Ministry of Information, Communications and the Arts & Health, pointed out at the launch of Singapore's first Bachelor and Master of Science (BSc and MSc) degree programmes on 5 August, Singapore needs "maritime personnel trained at the tertiary or higher levels to manage entire fleets, run

companies that provide expert services to these ships, and develop new businesses in the maritime sector".

The programmes, the result of a three-way partnership between NTU, the Maritime and Port Authority of Singapore (MPA), and the maritime industry, aim to groom expertise for Singapore's maritime sector, which is poised to grow by up to 8% annually over the next 14 years.

Graduates of the programmes, armed with knowledge of the latest technologies in the global shipping arena, will be able to take on a wide range of jobs in the maritime field.

The courses, which commenced this

semester, were a huge draw. The four-year BSc programme, with an initial intake of 53 students, was more than six times oversubscribed, while the MSc course was oversubscribed by more than 40%.

Like many of her classmates, undergraduate Oon Qiu Ying, 21, was drawn to the course by "the industry's bright prospects".

She currently attends classes at the School of Civil & Environmental Engineering (CEE), where NTU's three-year-old Maritime Research Centre is based, and is studying topics such as shipping management, ship accounting and finance, maritime law and insurance, ship technology, international shipping policy, and maritime research and development.

She will also be taught by professors from the BI Norwegian School of Management, a top European business school, which has come on board as a programme partner.

"Our exceptional strength in maritime studies and the strong links we enjoy with industry will continue to provide our students with an education that meets real world needs," notes NTU President Dr Su Guaning.

MPA has contributed \$3.54 million to the endeavour to enhance the learning and research experience of our students. Other key industry partners – Neptune Orient Lines, Pacific Carriers Limited, Regional Container Lines, and the Singapore Maritime Foundation – have awarded scholarships to outstanding students.

MPA has also launched a Maritime Industry Attachment Programme (MIAP) to draw students from non-maritime related disciplines into the industry. It has pledged an additional \$20,000 from the Maritime Cluster Fund to support this initiative for three years.

## Want to be a marine engineer?

**T**he School of Mechanical & Production Engineering (MPE) has introduced a new undergraduate specialisation in Marine and Offshore Engineering.

And there are scholarships up for grabs. Of the 37 students who opted for the new final-year specialisation this semester, 13 are scholarship holders. They each received \$10,000 from a leading marine and offshore company, and will embark on rewarding careers with their sponsors.

In all, six marine and offshore companies – including Keppel Offshore & Marine Ltd and SembCorp Marine Ltd – have pledged over half a million dollars in scholarships over the next three years. Five more scholarships will be awarded in 2005 and 2006.

The new specialisation, the first of its kind here, is a joint effort with the marine and offshore industry. It aims to support Singapore's marine and offshore

engineering sector, which had a turnover of S\$3.8 billion last year.

The specialisation is supported by the Economic Development Board (EDB). "We believe in the growth prospects of this industry," says Mr Teo Ming Kian, Chairman of EDB. "World-class shipyards and marine equipment companies here are engaging in higher value-added activities such as R&D and manufacturing, in addition to their headquarters and regional distribution centre activities in Singapore."

NTU has been consolidating its strengths in marine and maritime matters. It also offers a Master of Science programme in Offshore Engineering and runs Singapore's first Bachelor's and Master's degree programmes in Maritime Studies (Shipping). A professorship in shipping management allows prominent practitioners and academics to come to NTU to conduct seminars and workshops and to guide R&D work.

# Launching 2005: Singapore's first aerospace engineering degree programme

60 top students will come on board next July to be groomed as specialists for the booming aerospace industry

**W**ant a high-flying career? Then touch down at NTU, where the first local aerospace engineering degree programme is being launched.

The new Bachelor of Engineering (Aerospace) programme is a four-year course offered by the School of Mechanical & Production Engineering (MPE). It aims to groom aerospace engineers with both fundamental and specialist knowledge – as well as an integrated view of the field – to support the local aerospace sector, which had an output of S\$3.8 billion last year.

A leading aerospace overhaul and repair centre in the region, Singapore is poised to be a hub for aerospace design and engineering activities.

"There is a great demand for aerospace engineers," says Prof Shaker Meguid, leader of the aerospace programme task force at MPE. "If students want high-

quality education with excellent teachers, they don't need to go abroad."

The first 60 students accepted into the programme next July will indeed experience a dynamic and multidisciplinary curriculum that draws on expertise across the College of Engineering (CoE), notes the Dean of CoE, Prof Lim Mong King. "This traversing between the different disciplines," he explains, "is essential for the proper training of the students to meet the requirements of the aviation industry."

Prof Yue Chee Yoon, Dean of MPE, anticipates a strong demand for the programme. "This being the only aerospace engineering degree programme

in Singapore, admission is likely to be highly competitive."

The programme's unique features include a discovery course and training through exposure to "aerospace clusters", adds Prof Meguid. "Our students can also look forward to overseas training stints."

The programme is supported by the Economic Development Board, and has received the thumbs-up from major players in the local aviation industry, including the Republic of Singapore Air Force (RSAF), Singapore Airlines Engineering Company (SIAEC), Pratt & Whitney, Rolls Royce, Hamilton Sundstrand, Turbine Overhaul Services, and Singapore Aero Engine Services Limited (SAESL).

## IT student chapter at business school

**N**anyang Business School (NBS) students can now join a new student chapter of the Singapore Computer Society (SCS) – the first ever in a business school – to meet professionals in the IT industry and to participate in professional upgrading programmes.

Launched on 22 September, the NBS-SCS student chapter is entirely run by students. It is headed by Nanyang MBA student Mr Cuong Huu Nguyen.

Eager to develop IT-savvy, more than 120 undergraduates and MBA participants have joined the student chapter to participate in its various activities, such as talks, workshops, and visits to IT firms.

SCS, established in 1967, has over 17,000 members and is the largest IT professional body in Singapore.

Mr Lee Kwok Cheong, President of SCS, said: "It is a strategic move for NTU and SCS to establish an IT student chapter in Nanyang Business School. We hope that through the exposure gained from such a student chapter, the soon-to-be graduates will be able to draw upon the IT and management knowledge they have acquired to meet the challenges of transforming businesses with IT."

## Bridging the journalistic gap

*The School of Communication & Information (SCI) wraps up a training programme to reform journalism education in Vietnam*

**S**CI has successfully completed a two-year training project which began in December 2002, to raise the standards of journalism education in Vietnamese universities.

Thirty-two communication graduates and journalism professors were trained in this project funded by the Sasakawa Peace Foundation (SPF).

The participants attended four workshops conducted by SCI professors in both Vietnam (Ho Chi Minh and Hanoi) and Singapore, to hone their craft and upgrade their teaching skills. They also visited local and international media organisations in Singapore.

The main instructors for the training project were Assoc Prof Ang Peng Hwa, Dean of SCI, and the course coordinator, Assoc Prof Sharen Liu, Head of Electronic & Broadcast Media at SCI. Other SCI professors and media professionals also shared their expertise in topics ranging from print journalism and multimedia to

public relations and advertising.

In addition to "training the trainers", Assoc Prof Ang gave two lectures to students at the national universities in Hanoi and Ho Chi Minh cities. He made history by becoming the first foreign lecturer to speak at the School of Journalism in Hanoi.

As most participants spoke little or no English, two interpreters, one for each year of training, were hired to bridge the communication gap.

"The biggest challenge," Assoc Prof Liu reveals, "was the language barrier. But our interpreters were very good and the enthusiasm of the participants more than made up for any inconvenience." She adds: "After only one year of training, the participants reported positive changes to their curricula and teaching styles."

With knowledge garnered from the workshops, seven participants are now producing a basic journalism textbook in Vietnamese.

**Sharing communications expertise:** Assoc Prof Sharen Liu (first from left) and Assoc Prof Ang Peng Hwa (sixth from right) with Vietnamese participants of the "Assistance for the Reform (Development) of Vietnamese Journalism Schools" training project



# URECA!

*What's cooking? A novel scheme for undergraduates which allows top students to pursue research and get paid for it; 80% of eligible students have joined the programme*

**L**iang Yu Yan, 20, has enjoyed working on her URECA project so much that she is considering a career in research.

URECA, which stands for "Undergraduate Research Experience on CAmpus", aims to tickle the fancies of hundreds of others of her mould – those with passion and an academic bent. Launched in August as a feature of *The New Undergraduate Experience (NUE)*, it also seeks to cultivate a research culture among students.

The programme is open to the top 5% of second- and third-year undergraduates, who must work independently on a research project for eight months. Besides earning academic credits, students on the programme – collectively known as NTU President Research Scholars – receive \$400 a month for spending an average of 10 hours a week on their projects.

## 900 projects

Yu Yan's project – one of 900 offered to students – deals with customised medical implants, specifically, ceramic bone implants, a hot area in biomedical engineering today. Her job is to investigate the market for such implants.

"I have studied research done all over the world and was given the chance to meet surgeons and researchers," says the second-year Materials Engineering student, who has had three meetings so far with surgeons from the Singapore General Hospital and a dentist. "This has been a precious learning journey."

Her understanding of research has also



**Yu Yan is investigating** the market for ceramic bone implants

changed. "It is not about staying in the lab for hours. Scientists and researchers need to go out to understand the market so that they can produce something beneficial."

Yu Yan, one of 280 undergraduates on the scheme, will submit a business proposal with marketable business ideas at the end of her eight-month project.

"We are pleased that 80% of the 350 students who qualified for the programme have chosen to undertake URECA," says Assoc Prof Joseph Sylvester Chang, Chairman of the URECA programme committee.

The programme, he points out, is highly "student-centric". Indeed, a URECA student can choose any project offered by any professor in *any* NTU school and at any time during the academic year. Students can also come up with their own research topics.

## Interdisciplinary innovation

One aim of the programme is to foster interdisciplinary innovation in research. Thus, it is encouraging that almost 10% of URECA students were emboldened to cross disciplines, having chosen projects in schools other than their own.

Although URECA professors provide mentorship, the supervision is minimal so that students experience first-hand the

open-endedness of research. They keep tabs on each other's work through an online tracking system developed by the Centre for IT Services.

## Passion

If the students discover that the work is not their cup of tea, they can change projects midway without being penalised.

"It is well known that researchers do best and make the most contributions in topics and areas that they enjoy most or have the greatest passion for," explains Prof Tony Woo, Vice President of Research and the key driver of URECA.

Such an experience could also start the academically-inclined down the path of research.

Indeed, Yu Yan says her short-term target is to further her studies after graduation. She will consider a career in research because it is "challenging and interesting".

Meanwhile, all URECA students can look forward to another perk – special awards from the Office of Research if their projects are judged to be outstanding.

URECA complements the ten-year-old Undergraduate Research Opportunities Programme (UROP), which is still being offered to the top 30% of students in three engineering schools.

## More BioE adventures

**I**n future, broken cheekbones or malfunctioning knees could be replaced with made-to-order skeletal parts that are just like the real thing.

Such customisable implants and devices – products of nanomaterials and advanced powder synthesis and processing techniques – are being developed right here at the College of Engineering (CoE).

The research is being done with Nanoscience Innovation (NSI), a

## Two new tie-ups could reap, among other innovations, new drug delivery platforms and custom-made body implants

specialist producer of high-quality nano-powder, which signed a five-year research agreement with CoE in bio-nano-medical technology in July 2004. Both parties have committed S\$1.21 million to the alliance, which involves the BioMedical Engineering and NanoScience & NanoTechnology Corridors at NTU's Research TechnoPlaza (RTP).

In another biomedical alliance with Orthogen Technologies – a start-up company founded by two NTU graduates

– innovative carrier platforms for drug delivery will be developed using pioneering biosponge technology. The collaborators have pumped \$523,000 into the two-year research venture.

The principal investigators – Assoc Prof Michael Khor from the School of Mechanical & Production Engineering and Assoc Prof Philip Cheang from the Division of Bioengineering – are leading these industrial alliances as part of the bioengineering research effort at CoE.



# Noble laureate

*What really happens to matter at zero Kelvin? Prof Douglas D Osheroff, Nobel Laureate in Physics, shared an interesting science lesson but also impressed with his humour and humility*

**A**t a public lecture at NTU on 12 October 2004, Prof Douglas Osheroff described work on low temperature physics he did as a graduate student at Cornell University that led to the 1996 Nobel Prize in Physics.

Serendipity helped, he said humbly, and to underscore this, he shared a quote from Louis Pasteur: "Science favours the prepared mind."

Then came the science lesson – *So... what really happens at Absolute Zero?*

The audience of 500, including

secondary school and junior college students, paid rapt attention as Prof Osheroff, JG Jackson and CJ Wood Professor of Physics at Stanford University, challenged the conventional scientific notion that all motion stops at zero Kelvin (-273° C). Using quantum physics, he explained how liquid helium-3 exhibits superfluidity at about 2 milli Kelvin (0.002 K). This was the discovery that earned Prof Osheroff and two colleagues at Cornell University the Nobel Prize.

Prof Lee Soo Ying, Dean-designate of the new School of Physical & Mathematical Sciences, who chaired the lunchtime talk, took home another lesson. "You can be a Nobel Prize winner and still have great humility, humour, and humanity," he said.

First-year Chemical & Biomolecular Engineering student Wahyu Perdana Yudistiawan was one of the many students who rushed up to Prof Osheroff after the lecture and plied him with questions and requests for autographs and snapshots.

"Prof Osheroff gave us a lot of new knowledge that opened our minds," said Wahyu, who read up on superfluidity to prepare himself for the lecture.

**Prof Douglas Osheroff** visited NTU in October and delivered a public lecture at Lecture Theatre 1A. After the talk, students plied him with questions and requests for photos and autographs. First-year NTU students Edbert Jarvis (left) and Wahyu Perdana Yudistiawan (right) were thrilled to take home this snapshot



## Drawing top minds...

*Other distinguished academics also recently shared their expertise, benefiting both the campus and wider community*



**Prof Sir Richard Friend**  
Lee Kuan Yew Distinguished Visitor  
Cavendish Professor of Physics, University of Cambridge

Prof Friend, a pioneer in the study of organic polymers as semiconductors, gave a public lecture on "Inkjet Printing and the Plastic Electronics Minifab" on 13 August. This lecture, at NTU, was the second of two talks on the topic of "Plastic Semiconductors – Flexible and Ubiquitous Electronics" he delivered in Singapore as the 55<sup>th</sup> Lee Kuan Yew Distinguished Visitor.

**Prof Haresh C Shah**  
Obayashi Professor of Engineering, Emeritus,  
Stanford University

Prof Shah, an active advocate of entrepreneurship and economic globalisation, and a pioneer in the fields of risk analysis, earthquake engineering and probabilistic methods, delivered the third Nanyang Distinguished Lecture, "Philosophy of Engineering Education in a Changing Global Society", at NTU on 18 August.



**Prof Lung Ying-Tai**  
Visiting Professor, City University of Hong Kong

One of the most widely-read critics on culture and society in the Chinese-speaking world, Prof Lung, a Visiting Professor at NTU's School of Humanities & Social Sciences, gave two public lectures – "Global City and Civil Society: Why do Culture and the Arts Matter?" at the Singapore Art Museum on 14 August and "Discovering Traditions" at NTU on 21 August.

*NTU's virtual reality system, developed on a PC platform, makes learning fun*

**N**TU researchers have created a virtual reality (VR) system entirely on a personal computer (PC) platform.

The system, developed over two years by a multidisciplinary team led by Assoc Prof Cai Yiyu from the School of Mechanical & Production Engineering (MPE), is cost-effective as it does not impose a heavy computational load that drains the resources of the PC. Yet, it fully supports stereo visualisation in both immersive and non-immersive fashions.

Several plug-and-play game devices allow users to interact with the virtual world – whether 3D images of molecules or airplanes – at close range and in a fun manner.

“Our system facilitates the ability to explore and visualise various fields from the life sciences to the arts,” says Assoc Prof Cai, who heads the VR and Soft Computing programme at MPE.

Students of The Chinese High School, for example, have been using the team's VR-enhanced Molecular Studio to study

# VR just a PC away

30 types of molecules. Last December, NTU helped the school to set up a high-performance VR computing laboratory.

NTU students of various disciplines

have also been dipping their hands literally and virtually into the wonders of 3D through modelling and visualisation experiments (see below).

## Students harness VR in cross-disciplinary studies

The transformation of NTU into a comprehensive university is a boost to research in virtual reality (VR), which fuses the arts, sciences, and technologies. NTU students, however, have already been embracing such studies across disciplines, thanks to programmes like *VR and Soft Computing* at MPE. Biology-trained PhD student Lu Baifang, for instance, has been fusing physics, mathematics, and biology in his studies on 3D protein simulation with the aid of VR technology. To make learning Tang poetry more fun, Chinese culture enthusiast Yeo Yan Yee created a VR environment for a scene from the poem *Pushing and Knocking* by Tang Dynasty poet Jia Dao. Never having seen snow before, second-year Indonesian student Roolin Njotosetiadi is developing a program to generate virtual snow. Let's hope she'll have a white Christmas in Singapore at the end of her URECA (Undergraduate Research Experience on CAmpus) project.

### A protein roller coaster

**Tang poetry comes alive:** Birds rest on the tree... and a monk knocks/pushes on the door under the moon...



## Mission possible for smart sea robot

*Whether Nemo or a broken sea cable, NTU\_UAV, a “brainy” underwater robot, will find it. Indeed, its ability to perform multiple missions distinguishes it from others of its type*

**G**ive NTU\_UAV a mission to find a broken sea cable, dangerous mines, or a school of fish – and it will do at your bidding.

This is because the unmanned submersible, which can dive up to 100m, is intelligent enough to perform the task autonomously.

Designed and fabricated by researchers at the School of Electrical & Electronic

Engineering (EEE), it boasts several intelligent “sensors” – including a Doppler sensor, range finders, a scanning sonar, a depth sensor, motion sensors, and a video camera.

The “brains” of the robot – three computers inside its hull – is where data-processing takes place with the help of complex algorithms. Four propellers that can change direction keep it on course during a mission.

Introducing intelligence into such robots, known as underwater autonomous vehicles (UAVs), is now a hot research area, notes Asst Prof Arjuna Balasuriya, who led the project team that developed the 100kg robot in three years.

Assoc Prof Sardha Wijesoma, a member of the research team, describes the robot's intelligence this way: “Tasked to perform a mission, it decides for itself how it wants to accomplish the job.”

The team had a clear goal from the outset – to develop a sea robot that could perform different types of tasks

to serve various industries. NTU\_UAV, besides being autonomous and tetherless, is flexible enough to allow on-site modifications to its structure and assignment.

So, with a little tweaking, it could be programmed to scour the depths of the ocean floor for broken cables or unexploded mines, or to monitor salvage operations and study marine migrations. The robot can even multi-task, that is, perform different tasks on a single trip.

PhD student Jia Zhen, who is working on the robot's computer vision system, says NTU\_UAV is smart enough to avoid obstacles and chase targets like Nemo in murky, changing environments.

“The robot can help marine scientists track underwater creatures. It can follow the fish and keep an eye on their movements every day,” he notes.

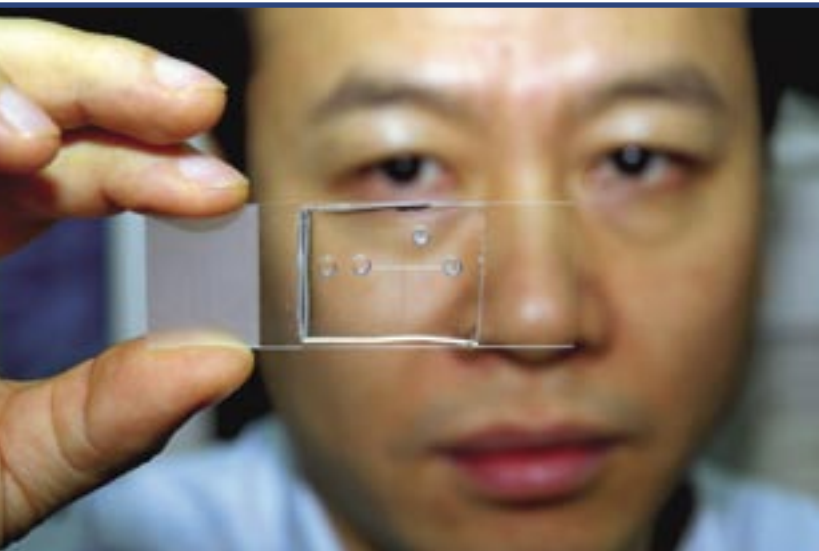
The robot's complex algorithms were tested in Japan at Kamaishi Port in collaboration with the University of Tokyo. NTU\_UAV mapped the port's marine environment during the nine-day sea trial in October 2004.

Meanwhile, the project team at NTU is seeking industrial partners to commercialise their product.



**The inventors with their “brainy” submersible:** Asst Prof Arjuna Balasuriya (extreme left) with members of his research team at EEE, including students (from left) Lee Eng Bu, Yue Siew Peng, and Bharath Kalyan





**Human cells can be sorted and grown on this 2.5cm-long biochip** designed by Assoc Prof Liu Ai Qun (pictured) and his research team

# Stemcell-chip cure for heart and brain diseases

**Stem cells from blood or bone marrow can be sorted, purified and grown on this biochip, then implanted in the body to repair damaged tissue. The biochip can also be used to detect cancer quickly and cheaply**

**P**arkinson's patients afflicted by muscle tremors and stiff joints caused by insufficient dopamine in the brain could turn to an NTU invention to help them regain their strength and mobility.

The innovation, developed by Assoc Prof Liu Ai Qun from the School of Electrical & Electronic Engineering and a multidisciplinary team at NTU including Assoc Prof Peter Droge and Visiting Professor Salil Kumar Bose from the School of Biological Sciences, is a flat plastic biochip on which stem cells from blood or bone marrow can be efficiently sorted, purified, and even grown for transplants.

Stem cells are the key to regenerative medicine, which is a new approach to healing that uses the body's own genes, proteins, and cells to repair organs and tissues. Such cells show promise in treating heart disease and neurodegenerative diseases such as Parkinson's and Alzheimer's.

Unfortunately, stem cells are relatively rare; out of a million blood, muscle or other cells, only one is a stem cell. Cell sorting is thus a highly complex task.

"Our biochip derives stem cells very efficiently and is an improvement over traditional techniques for cell-sorting such as the cytometer method. Stem cells extracted from bone marrow can also be purified and grown on our chip," says Assoc Prof Liu, who is seeking a commercial partner to market the technology.

Unlike drugs, which offer symptomatic relief, adult stem cells, when harvested and injected into the body, tackle diseases at their root. "In the case of Parkinson's," Assoc Prof Liu notes, "studies have shown that when adult stem cells are implanted in the brain, they localise and release dopamine, an essential brain chemical found to be lacking in Parkinson's patients."

Research has shown that Parkinson's patients who receive stem cell transplants

experience a 50% improvement in motor function.

Currently, much of the regeneration crusade is focused on treating diseases of the heart and brain. US consulting firms predict that the market for such treatments could more than double to US\$35.8 billion in the next decade. In Singapore, cancer, heart disease, and stroke remain the top killers, accounting for more than 60% of total deaths here.

"We know this is going to be a big breakthrough and there exists a huge potential market as stem cells offer an important route to regeneration," says Assoc Prof Droge.

The NTU biochip can also be used to detect diseases early. When blood is separated into its components on the chip, doctors can check for diseases such as cancer based on the proportion of cell types observed. Cancer is diagnosed when a person has more white blood cells than normal. The test is so simple that even family doctors can perform it.

## The sleuthhound's kit

**Crime-busters can use it to nail criminals in just hours!**

**S**olving crimes could soon be child's play, as researchers from NTU and the Singapore Police Force have developed a powerful device that identifies felons from DNA evidence in a matter of hours.

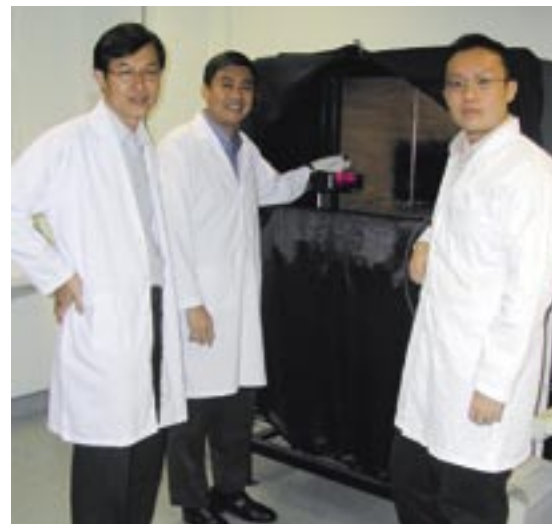
The portable kit works by analysing DNA samples – say, a strand of hair, semen or blood stains – left behind at crime scenes. It targets specific regions in our DNA known as Short Tandem Repeats (STRs). These regions are highly variable and specific to individuals and, as such, routinely used in forensics for human identification.

The DNA results obtained are matched against a DNA database of 38,000 samples. The entire process can be completed in mere hours instead of two days with conventional lab-based methods.

Besides identifying criminals, the device can also help to determine the victim's identity in cases where only body parts are available.

Another important outcome is safeguarding the innocent from being wrongly charged.

A prototype of the kit is now being developed for the crime-busting industry.



**Lab work to nab:** The multidisciplinary team – (from left) Assoc Prof Chia Tet Fatt, Assoc Prof Lim Chu Sing (Project Investigator), and Mr James Chiang – with the spectroscopic set-up and data acquisition system used in the proof-of-concept trials

# See you at International House!

*Whether you're an international student looking for information, a freshman in need of a listening ear, or a famished soul craving for a good cuppa in the shade, you'll find it here at International House*

Welcome to International House – the newest hangout for NTU students. Staff and visitors, too, have been flocking to the homely spot on Nanyang Avenue for delicious Asian fare at its trendy *al fresco* café. (NTU President Dr Su Guaning was seen at the café at least three times during its opening week.)

Indeed, where else on campus can you get a set meal for less than \$5? And specialty coffee, including traditional Vietnamese coffee, at very reasonable prices? Those who find it too balmy outside can simply dine indoors in air-conditioned comfort.

While the café was designed to be a major attraction for all students and staff of NTU, International House, nestled amidst greenery and a stone's throw from the main academic complex, was actually conceived with our international students in mind.

As recently as April this year, it was known as Nanyang Lodge and offered visiting international academics a comfortable place to stay. With the completion of the new Nanyang Executive Centre, which provides on-campus lodging, the standalone building was converted into a hub for international students. Today, it houses the new International Student Centre (ISC), which includes the NTU Student Counselling Centre (with two full-time



**International House** serves not just international students but the entire NTU community, says Prof Koh, Dean of Students (pictured left at Café al fresco, which opened in September). The ground floor houses the International Student Centre, which includes a lounge, baggage hold, computer facilities, meeting rooms, and a reading corner, as well as the NTU Student Counselling Centre. See [www.ntu.edu.sg/dso/isc/](http://www.ntu.edu.sg/dso/isc/) for more information

counsellors serving all NTU students), and the International Relations Office.

“We established ISC this year to promote inter-cultural understanding and to look after our growing community of international students, both full-time students and exchange students,” says the Dean of Students, Prof Koh Tai Ann. “Besides seeing to their reception, we provide information, advice and welfare services, including orientation programmes and home visits, to help them settle in and adjust to university life quickly.”

Exchange students Ramon Becerra-Lazaro, 21, from Mexico, and Mads Hansen, 24, from Denmark, like International House so much that they visit it at least once a week. “We’re

usually there because of our club, to talk to the staff about sponsorship and our games, and to get information,” says Mads, who co-founded a football club, FC Nanyang International, with Ramon this semester (see other story below). “We also visited the lounge when we celebrated a birthday there.”

Ramon and Mads, who arrived in Singapore in July this year, are among more than 5,800 international students at NTU.

According to Ramon, the staff at ISC have been “very helpful and kind”. He adds: “Before we formed our club, they helped us with everything we needed to get started.”

Indeed, students can visit the centre as often as they like, says Prof Koh. “They can treat it as a counselling, information and social centre all rolled into one.”

**Good times – on the house!**



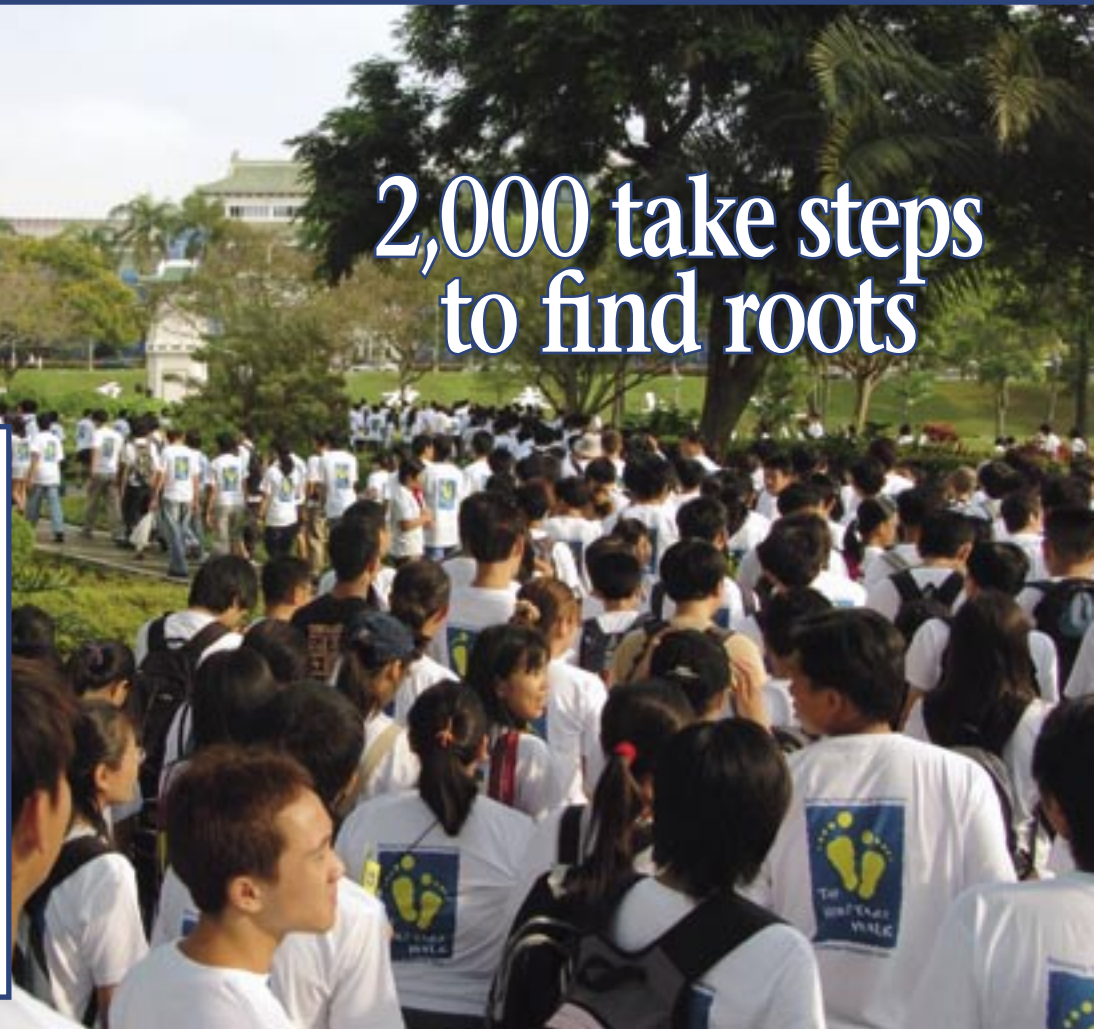
## First exchange st

They wanted to play football, but didn't have anyone to play it with. When they found out they weren't alone, Mexican student Ramon Becerra-Lazaro (front row, extreme right) and Mads Fogtmann Hansen (back row, extreme right), from Denmark, started a soccer team with other international students at NTU.

“Soccer is a very popular sport in Europe and Latin America, and most exchange students play it very well,” explains Ramon. When Ramon and Mads

# 2,000 take steps to find roots

Seek and you will find, so freshmen went on a walk around campus on 27 July to discover NTU's distinctive heritage. The 2.3km walk, flagged off by NTU President Dr Su Guaning at the Yunnan Garden, featured cultural and sporting performances, a mass breakfast at the Sports & Recreation Centre (where bus trips to the old Nantah Arch in Jurong West were organised), and an exhibition on NTU's past, present and future in the Nanyang Auditorium. Staff and alumni joined in the fun. "The Heritage Walk allows me to learn more about NTU's heritage and beginnings and to understand its rich history and its phenomenal growth in past decades," said engineering student Allen Eng. "Such insight makes me feel even closer to NTU."



## NTU and Stanford host global entrepreneurship conference



Can the Silicon Valley model of entrepreneurship be adopted locally? How can Singapore's bio-tech entrepreneurs go global? These were some of the topics discussed at the inaugural Global Entrepreneurship Conference, organised by the Nanyang Technopreneurship Centre and students from the Stanford Asia Technology Initiative (ATI) on 25 August. More than 150 budding entrepreneurs and professors from Stanford University and NTU, as well as industry experts and venture capitalists attended the one-day conference at the Nanyang Executive Centre. The Guest-of-Honour was Mr Raymond Lim, Acting Second Finance Minister and Senior Minister of State for Foreign Affairs (fourth from left).

## Students' soccer team: 11 nationalities, many goals

went to ISC looking for sponsorship and support, they received both; ISC helped to defray the cost of the team's soccer jerseys and provided them the contacts of other football teams in Singapore.

Today, the student team has 21 players from 11 countries – Denmark, Mexico, Canada, France, Scotland, Germany, Peru, Italy, England, Norway, and Sweden. Its members practise regularly – about twice a week – and are proud of the club's name: FC Nanyang International

("FC" stands for "football club"). So far, two matches have been played against a Chinese team and a Vietnamese team.

"There is a third match scheduled against an Indonesian team," says Ramon, "and we are looking forward to playing the NTU team, which has been a long-term goal since the establishment of our club." He adds: "We hope the tradition of FC Nanyang International, the first exchange students' soccer team, will continue beyond our stay in NTU."



# IT's hip and for charity

*The third Gigahertz competition was not just for geeks – newbies were drawn into the picture and two community groups also benefited from the action*

“**T**ruly IT savvy”. That’s the status a Raffles Junior College team, ZZZ, can now enjoy as the winner of Gigahertz 2004, billed as “The Complete IT Competition” by its organisers, the NTU Computer Engineering Club.

Not far behind – Victoria Junior College’s VJACT team, in second place, and Nanyang Polytechnic’s ZiLLion, in third.

According to final-year Computer Engineering student Vincent Ong, the chairperson of the competition, Gigahertz is unique because it covers all aspects of IT – from software to hardware and even entrepreneurship.

IT knowledge aside, creativity and speed are vital for success in the four-round competition, which was first organised in 2002.



**IT closes with a bang** at Suntec City on 1 August. Gigahertz Chairperson Vincent Ong (second from right) is seated next to the Guest-of-Honour, Mr Tharman Shanmugaratnam, Minister for Education

This year, the action took place on 23 and 24 July at the School of Computer Engineering. Teams of junior college, polytechnic, and university students huddled over computers to tackle difficult IT questions. Among their tasks – completing 250 quiz questions, designing a website and poster to promote a product, and using IT to fix a real-world problem.

For the less IT-savvy, there was a digital photography competition, themed *Life in Singapore*, open to the public.

“We organised this event to raise funds for the needy as well as to encourage more people to start using IT

gadgets such as digital cameras,” says Vincent.

Twenty photos were chosen to adorn notebooks, cardboards, and bookmarks, and these were sold for charity at Suntec City Galleria Foyer on 1 August. The \$600 raised has been donated to the Singapore Association for the Deaf and AWWA Community Home for Senior Citizens.

Gigahertz 2004 was supported by the Infocomm Development Authority of Singapore (IDA) and People’s Association Youth Movement (PAYM). Seagate Technology was the main sponsor of the event.

## Champion lifesavers



**Red Challenge champs:** (Front row, from left) Edwin Tan, Chair of Vibrant Blood, Assoc Prof Phua Kai Hong, Vice-Chairman of the Singapore Red Cross, and Anson Wang, Vice-Chair of Vibrant Blood, with other NTU Red Cross members

## Two awards for the NTU Red Cross!

“The next Vibrant Blood will definitely be bigger and more exciting,” bubbles Edwin Tan, a third-year Mechanical & Production Engineering student.

In June this year, the NTU Red Cross blood donation officer led the organisation of the first Vibrant Blood campaign targeting Generation Y-ers, which turned out to be the longest and largest blood donation drive ever held on Orchard Road.

The eight-day mega event, helmed by 70 NTU students and sponsored by StarHub, signed up a whopping 863 blood donors and reaped a rich harvest – 469 packets of blood for our hospitals’ blood banks.

Not surprisingly, the NTU Red Cross – also known as the NTU Chapter of the Red Cross Humanitarian Network – was named the winner of the Red Challenge on 9 July. This competition, organised by Singapore Press Holdings (SPH) and the Singapore Red Cross, recognises organisations that have spearheaded successful blood donation campaigns. The success of Vibrant Blood earned the student club the top title of “Champion”.

A few weeks earlier, the club clinched the “Champion Blood Organisation Award” from the Singapore Red Cross for collecting more than 500 units of blood in the previous year.

No doubt, the two awards are a pat on the back for the students, but drawing fresh blood – new donors – remains their top priority.

# Motorola adopts students' inventions

*Earning a commission is not the best part, say boy wonders Rahul Nath and Nikhil Khandelwal, whose buddy-finder application has been preinstalled on Motorola's newest cellphones*

Motorola Electronics and Digital Network Access Communications (DNA Comms) have been tapping some of NTU's brightest young talents – and the commercial enterprises have not looked back since.

Mr Jeffrey Tan, President of Motorola Electronics, explains why the informal partnership to develop wireless applications, which started in 2001, is highly valued. "It has been particularly



rewarding working with NTU students because they have come up with so many wonderful applications," he says.

One of these applications is "Buddy Finder" – developed by final-year Computer Engineering students Rahul Nath, Nikhil Khandelwal, and Andreas Hadimulyono – which drew rave reviews from Motorola Electronics' research centre in Florida, USA, and is now a standard feature on Motorola's latest i830 cellphones.

Another is an application for live traffic monitoring developed as a final-year project by Liu Hui, who is also seeing the fruits of her labour being flashed on Motorola i830 screens.

Such accomplishments illustrate NTU's efforts to encourage real-world learning through work attachments

**More chances for our students to shine:** (From left) Mr Jeffrey Tan, President of Motorola Electronics, Assoc Prof Seah Hock Soon, Dean of SCE, and Mr Lim Meng Poo, CEO of DNA Comms, formalising a partnership to drive R&D in wireless communications

## Store 200 CDs in this

Imagine carrying 200 CDs' worth of data on a plastic sheet as tiny as this (right). It could happen in the future, if Lee Lim (pictured), 24, has his way.

The third-year Computer Engineering student won the top prize of \$3,000 in the first "Storage Unlimited in Consumer Electronics" competition, co-organised by the School of Electrical & Electronic Engineering (EEE) and A\*STAR's Data Storage Institute (DSI), with his creative idea for a lightweight and low-cost electronic storage device made of plastic.

His "micro grid" concept hinges on the use of nanoparticle dye in optical fibre which reacts to lasers of different frequencies, allowing more data to be stored per nm<sup>2</sup>.

Lim was one of 50 NTU students who



responded to the call for creative design proposals for storage devices and applications with marketing potential. Ten designs won prizes. Seagate Technology International sponsored the prize money.

Prof Chong Tow Chong, Executive Director of DSI, was impressed with the students' designs. "The quality of many of the entries in this competition is excellent," he said.



## Buddies with a finder

Computer Engineering students (from left) Nikhil Khandelwal, 21, and Rahul Nath, 22, show off their invention, "Buddy Finder", which helps users locate their online friends on a Singapore map. The application comes with a zoom function as well as a privacy option so "buddies" can block access to information about their whereabouts. It is expected to be popular with businesses which need to track staff movements, such as courier companies. The students earned \$1,000 for their invention and are now freelance developers with their own enterprise, Proteus, which offers mobile computing solutions to companies.

and projects with industry, notes Asst Prof Yow Kin Choong, Sub-Dean of the School of Computer Engineering (SCE).

To launch more winning ideas, NTU, Motorola Electronics, and Singapore-based DNA Comms signed a Memorandum of Understanding on 25 August, making formal an arrangement where NTU students can develop innovations using Motorola's latest mobile devices and DNA Comms' network services. According to Assoc Prof Seah Hock Soon, Dean of SCE, NTU students will be able to "witness the commercialisation of their innovations".

This means that a final-year project could earn its inventor more than just an A grade.

Indeed, Rahul, Nikhil, Andreas, and Liu Hui received a commission for their inventions. However, all four said they valued most the chance to create real-life applications with a leading industry player. "It's more about the intangible benefits," explains Rahul.

Producing a solid innovation could also be the ticket to full-time employment. Liu Hui, for example, joined Motorola as a software engineer this year after graduating with First Class Honours. Motorola hires about 10 NTU graduates each year.

"It has been a privilege to work with NTU students," says Mr Lim Meng Poo, Chief Executive Officer of DNA Comms. "We have full confidence in their technical capabilities and we look forward to more working opportunities."



## One year ahead

**28 July 2004 was a red-letter day** for the School of Humanities & Social Sciences (HSS). In his speech at the soft launch of the school, the Interim Dean, Prof Eddie Kuo (in red tie, next to NTU President Dr Su Guanng), revealed that 56 Economics majors had started their Bachelor of Arts programme at the school. Minors are also being offered by the school's five divisions – Chinese, Economics, English, Psychology, and Sociology. Prof Kuo added that the original plan was to launch the three new NTU schools – the other two being the School of Physical & Mathematical Sciences and School of Art, Design & Media – in 2005.

## First case book on GLCs



The famous Singapore Airlines SQ006 crash in 2000, SingTel's bid for Optus, the dramatic transformation of Alexandra Hospital. These are some of the cases discussed in a new book on government-linked

companies published by the Asian Business Case Centre (ABCC) of the Nanyang Business School (NBS).

Titled *Government-Linked Companies and Other Organisations in Singapore*, the book contains nine case studies on management practices in Singapore. Among the organisations featured are five government-linked companies and a union-based cooperative.

Written by NBS faculty and the centre's research associates and produced entirely in-house, the book is the first in a new series to be called *Asian Management Case Collections*.

"Our aim is to build a series of case books on Asian business and management, written from multiple Asian perspectives," says Assoc Prof Wee Beng Geok, Director of ABCC and the book's editor.

Available in English and Chinese, the book retails at \$25. Call 6790-4265/4864 for an order form. NBS alumni enjoy a 20% discount.

## School of Biological Sciences welcomes Lee family

Three years ago, on 19 June 2001, the family of the late philanthropist and businessman, Mr Lee Wee Nam, donated S\$10 million to NTU, establishing the Lee Wee Nam Endowment Fund in Life Sciences. A Bek Chai Heah Scholar Fund was also endowed in memory of Mrs Lee Wee Nam.

To update the Lee family on life-science developments in education and research at NTU, the School of Biological Sciences (SBS) invited Dr and Mrs Lee Hiok Huang and Mrs Lee Hiok Siang – and other members of the extended Lee family – to tour its new state-of-the-art building on 9 October 2004. The reception included a buffet lunch at the school lobby and a visit to the Old Nantah Arch.

In his welcome speech, Prof James Tam, Dean of SBS, described Mr Lee Wee Nam as "legendary in his pioneering work in business, in community services, and in the promotion of education".



**Mini science lesson:** The children fascinated by colourful bacteria found on our skin and throat. With some help from SBS researcher Asst Prof Sze Chun Chau (left), they later grew their own bacteria by pressing their hands on bacterial culture plates!

He added that SBS was very grateful for the gifts from the Lee family, which had always been a source of inspiration to the school. "We have taken up the pioneering spirit of Mr Lee Wee Nam in our mission to provide the best education, research, and facilities in life sciences, not only regionally but hopefully internationally."

During the visit to the school's research labs, the younger members of the Lee family were very intrigued by the many scientific specimens they saw.

Along with university officials, several Bek Chai Heah Scholars, beneficiaries of the Lee family's philanthropy, were on hand that morning to answer questions and provide our guests a warm reception.



One for the album

## Meeting Gorbachev



Assoc Prof Indrajit Banerjee from the School of Communication & Information (SCI) had the honour to meet with Mr Mikhail Gorbachev, the former president of the Soviet Union, to discuss possible tie-ups between the Gorbachev Foundation and the Asian Media & Information Centre (AMIC) at SCI. The personal meeting, which lasted 90 minutes, took place in June this year at The Gorbachev Foundation in Moscow. "Mr Gorbachev was like a library of world politics," recalls Assoc Prof Banerjee. The Secretary-General of AMIC also attended the All Russia 2004 Festival at the invitation of the Russian Union of Journalists – where he gave two keynote speeches to more than 2,000 Russian journalists.

## Appointments

Prof Lee Soo Ying, Dean-designate, School of Physical & Mathematical Sciences  
 Mr Sonny Lim Yan Pok, Director, International Relations  
 Mr Soon Min Yam, Director, Alumni Affairs  
 Assoc Prof Michael Khor Khiam Aik, Director of Research  
 Assoc Prof Stephen Hazell, Head, Visual & Performing Arts Academic Group, NIE  
 Asst Prof Cherian George, Acting Head, Division of Journalism & Publishing, School of Communication & Information  
 Mr Vincent Teo Chin Chye, Principal Staff Officer, President's Office

**Nanyang Business School:**  
 Assoc Prof Hooi Den Huan, Vice-Dean (Masters Programs)  
 Assoc Prof Cao Yong, Vice-Dean (China Programs)

**Bioinformatics Research Centre (BIRC):**  
 Assoc Prof Liao Kin, Director  
 Assoc Prof Jagath C Rajapakse, Deputy Director  
 Assoc Prof Cai Yiyu, Deputy Director

**BioSciences Research Centre (BRC):**  
 Assoc Prof Peter Rainer Preiser, Deputy Director

**Biomedical Engineering Research Centre (BMERC):**  
 Assoc Prof Lim Chu Sing, Deputy Director

**Environmental Engineering Research Centre (EERC):**  
 Assoc Prof Stephen Tay Tiong Lee, Director  
 Assoc Prof Lua Aik Chong, Deputy Director  
 Assoc Prof Show Kuan Yeow, Deputy Director

## Visitors

The university had the honour of receiving these distinguished visitors recently:

Prof Xu Xiaohu, President, Shantou University, PRC  
 Prof Sir Richard Friend, Lee Kuan Yew Distinguished Visitor  
 Prof H Mettler, Rector, HSR Hochschule für Technik Rapperswil, Switzerland  
 Sir Llewellyn Edwards, Chancellor, and Prof John Hay, Vice-Chancellor and President, The University of Queensland, Australia  
 Dr Peggy Williams, President, Ithaca College, USA  
 Prof Zhang Changkuan, President, Hohai University, PRC  
 Prof Andrew Hamnett, Vice-Chancellor, University of Strathclyde, UK  
 Dr Wichit Srisa-An, Chairman, Education Committee of the House of Representatives of Thailand

We also hosted visiting delegations from Queen's University, Canada; King Saud University, Saudi Arabia; Wuhan University of Technology, Tsinghua University Press, and Shaoxing University, PRC; National Assembly of Korea and Jinju National University, Korea; Bandar Lampung University and Brawijaya University, Indonesia; Nakhon Sawan Rajabhat University, Rajabhat University, Bulapra University, Nakornpathom Rajabhat University, Phuket Rajabhat University, and Mahidol University, Thailand; Finance & Accounting College, Vietnam; and Centre for Knowledge, Communication & Technology, Universiti Sains Malaysia.

## Full professorship

Assoc Prof Xu Shuyan, Natural Sciences & Science Education Academic Group, NIE, has been promoted to Full Professor. Congratulations!

## National Day Awards 2004

# They've done us proud

**The Public Administration Medal (Gold)**  
 Prof Lim Mong King, Deputy President and Dean, College of Engineering

**The Public Administration Medal (Silver)**  
 Prof Lee Sing Kong, Dean, Graduate Programmes & Research, Graduate Programmes & Research Office, NIE

**The Public Administration Medal (Bronze)**  
 Mr Tai Kian Heng, Deputy Director, Office of Admissions; Assoc Prof Lim-Teo Suat Khoh, Associate Dean, Curriculum & FP Planning, Foundation Programmes Office, NIE; Mdm Zoe Boon Suan Loy, Teaching Fellow, Policy & Leadership Studies Academic Group, NIE

**The Commendation Medal**  
 Mrs Wong-Tang Wai Keng, Senior Manager (Personnel cum Research), School of Electrical & Electronic Engineering

**The Public Service Medal**  
 Mr Tan Ngee Kwan, Laboratory Manager, School of Mechanical & Production Engineering (Secretary, Lam Soon CCMC, Hong Kah GRC)

**The Efficiency Medal**  
 Miss Len Ah Chan, Secretary, School of Computer Engineering; Mrs Soh-Yong Sew Boye, Senior Executive Assistant, Office of Admissions; Mrs Lim-Ang Ah Buan, Senior Technical Executive, Natural Sciences & Science Education Academic Group, NIE

**The Long Service Medal**  
 Mdm Lee Puay Huang, Trainer, Special Training Programme, NIE; Mdm Lim Geok Choo, Trainer, Special Training Programme, NIE; Miss Tan Ah Hong, Teaching Fellow, Asian Languages & Cultures Academic Group, NIE; Mr William Oh, Technical Support Executive, Centre for IT in Education, NIE; Mr Harry Wu Heng Chye, Senior Driver, Director's Office, NIE



**Prof Lim Mong King**

## Success? It's passion

"Education has always been close to my heart," says Prof Lim, who received his third National Day award this year. On being conferred the Gold Public Administration Medal, he says humbly: "I have always been passionate about the work here, and the challenges motivate me." Prof Lim, Deputy President of NTU since 1997, has played a major role in facilitating NTU's transformation into a comprehensive university of global excellence. He leads the Dean Search for the three new schools, upholds academic standards in the schools, and develops interdisciplinary research, entrepreneurship and technology transfer. He is currently also Dean of NTU's 1,500-strong College of Engineering. Prof Lim chairs the Ministry of Education's University Academic Audit Committee, formed to oversee the implementation of a quality assurance framework for universities (QAFU).



**Prof Lee Sing Kong**

## He's aero-dynamic!

He has put temperate greens on our dining table, thanks to his multiple award-winning aeroponics technology. But Prof Lee, the world authority on tropical aeroponics, is also an adept administrator and a well-loved teacher at the National Institute of Education (NIE). Awarded a Silver Public Administration Medal this year, Prof Lee, Dean of Graduate Programmes & Research, has played a key role in streamlining work operations in NIE. In 1998, he led a committee that gave the institute its new organisational structure. Last year, he spearheaded NIE's Internal Economy Drive to support the Government's Economy Drive initiative, and also oversaw the establishment of NIE's consulting arm, Knowledge Horizon. "I have enjoyed every minute of my time here, even though the issues encountered may be challenging," he shares. Like Prof Lim, he feels "honoured and humbled" to receive top national honours this year.

## Correction

In the article, "Choice university, choice graduates" (NTU News, Jul - Sep 2004, cover story), we reported: "Compared with last year, 38% more top A Level students and an astounding 146% more top polytechnic students applied to be admitted to NTU." This is incorrect. The percentages apply to students who were actually admitted to NTU this year. We are sorry for the error.

# A mid-autumn night's dream

*Thousands strolled through Yunnan Garden, lanterns in hand, to celebrate the Mid-Autumn Festival on 24 September – easily one of the most picturesque nights of the NTU calendar*

When the NTU family came together to celebrate the Mid-Autumn Festival, traditionally a time of reunion, they turned Yunnan Garden into a fairyland of lights.

The lush gardens on campus, complete with pavilions, landscaped walkways and bridges, offered the perfect setting for the second Traditional Chinese Lantern Festival, organised by the NTU Students' Union, Chinese Society, and Cultural Activities Club.

Free paper lanterns were distributed to the first 1,500 visitors, and lively cultural performances added colour to the night, as did an exhibition on Chinese legends and festival-related food, games, crafts, and novelties.

Another attraction was a gigantic lantern concealing a pavilion in the middle of Yunnan Garden – a sight to behold next to hundreds of red lanterns which lit up when NTU President Dr Su Guaning flicked a switch.

Among the lantern-toting crowd were Nanyang Constituency residents and scores of international students and staff, some experiencing the celebrations for the first time.

