In an effort to meet the growing demand for trained biomedical engineers, NTU is collaborating with the Singapore General Hospital (SGH) to offer a new part-time Masters in Biomedical Engineering this July. This new course is believed to be among the first postgraduate-level courses in life sciences offered by a well-known technological university in collaboration with an established medical institution in the region. To be taught jointly by NTU professors and hospital consultants, it is also the first life science-related programme offered by the University in the area of biomedical engineering.

Already, a task force chaired by NTU President, Dr Cham Tao Soon, has been formed to look into the provision of more life sciences-related courses at NTU. This new Masters programme represents a strategic commitment of the University towards this aim.

The MSc programme is administered by the School of Mechanical and Production Engineering, and co-organised by the School of Applied Science and School of Electrical & Electronic Engineering. Besides the usual bio-medical subjects, the programme will also offer two unique subjects in Sports Engineering and Tissue Engineering. Sports Engineering, which focuses on using engineering and medical knowledge to maximise the performance of athletes, is probably being offered for the first time within such a specialisation in the world. The cutting-edge programme will be further enriched by the input of visiting professors from world-renowned universities brought in at intervals to enhance the Schools’ expertise.

The programme is targeted at engineers and medical professionals who wish to be equipped with the latest know-how in biomedical engineering technologies. Biomedical engineers provide an important link between the medical sciences and engineering technology, and have a major role to play in servicing the booming life sciences and healthcare industries.

Based on the 1999 Singapore Trade and Development Board (TDB) statistics, the life sciences industry in Singapore is now worth more than $9.4 billion. The medical devices sector is a high-growth sector that is expected to boom. Indeed, with a clear twin trend of an aging population and growing affluence in the world, trained personnel in the life sciences and healthcare industries will be hotly demanded.
The SMRT Professorship in Transportation Studies was officially launched on 13 January 2000 at Raffles Hotel Ballroom. The government will match, through the NTU Endowment Fund, $3 for every dollar donated. A matching grant of $1.5 million will accrue to the Professorship and another $3 million will be credited to the pooled endowment. So, the NTU Endowment Fund will effectively receive a boost of $6 million with Singapore MRT Ltd’s (SMRT’s) donation.

The donation, which will enable NTU to bring in internationally renowned scholars in the transportation field, is a recognition of the importance of research and development in transportation. With a constant infusion of specialised expertise and new ideas, local professionals can advance their knowledge of
Revamped Nanyang MBA to develop E-Commerce experts

Business enterprises in Asia are quickly reinventing themselves to stay competitive in the New Economy. Keeping up with the e-times, the Nanyang Business School has reinvented its Nanyang MBA programme to summon up E-Commerce and e-business savvy for the workplace.

“Success in the eBusiness world calls for a new mindset,” said NTU President, Dr Cham Tao Soon, on 28 January 2000 during a media briefing to announce the revamp of the Nanyang MBA programme.

And driven by this new business mindset, the Nanyang Business School (NBS) has now adopted E-commerce and transportation technologies. This is important as Singapore’s rapidly growing population and limited land area will pose new challenges for the public transport system here. Singapore’s Mass Rapit Transit (MRT) system is one of the world’s most successful implementations of an urban mass transport system. With the experiences of SMRT, a world-leader in mass transportation, to draw on, the Chair provides a unique opportunity for ground-breaking R&D. Potential research fields include rolling stock design and maintenance, noise and vibration mitigation, safety systems, ergonomics, and demographic forecasts, just to name a few.

SMRT is the first public transport service provider to endow a Professorship at NTU and the SMRT Professorship in Transportation Studies represents a landmark development for SMRT and NTU. Besides enhancing NTU’s reputation as a leading institution in transportation studies and research, it will enable SMRT to capitalise on resources in NTU’s Engineering Schools, the Centre for Transportation Studies, Nanyang Business School, the Global Positioning Systems Centre and the Centre for Advanced Numerical Engineering Simulations.

“Web-based business models will be taught in the reinvented Nanyang MBA programme”

Examples of new focus in core curriculum courses
Accounting – value of intangibles, performance of dotcom start-ups; share options incentive schemes
Economics – economics of information; network and knowledge-based businesses
IT – Internet technologies; knowledge management
Business Policy – web-based business models
Finance – new venture financing; valuation of dotcom companies
Marketing Management – marketing through digital and interactive channels
Organisational Behaviour – contingent workforce; virtual organisations

Courses in new E-Commerce specialisation
Technology Foundations in E-Commerce
Management of E-Commerce Projects
Digital and Online Marketing
Legal and Security Issues in E-Commerce
Strategic Planning and Design of eProcesses
Supply Chain and eLogistics
Enterprise Systems
eBusiness Forum

In the reinvented Nanyang MBA programme, new concepts, ideas and best practices for developing and implementing new Internet-based strategies have been woven into all nine courses in the core curriculum. In addition, eight new E-commerce electives offered in a new MBA specialisation in E-commerce will train leaders to lead the implementation of E-Commerce business models and new Internet-based start-ups. An eBusiness forum will see students integrating theoretical and practical knowledge to create new eBusiness entities.

Already, the School has revamped a course in the core Nanyang MBA curriculum, Business Policy, taught from October last year. Three classes were offered because of the high demand for it.

Speaking on the revamped MBA, Prof Neo Boon Siong, Dean of NBS, said: “There are no standard textbooks and established theory to draw from. Nanyang Business School has taken the lead in incorporating these new elements into our Nanyang MBA programme. We hope to create the change agents equipped with the concepts and skills to transform their organisations to compete in the new economy.”

Launched in 1991, the Nanyang MBA programme, which takes in 200 students per year, is well known for its global perspective and Asian focus, as well as its compulsory 2-week Business Study Missions overseas. The new eBusiness orientation and E-commerce specialisation will certainly reinforce the Nanyang MBA’s reputation for innovation and impact. For more information on the revamped Nanyang MBA programme, surf to http://www.nanyangmba.ntu.edu.sg/.

Web-based business models will be taught in the reinvented Nanyang MBA programme.
Triple win for NTU in local IT competition

In another show of software savvy, NTU seized three prizes, including the top prize, in the Singapore Advanced Research and Education Network (SingAREN) Distributed Applications Competition.

This is what NTU won in the recent SingAREN Distributed Applications Competition (DAC) sponsored by Sun/Netscape Alliance: the first prize, Best Java Application Award and a Merit Award. A laudable performance, considering that its winning teams had to contend with 19 other teams from Temasek Polytechnic and NUS, and that only seven prizes were awarded.

Deflating the competition were three teams from NTU’s School of Applied Science. The first prize was for a project entitled ABECOS: Agent-based Electronic Commerce System. For their superb efforts, the team won $2,000 cash plus a trip to the Java ONE conference to be held in Orlando, Florida this year. From the same School also came a Merit Award winner (project title: Distributed Interactive Simulation System) and the winner of the Best Java Application Award, for the best Java application developed (project title: Intelligent Online Network).

The DAC was launched in May 1999 to encourage the development of innovative high-impact broadband applications on SingAREN. Opened to all undergraduates, postgraduates and polytechnic students in Singapore, it attracted 22 projects spanning a wide range of applications. The final judging of the projects was done at NTU on 9 December 1999.

The Government has been proactive in its push for IT and a major part of it is encapsulated in the SingAREN project, launched in 1997, to create a high-speed broadband network platform to support R&D and advanced technology development in Singapore. Having deployed an advanced network infrastructure in Singapore serving local and international users from academia, research organisations and industry, the next phase is to drum up R&D of new innovative applications on SingAREN, the DAC being a good start. For more details on the competition and SingAREN, refer to http://www.singaren.net.sg/DAC/.

Wireless campus on the cards

Come December, the campus community will be saying “bye” to wires and cables, and “hi” to the mobile computing lifestyle of the future.

NTU is spending nearly $4 million to get staff and students wired up – minus the wires. By the end of this year, a high-speed campus-wide wireless infrastructure would have been put in place to allow them to log onto the Internet with just a portable computer and a wireless card that receives signals from transmitters installed at access points on campus.

There will be about 500 such access points, unaffected by physical obstructions, covering a radius of about 30m each. Said NTU President, Dr Cham Tao Soon: “Going wireless means students can access information instantly from worldwide sources.” This immediacy also gives unlimited computing options. For example, students can get wired from the canteens, hostels, library, lecture theatres, meeting rooms and open areas.

The project certainly revolutionises the way research and learning is being done on campus. Mr Low Kin Kiong, Director of NTU’s Centre for IT Services, envisions personal web portals coming onto the scene, creating a truly people-centred mobile-computing campus. “Personal web portals for every staff and student will make all online services easily accessible and customisable to individual needs.”

NTU’s campus-wide wireless computer network, when completed, will be one of the firsts in Asia.
The inaugural NTU-JC Challenge is over, but judging by the output created, students will not be closing their minds and books on the subject of satellite technology so soon.

The first NTU-JC Challenge organised by the NTU Career Guidance Committee ended with a Grand Finale at NTU’s new Nanyang Auditorium on Saturday, 12 February 2000. The Challenge, launched in mid November 1999, attracted about 250 students from 14 junior colleges (JCs) and Jurong Institute to work on three difficult satellite-related problems posed by NTU professors. To solve these problems, the students had to investigate the physics and mathematics behind orbiting satellites, develop computer software to perform satellite tracking and image downloading, and create innovative applications using satellite technology.

The end results of all participating teams were featured in an exhibition at the foyer of the auditorium. The Guest-of-Honour, RAdm (NS) Teo Chee Hean, Minister for Education and Second Minister for Defence, gave away the best technical, the most novel application, and the best presentation awards to Hwa Chong Junior College, Catholic Junior College and National Junior College respectively. Each award came with a crystal trophy and a cheque for $2,500 sponsored by SingTel. The exhibition booths of these three winning teams were featured at “The Learning Metropolis” exhibition held from 7 to 11 April 2000 at the Singapore International Convention and Exhibition Centre.

The Grand Finale also featured a keynote address entitled “Watching Weather from Space” by Mr John Low, a senior R&D officer from the Meteorological Service of Singapore. NTU President, Dr Cham Tao Soon, urged the students not to let their intimate experience with satellite technology end with the Finale. He added: “Who knows, maybe some of you will be able to participate in the design and construction of the first satellite to be completely built in Singapore by NTU!”
The fine art of micromachining

NTU's new laser micromachining system — a world's first — heralds in the next generation of disc technology

Carrying a CD the size of a 50-cent coin is a novel idea that is not yet a reality but a possibility made real with NTU's successful laser micromachining system. While the CD is not likely to shrink in size, it will be able to hold up to 14 times its present capacity with this breakthrough.

The Precision Engineering Strategic Research Programme (PESRP) of the School of Mechanical and Production Engineering has invented a laser micromachining system that is capable of reaching a sub-micrometer range using ultra-fast laser pulses. Superior to the conventional laser micromachining systems, this new method of laser beam scanning, patented in May 1999, is able to scan at resolutions of up to 1-10nm.

What makes an added difference in this new laser beam scanning system is that no mechanical motion is involved during the entire machining process. Without these mechanical movements, errors from vibration and backlash will not occur. While reaching a higher resolution, scanning can now be more accurate and repeatable.

The most attractive part about this system is its cost-effectiveness. For instance, in data storage industries such as those which deal with CDs, VCDs, CD-Roms, and DVDs, the cost of current systems that create master copies of products is between $1.5 to $2 million. With this new system, the cost goes down to one fifth the price.

This new technology has considerable implications for the data storage industries and NTU has taken the lead in charting the way for the next generation of disc technology.

SCS-NTU and AMIC forge closer ties

Six years after signing an MOU on academic research and collaboration, NTU's School of Communication Studies (SCS) and the Asian Media Information and Communication Centre (AMIC) sign a Memorandum of Agreement to enhance their level of collaboration

A 1996 Agreement was signed between SCS and AMIC to develop and strengthen cooperation and interchange in research and academically related activities. The new Memorandum provides additionally for the sharing of services and resources. The AMIC/SCS Resource Centre, with a collection of over 40,000 records, can now be fully accessed by SCS faculty and students.

Joint publication of periodicals and books will be increased. The Asian Journal of Communication, which has been a joint publication with SCS since its launch 10 years ago, will be supplemented with the bi-monthly Asian Mass Communication Bulletin (AMCB) and the quarterly, Media Asia, which will also be joint publications hereafter. AMCB is now in its thirtieth year and Media Asia in its twenty-sixth year of continuous publication. The School and AMIC have jointly published several books, the latest being Information Highways in ASEAN: Policy and Regulations. More joint publications are planned.

In the area of research, the School will work more closely with AMIC, which has played a pioneering role in promoting communication research in the region. This will be in keeping with the School's objective of becoming "a premier research institute that generates analyses of communication topics and policy issues important to Singapore and the region."

AMIC, which is located in the School of Communication Studies building, was set up in 1971 with the support of the Government of Singapore and the Friedrich Ebert Stiftung of Germany. The German Foundation has phased out its funding from this year. In view of the synergy that has developed over the years, the School has agreed to extend its support to AMIC for its documentation, publications and research activities. This opens the door to a new era of collaborative activities.
After four years, Senior Minister Lee Kuan Yew was back at NTU on 15 February 2000 to give a talk to both NTU and NUS students at the new Nanyang Auditorium. The Ministerial Forum, organised by the NTU Students’ Union Ministerial Forum Organising Committee in association with the National University of Singapore Political Association, received overwhelming response. By 8pm, some 2,000 NTU and NUS students had already settled in the auditorium.

Mr Lee kicked off the evening with a 20-minute talk entitled “How will Singapore compete in the global economy?” where he urged Singaporeans to be more enterprising and daring in order to compete with other countries in the global league. With the digital revolution, international players now compete against us in our region. So, businesses and workers in Singapore have to be prepared to produce top-class business leaders and other talents who can measure up to the competition and better it, he said.

During the Q & A session, Mr Lee touched on topics like the impact of globalisation on Singapore society, the possibility of having a two-party system here, the changing culture of young Singaporeans, and the need to create the right social ambience to foster enterprise and derring-do among our young. Going cosmopolitan, he said, also means imbibing the best from the world while readying ourselves to counter any undesirable foreign influences. In the rush to dotcom or go global, Singaporeans must not lose the sense of community and national identity binding them as a nation. The Forum ended at 10.30pm, and all took home many valuable lessons from the venerable statesman himself.

A new mechanical engineer

The process of evolution has left its indelible mark on the mechanical engineer. As the world becomes more sophisticated in its demands for better products and services, the traditional mechanical engineer is metamorphosing

One of the facets of this emerging engineer comes in the form of an engineer who has imbibed the philosophy of mechatronics, which is an integration of mechanics, electronics, and computer and software engineering. The synergy of this multidisciplinary approach allows engineers to exploit the power that comes with using computer and software algorithms with their traditional craft and knowledge. A mechanical system cannot include these new additions only as an afterthought, which should, instead, be part of the design.

When engineers with the mechatronics specialisation graduate, they will be able to take on challenges in various industries such as consumer electronics, precision engineering, semiconductor fabrication and mass data storage. They will have the skills to design and manufacture products and systems that are very complex and sophisticated, yet cost effective and functional.

In July 1999, the School of Mechanical and Production Engineering offered for the first time a Mechatronics Specialisation in its B.Eng (Mech) programme to 71 students from both first year common engineering and direct entry (polytechnic diploma) students. Both did the same mechanical engineering subjects before being introduced in stages to the theory and practice of mechatronics. For more information on mechatronics, surf to http://www.ntu.edu.sg/mpe/What’s_New.html.

No, this is not the new mechanical engineer but a mechanical spider that is actually a high-tech robot with 10 “brains”. It was built by final-year students taking the mechatronics specialisation at NTU.
In conjunction with the NTU Millennium Celebration, NTU kicked off the staff healthy lifestyle programme with a mass walk on Saturday, 15 January 2000. NTU President, Dr Cham Tao Soon, was the Guest-of-Honour. Addressing a crowd of about 400 staff, he touched on the importance of healthy living and also announced the formation of a healthy lifestyle committee to look into encouraging healthy habits at the workplace. After the President’s address, staff were led in a warm-up before the mass walk around the picturesque Yunnan Garden campus.

The following week, three lunchtime talks (with healthy lunch provided) were held at LT 8. More than 500 staff attended the talks. A health screening conducted by the National Kidney Foundation (NKF) received overwhelming support from about 160 staff. There were also exhibitions and sales of health supplements and sports wear. Some gutsy staff even joined students in their annual fund-raiser with the NKF - a 120km bicycle rally round Singapore!

Finally, the grand finale of the week! A total of 29 teams took part in the 2000km Road Relay Challenge Run on Saturday, 22 January 2000. Three categories of teams - staff, junior colleges, and tertiary institutions and invited organisations - with 6 to 10 runners each, were to complete 100 km (for the men) or 50 km (for the women). NTUC cash vouchers were awarded to the top four teams in each category. Everyone had great fun and made new friends. In fact, as Dr Cham had pointed out during his speech, this event was also a platform where bridges were built for future partnerships.
A potpourri of Asian film

The three-day Asian Film Festival at NTU was a complete sell-out, and part of its prized collection of Asian films was delectably experienced “under the stars.”

The School of Communication Studies (SCS) recently staged NTU’s first film festival, Asian Images, Asian Voices. Organised in conjunction with the NTU Millennium Celebration, the festival was a three-day event held from 28 - 30 January 2000.

For the occasion, the amphitheatre at SCS was transformed into an open-air cinema. Next to it were stalls selling satay and kacang putih, a hark back to the good old days. Chairs lined the second and third floors overseeing the amphitheatre where the screen was placed.

Judging from the demand for tickets, it was a hugely popular event. Teo Wai Chin, the ticketing coordinator, recalled: “It was like the Hello Kitty phenomenon, minus the violence.” Tickets for each of the eight sessions were snapped up within two hours of release.

A total of seven feature films were screened over the weekend - representative works from several Asian locations, namely, Eating Air (Singapore), Children of Heaven (Iran), Tempting Heart (Hong Kong), 303 Fear Faith Revenge (Thailand), Banana Paradise (Taiwan), and A Scene at the Sea (Japan). The festival also featured a film from Australia, Floating Life, which was chosen for its sensitive portrayal of the Chinese/Hong Kong diaspora in Australia. Primary school teacher Sylvia Lee was impressed with the film selection and was “swept away by the experience of watching movies in the open again.”

A Local Filmmaking Showcase aimed to promote local filmmakers and their works, and to cultivate an appreciation for them. In addition to Eating Air, it featured award-winning shorts by young independent filmmakers here such as Moveable Feast, Datura, Pariah’s Diary, Another Guy, Senses, and Singapore… Dream. Patrons of the festival were also treated to a forum with these filmmakers. Abdul Nizam, Director of Datura, observed that although Singapore had the infrastructure for a feasible film industry, it lacked “a ‘feel’ for filmmaking.” Nizam’s advice to aspiring filmmakers: do not be afraid to make mistakes.

Asst Prof Tan See Kam, the overall coordinator of the festival, was happy with its outcome. For him, such an occasion added to the cultural vibrancy of university life. “Film is an indisputable part of the cultural and intellectual life of any world-class university,” he said.
The key to safer e-shopping: your face

Why isn’t Internet shopping taking off in a big way? School of Applied Science (SAS) researchers, Dr Maylor Leung, Dr Hui Siu Cheung, Mr Gao Yongsheng, Ms Wang Wei and Mr Lim Ching Hor, reckon the bugbear is the security issue. In e-shopping, it is difficult to verify the identity of the e-shopper as the buyer’s signature cannot be produced on demand. Furthermore, it is easy to impersonate another’s identity by using a stolen credit card number when making online payments. True enough, credit card frauds have been reported all over the world.

Relying on biometrics, i.e. using a person’s unchangeable physiological or behavioural characteristics in user verification, the research team has developed a superior and novel face recognition system called FaceID. When devising the face recognition algorithm, the following factors were considered: the ability of the technique to handle large databases, insensitivity to viewing orientation and illumination, and fast response time. FaceID measures up, as it can handle large databases, is robust under changing lighting conditions and facial expressions, and has a verification processing time of less than half a second.

This unique technology sprung from research initiated at the Centre for Graphics and Imaging Technology, SAS. Developed over two and a half years, it is now in the process of being commercialised. Two useful applications are in secured electronic shopping and secured online banking using ATM Machines.

In secured e-shopping, the e-shopper’s credit card number and face image data captured by a video camera located on the PC are encoded, encrypted and transmitted via Internet to the bank or credit card server for verification and payment. At the bank or credit card server, the face image code associated with the credit card number is retrieved from the face image code database and then matched with the received face image code captured from the e-shopper using the FaceID algorithm. A positive verification gives the go-ahead for the intended transaction.

In a secured Online Banking System (SOB) using ATM machines, the camera is installed in a normal ATM machine. The user’s face is captured on camera after his/her ATM card is inserted and the pin number entered. The face image is then encoded and transmitted to the bank server for recognition.

Better slabs for high-rise residential buildings

An NTU-BCA research collaboration aims to generate a comprehensive and reliable design approach for the flat-plate slab system, which has superior buildability and economy

The School of Civil & Structural Engineering (CSE) at NTU and the Building Construction Authority (BCA) have been jointly conducting research on the flat-plate slab system for high-rise residential buildings in Singapore. The joint research programme aims to generate a comprehensive and reliable design approach for the flat-plate slab system to support construction industry practices and to fill the gap between theory and practice in this area.

The flat-plate slab refers to a reinforced concrete slab (floor) of uniform thickness that is supported directly on columns without the use of intermediate beams. The support columns are normally placed on regular layout (spacing) and the cross sections of the columns are mainly square. This type of floor slab reduces construction time considerably and makes for more economical buildings. The flat-slab system in now widely used in high-rise residential developments.

Currently, the available building codes cannot cater for flat-plate slabs with very rectangular (elongated) columns, irregular column layouts, or large openings near the columns. Thus, a clear and reliable design approach is urgently needed. Leading the research is Assoc Prof Susanto Teng from CSE. Other team members include CSE staff, Dean Prof Cheong Hee Kiat, Assoc Prof Lee Sai Cheng and Asst Prof Paulus Irawan; Mr Steven Cheong, an engineer from BCA; and several postgraduate research students of CSE.

Fifty full-scale slab specimens have been tested within the past two years. A 7-column, 5.5m x 7m, floor specimen was analysed and tested under various loading combinations to take into account loading cases in actual practice. A large 15-column floor specimen was also built in February and recently tested in April 2000.
Following the success of the first International Conference on Information, Communications and Signal Processing (ICICS) held in September 1997, the School of Electrical and Electronic Engineering was determined to make the second conference as successful as, if not better than, the first one.

The theme of the conference was "Information Systems Engineering and Multimedia Communications for the next Millennium". Proving to have great appeal, the conference, held at the Mandarin Hotel from 7 – 10 December 1999, attracted 498 abstracts and over 300 conference delegates from 28 countries. It was opened by NTU President, Dr Cham Tao Soon.

At the conference, it was noted that Information Systems Engineering and Multimedia Communications would play a critical role in technological developments globally in the coming millennium. Already, the present Internet is being advanced. Soon, LEO satellite constellations and 4th and 5th generation terrestrial mobile communication systems will provide truly wireless multimedia services. Further developments in microwave, digital signal processing and information technologies will no doubt lead to the emergence of ubiquitous wireless personal communications in the foreseeable future.

A legendary researcher and two world renowned professors delivered inspiring keynote speeches, namely: Dr Bishnu Atal, Fellow of AT&T Shannon Laboratories, Prof Jan Rabaey of University of California at Berkeley, and Prof Hamid Aghvami of King’s College, London, respectively.

In conjunction with the conference, the Surrey Space Club, chaired by Prof Martin Sweeting, held their second Forum which was attended by His Excellency, Mr Toheed Ahmad, High Commissioner of Pakistan, and other distinguished personalities from around the world. Representatives from NTU and local organisations also participated in this international meeting.
Arriving 2002

Research Techno Plaza

This new R&D hub is designed to facilitate multi-disciplinary research on campus - and to reflect the future glory of the University

An early artist’s impression of the proposed Research Techno Plaza

In two and a half years’ time, NTU will have a $25 million one-stop research centre that will be a thriving hotbed of multidisciplinary research activity, housing various research centres at NTU. This new Research Techno Plaza is envisaged to be a mini Silicon Valley, serving as a focal point for NTU researchers, budding entrepreneurs, industrialists, investors, and venture capitalists. It will occupy a floor area of 20,000 sq metres on the land adjacent to the Nanyang Auditorium and Block S1 (School of Electrical and Electronic Engineering), with vehicular access from Nanyang Drive.

The building complex consists of a combination of two major component blocks: a rectangular block of six storeys and a squarish block of eight storeys, both linked. A glass-fronted atrium/foyer will face Nanyang Drive. Apart from research centres, the Research Techno Plaza will also house some staff rooms and meeting rooms. The first storey will include exhibition and display areas, an on-line conference room, and administrative offices. A 113-seat lecture theatre will complete this new development on campus.

NTU Executive Centre

Taking NTU one step closer to becoming a self-contained learning and research hub is this purpose-built professional training centre with residential facilities

Come 2002, a brand new nine-storey NTU Executive Centre will also grace our Yunnan Garden campus. Conceived to meet the regional demand for professional training at a well-known technological institution, this centre is to be differentiated from the NTU Executive Centre presently located downtown at 268 Orchard Rd. While the one downtown is a temporary NTU extension until a larger, permanent city campus is built in 5 years’ time, the as yet unbuilt NTU Executive Centre on the Yunnan Garden campus will be a permanent fixture.

A one-stop training centre with residential facilities, the new $30 million NTU Executive Centre will have 200 guest rooms, a 200-seat lecture theatre, classrooms, and meeting rooms. According to NTU President, Dr Cham Tao Soon, the proposed NTU Executive Centre meets a growing need for a residential training centre on campus, where short courses and seminars can be conducted in a conducive and self-contained environment for participants, many of whom come from Asian countries. Currently, executives attending short courses on campus stay in hotels downtown. With the new training centre up and running in 2002, participants can enjoy lower course fees, a greater variety of courses, and at-your-doorstep convenience.

Course participants will also value the centre’s strategic position on campus. When ready, it will be next to the recently refurbished NTU Staff Club, which now boasts a gym, karaoke lounge, function room, and a restaurant. And a mere stone’s throw away will be the NTU Sports and Recreation Centre.
Taking vertical step climbing to new heights

The National Vertical Marathon organised by NTU got runners to dizzying heights – up one of the tallest buildings in Singapore, in fact

Did you know that the annual National Vertical Marathon held at the OUB Centre on 27 February 2000 was organised by the NTU Sports Club? The Club’s effort to promote the sport of vertical step climbing was immensely successful; the event attracted not only our students but also a large group of people outside campus. Out of the 900 participants, only 200 were from NTU.

There were 5 categories: Men’s Open, Women’s Open, Mixed Open, Inter-JCs and Inter-Statutory Boards. Mr Ernest Gion Ng won in the Men’s Open category in 7 minutes 55.69 seconds. Not surprisingly, he was also the champion at last year’s vertical marathon. Ms Lim Le Anne came in first for the Women’s Open in a record 11 minutes 46.34 seconds. Jurong Junior College and HDB won in the Inter-JCs and Inter-Statutory Boards categories respectively.

Assoc Prof Ho Peng Kee, Minister of State for Law and Home Affairs, and the Guest-of-Honour, was invited to give out prizes to the fatigued but blissed-out winners.

All things Chinese...

... revived! A bygone era was revisited at the Chinese Cultural Festival, and what a feast for the eyes, ears and stomach

With the intention of introducing the Chinese culture to NTU staff and students, the Chinese Society organised the Chinese Cultural Festival 2000 from 17 – 28 January 2000. This is the biggest annual event organised by the Society to date.

The Festival started with a simple opening ceremony by the Guest-of-Honour, Prof Chew Cheng Hai, Director, Centre for Chinese Language and Culture. A three-day Chinese Cultural Exhibition and several interesting quizzes and competitions were held concurrently. The exhibition featured famous persons during the period of “Zhan Guo” (e.g. Kong Zi and Lao Zi) and ancient coins. Besides the exhibition, there were also quizzes on the contents of the display and a video presentation. Through the exhibits, several Chinese cultural associations outside campus were introduced to the students. There were fun competitions too – the Chinese Calligraphy Competition, Chinese Puzzles, Lantern Riddles and Lanterns Counting.

One of the highlights of the Festival was the setting up of a Chinese Cultural Street at the linkway between the North and South Spines. This brought together all forms of Chinese arts and handicrafts, food, and traditional games. For example, Chinese medicine, prominent Chinese festivals and the making of glutinous rice balls (“Tang Yuan”) and Dragon Beard candy were introduced. To conclude the Chinese fiesta, a mini bazaar, showcasing traditional food and games, was held at the carpark in front of the Chinese Heritage Centre.

“Glowing in the Dark” is back!

Glowing in the Dark is a concert organised annually by the NTU Welfare Services Club. It seeks to raise public awareness about the disabled as well as to raise funds for participating organisations. In a wonderful evening of manifold talents, dreams and pursuits, watch the glowing faces of the disabled as they show the public that though disabled, they are certainly not helpless. This year, the magic will happen at Kallang Theatre, with participants from 10 organisations taking to the stage:

**Spastic Children Association of Singapore** *Chao Yang Special School* *Katong Special School* *Minds Youth Group* *Teuch Uhi Hotel* *Lee Kong Chian Garden School* *Jervois Special School* *SUN-DAC Centre For the Disabled* *Handicap Welfare Association* *Down Syndrome Association*

An exhibition and mini-fair will be held on two weekends before the concert to tell you more about it, as well as to give the disabled a chance to raise funds by selling their own handicrafts. Here are the details of both events:

**Exhibition venue** : Suntec City

- **Date**: 1 & 2 July (Sat & Sun) Galleria Dome, near Olio Dome
- **Date**: 8 & 9 July (Sat & Sun) Entertainment Centre, near Carrefour entrance

- **Time**: 10am – 8pm

**Concert venue** : Kallang Theatre

- **Date**: 16 July (Sun)
- **Time**: 7pm
- **Ticket prices**: $10, $12

For general enquiries, please contact Claudia Sim at 9700 0995 (pg). For ticketing information, please contact Tan Su Fern at 9697 8648 (pg).
International experts give public lectures

As part of the NTU Millennium Celebration, NTU has been inviting eminent academics and well-known experts from prestigious universities and organisations worldwide to speak, in a series of public lectures, on a variety of exciting topics. The first in the line-up of lectures was delivered by Albert Winsemius Professor, Prof Tae Hoon Oum, who spoke on Global Strategic Alliances and Partnerships at LT 2 on 13 January 2000. His lecture focused on strategic alliances and inter-firm partnerships in globalising industries such as the airlines, telecommunications, and electronics industries. He is from the Faculty of Commerce and Business Administration at the University of British Columbia, Canada, where he specialises in policy analysis, demand modelling, cost and productivity analysis, globalisation, and competitiveness issues of the transportation and telecommunications industries.

Shaw Professors, Prof Paul S Goodman and Prof Denise M Rousseau spoke on New Forms of Organising and the Boundaryless Career. Their talk, the second one in the line-up of public lectures, was held at LT 25 on 7 March 2000. Prof Goodman, an international expert on new forms of work groups, described successful practices in “exocentric” teams where temporary work groups combining people inside and outside the organisation increasingly perform the work of the core business. Prof Rousseau, an international expert on the changing employment relationship, described new forms of employment relationships worldwide, giving due attention to the rise of “boundaryless careers”. Prof Goodman is a Professor of Organisational Behaviour and Theory and Psychology, while Prof Rousseau has researched extensively on the impact of the new economy on the workforce.

NIE-NTU hosts 4th ‘English in Southeast Asia’ conference

On 22 - 24 November 1999, the Division of English Language and Applied Linguistics (ELAL) hosted the fourth English in Southeast Asia conference at Raffles Building, National Institute of Education (NIE). About 250 people attended, including participants from as far away as the UK, USA, Canada, Taiwan, Hong Kong, Australia and New Zealand. An impressive line-up of speakers was programmed, including Prof Ronald Carter, Prof Frances Christie, Prof Sandra McKay, Prof Jack Richards, Prof Ted Rodgers, Prof Ian Malcolm and Dr Beverley Sommerville, who taught participants how to incorporate the Internet into their newsgathering efforts. The goal of the workshop was to upgrade the journalists with basic economic knowledge, and news-writing and Internet skills. That way, they would be better able to provide their audiences with a deeper level of reporting on various environmental issues.

Developing strategies for reporting environmental economics: Asst Prof Brian Massey guides two participants

SCS: venue for regional workshop on environmental economics

A workshop for journalists writing about economics-and-environment was held in Singapore from 16 - 17 November 1999 at the Regional English Language Centre (RELC) and the School of Communication Studies (SCS). It was attended by newspaper and news-wire agency journalists from throughout Southeast Asia, as well as from the People’s Republic of China and Papua New Guinea. The workshop was sponsored by the Asian Media, Information and Communication Centre (AMIC) and the Economy and Environment Program for Southeast Asia (EEPSEA). Two SCS faculty members, Asst Prof Joseph Sommerville and Asst Prof Brian Massey, served as trainers in the workshop. They taught journalists about the economic consequences of environmental policies and disasters. Asst Prof Massey imparted basic news-writing skills and specialised environmental-reporting techniques while Asst Prof Sommerville taught participants how to incorporate the Internet into their newsgathering efforts. The goal of the workshop was to upgrade the journalists with basic economic knowledge, and news-writing and Internet skills. That way, they would be better able to provide their audiences with a deeper level of reporting on various environmental issues.

Come to the IMARC Executive Summit 2000

For cutting-edge views and news on “Strategising and Implementing E-Commerce”

The Information Management Research Centre (IMARC), Nanyang Business School (NBS), is organising the first IMARC Executive Summit 2000, a mini-conference targeted at the industry from 28 - 30 June 2000 at the Grand Hyatt, Singapore. This event, the first in what will be an annual highlight of IMARC, is structured to bring together CEOs/top management, heads of business functions/senior IT-users and CIOs/senior IT executives from participating organisations for updates on E-Commerce and related IT management issues. The programme will consist of lectures and exercises/workshops as well as moderated discussions facilitating peer learning. The first half-day is targeted at CEOs and top management. The rest of the programme is targeted at both the CIOs and business function heads. For maximum effectiveness, the summit will be restricted to organisations and individuals who meet specific criteria.

Senior NBS/IMARC faculty members including NBS Dean, Prof Neo Boon Siong, will present current research results, concepts and ideas on the theme of the conference - along with three distinguished guest speakers:

• Prof David Feeny from Templeton College, Oxford University, who will deliver a session on Leadership for E-Business targeted at CEOs.
• Prof M Lynne Markus from Peter F Drucker Graduate School of Management, Claremont Graduate University, who will deliver a session on E-Systems and E-Business targeted at CIOs and business function heads
• Mike Mobley, Managing Director of Integrated Project Systems (a highly reputed IT project management international consulting firm) who will moderate a workshop on Implementing E-Commerce Projects.

For more information, contact Assoc Prof K Pelly Periasamy (email: apelly@ntu.edu.sg; tel: 790 6164).
The University welcomes the following new staff members:

**Nanyang Business School**
- Assoc Prof Chandraekrishna Krishnamurthy
- Assoc Prof Yap Yau Leong
- Assoc Prof Lee Chack Chye
- Assoc Prof Tan Siew Koh
- Mdm Teo Yew Kei
- Mr Tong Yen Hwee
- Prof Dennis J M Rousmaniere
- Prof Paul S Goodman
- Prof Albert William Richardson
- Prof Chang Hsiufang, Otto
- Prof Ferdinand Allehe Guil
- Dr Yang Joon-Mo
- Dr Kang Jie Soon
- Dr Tan, Diana
- Mr Victor Cuney
- Dr Waptey M Aballah
- Prof (Adj) Allen Joseph Patnamarajah
- Assoc Prof (Adj) Tan Wei Chwee
- Dr Geetha Pillayakumal Ramaswamy
- Mr Hong Choon Poh
- Mr Hamidin Singh
- Mrs Tan-Liew Wai Chuan

**School of Applied Science**
- Assoc Prof Lui Ming-Kee, Edmund
- Assoc Prof Pang Chink Ming, Alvin
- Assoc Prof Tan Yong Jun
- Mdm Zhang Ruiling
- Mdm Song Mei Chai
- Mr Bimal Goshain
- Mr Ng Kow Leong Dickson Lai Cheung Yip

**School of Chemical and Civil Engineering**
- Assoc Prof Lim Teik Tye
- Mr Venayapampillai Shumangayanan
- Dr Hoong Ewe Ji
- Dr Li Ailing
- Dr Qian Guangren
- Dr Zhong Dengyang
- Mr Lai Kwok Leong Dickson Lai Cheung Yip

**School of Communication Studies**
- Mdm Nicole Lorraine Draper
- Prof Irfan Pang
- Assoc Prof (Adj) Chong Wing Hong
- Assoc Prof (Adj) Jose Maria Galan Carlos
- Assoc Prof (Adj) Sub Wie Ming, Felix

**School of Electrical and Electronic Engineering**
- Assoc Prof Tran Phann Xuan
- Assoc Prof Chen Teply
- Assoc Prof Phuoc Phoung Minh Pans
- Assoc Prof Shum Ping
- Assoc Prof Tan Yue Ping
- Prof Stephen Yee-Hong Su
- Prof Taxai
- Dr Michael Ernest Fisher
- Dr Shael Aditya
- Dr Chua Venkata Gopal Reddy
- Dr He Xinfeng
- Dr Li Hongjie
- Dr Tan Kai Ann
- Dr Yu Yabin
- Dr Chen Jingsheng
- Dr Luo Gang
- Dr Shantham Kumar Padhi
- Dr Zhong Yang
- Dr Zhao Guangyu
- Dr Feng Shaowei
- Mdm Shih Jianfeng
- Mr Tan Zhijie
- Mr Chen Lai Fang
- Mr Yu Ronghui
- Prof Nguyen Dinh Thong
- Miss Woei Nee Lay

**School of Mechanical and Production Engineering**
- Assoc Prof Yen Yee Foo
- Assoc Prof Liu Yong
- Assoc Prof Yang Chuan, Charles
- Dr Lu Jiaobiao
- Dr Sudarmanani Sundharmani
- Dr Xu Junjiang
- Mdm Chen Jun Wei
- Mdm Cheng Ching Phoo Choo

**School of Arts**
- Assoc Prof Qade Sy Ren
- Assoc Prof Norhabida Bte Aman
- Miss Khor Grace Hooi
- Miss Chia Ti Yong, Alexius
- Miss Ng Choo Heng
- Miss Woei Bee Choon
- Ms Jane Margaret Pernagard
- Mrs Anne Frances Warr
- Mdm Aw Guat Phu
- Miss Emeline Christinelle Puynt

**School of Education**
- Assoc Prof Lee Eng Kim
- Dr Elwyn Thomas
- Mdm Lim Chee Ping
- Mdm Thane Lai Siew Thayer
- Miss Choat Guat Khieng
- Mr Wan Fared
- Mdm Leong Ping Ping
- Mdm Lai Long Long

**School of Physical Education**
- Mr Kowsari B Kauswawan

**School of Science**
- Assoc Prof Cheang Wai Kong
- Mdm Ho See Yim, Catharine

**Deputy Presidents’ Office**
- Miss Ng Ai-Leen
- Miss Tan Lai Tze

**Library**
- Mr Tan Chiang Wee
- Trainer Librarian

**School of School of Continuing Education**
- Mr Abdur Rahim Bin Awad
- Mrs Mai Ng-Bee Lian

**Alumni and Endowment Office**
- Miss Suat Huai Choo

**Centre for Chinese Language & Culture**
- Mr Tan Soon Chiong
- Mr Seri Biom Chong

**Network Technology Research Centre**
- Mr Dari Sharony
- Miss Siew Kiong Ivy

**Centre for Service to the University**
- Mdm Tan Siew Lian

**Centre for Defence & Strategic Studies**
- Prof Kiat Sin Wai

**Centre for Information Technology**
- Mr Lim Ching Hee
- Mr Tan Wee Beng
- Miss Tan Kim Guen, Ivy

**Associate Professor**
- Assoc Prof Patricia Wong Jia Yiing from the Division of Mathematics, School of Science

**Assistant Professor**
- Assoc Prof Srikanthan Thambipillai – Vice-Dean, School of Science
- Assoc Prof Ng Chuan Yee – Head, School of Physical Education
- Assoc Prof Koh Hian Chye – Head, School of Science
- Assoc Prof Lim-Teo Suat Khoh – Head, Division of Mathematics, School of Science
- Assoc Prof Geraldine Chia – Head, School of Science
- Assoc Prof Lee Chun Wah – Head, School of Science
- Assoc Prof Lee Sing Kong – Head, School of Science
- Assoc Prof Lim-Teo Suat Khoh – Vice-Dean, School of Science
- Assoc Prof Koh Hian Chye – Head, School of Science
- Assoc Prof Geraldine Chia – Head, School of Science
- Assoc Prof Lee Chun Wah – Head, School of Education
- Assoc Prof Lim-Teo Suat Khoh – Vice-Dean, School of Science

**Research Fellow**
- Prof S Gopinathan – Head, School of Science
- Assoc Prof Koh Hian Chye – Head, School of Science
- Assoc Prof Lee Chun Wah – Head, School of Education
- Assoc Prof Lim-Teo Suat Khoh – Head, School of Science
- Assoc Prof Koh Hian Chye – Head, School of Science
- Assoc Prof Lee Chun Wah – Head, School of Science
- Assoc Prof Lim-Teo Suat Khoh – Head, School of Science

**Assistant Director**
- Mr Kong Yew Chye, a Senior Officer (Grade 1), has been seconded from the Ministry of Education for a period of 2 years wef 1 February 2000.

**New Appointments**

The President of NTU has made the following re-appointments:

- Assoc Prof Yeo Chuan Song, Victor – Head, Division of Business Law, Nanyang Business School
- Assoc Prof Tan Ming Shiang, Patricia – Head, Division of Financial & Management Accounting, Nanyang Business School
- Assoc Prof Geraldine Chia – Head, Division of Corporate Services, Nanyang Business School
- Assoc Prof Choo Tiek Min – Vice-Dean (MDM), Nanyang Business School
- Assoc Prof Koh Hian Chye – Vice-Dean (Business), Nanyang Business School
- Assoc Prof Gillian Yeo – Vice-Dean (Academics), Nanyang Business School
- Assoc Prof Patrick Koh – Sub-Dean, Nanyang Business School
- Assoc Prof Lim Chuan Wah – Head, Division of Public & Promotional Communication, School of Communication Studies
- Assoc Prof Srikanthan Thambipillai – Director, Centre for High Performance Embedded Systems
- Assoc Prof Chang Chee Khoong – Deputy Director, Centre for High Performance Embedded Systems

Director, NIE, has made the following appointment:

- Assoc Prof Lim-Tian Siew Suat Khoo – Head, Division of Mathematics, School of Science

**Re-appointments**

The President of NTU has made the following re-appointments:

- Prof Leo Tan – Director, NIE
- Prof Koh Tian Ann – Dean, School of Arts
- Prof S Gopinathan – Dean, School of Education
- Assoc Prof Quek Jiai Hong – Dean, School of Physical Education
- Prof Leo Tan – Dean, School of Science
- Assoc Prof Christian Lee – Vice-Dean, School of Arts
- Assoc Prof Vilma D’Rozario – Vice-Dean, School of Education
- Assoc Prof Tan Koh Sock Ming – Vice-Dean, School of Physical Education
- Assoc Prof Lim-Tian Siew Suat Khoo – Vice-Dean, School of Science

- Assoc Prof Geraldine Chia – Head, School of Science
- Assoc Prof Koh Hian Chye – Head, School of Science
- Assoc Prof Lim-Teo Suat Khoh – Vice-Dean, School of Science

Director, NIE, has made the following re-appointments:

- Prof S Gopinathan – Head, NIE Centre for Educational Research
- Assoc Prof Lee Sing Kong – Head, Division of Biology, School of Science
- Assoc Prof Lee Sing – Head, Division of Physics, School of Science

**Transfer**

Asst Prof Patricia Wong Jia Yiing from the Division of Mathematics, School of Science, has been transferred to the School of Electrical and Electronic Engineering, NTU wef 1 January 2000.
Four new Halls of Residence

Get a whiff of hostel living here

And be pleased, future hostelite. After all, it is not everyday that you get to live in a cosy retreat featuring courtyards and back alleys, and yet enjoy the amenities of modern hostel living.

NTU currently has eleven Halls of Residence. But to meet the growing student population, it is expanding its campus infrastructure. Among the new developments are four new halls of residence, two of them (Halls 12 and 13) ready for occupation this July 2000. The other two (Halls 13 and 14) should be ready by end-August 2000.

The halls are colour themed. Walking past them is like traversing a cross section of a rainbow. Starting at Hall 12, one is met by striking yet pleasant shades of green, blue, yellow and red, in that order, as one walks down Nanyang Crescent, where the halls are located. Apart from the distinctive colour theme, the four new halls also have other distinctive features. For example, Halls 12 and 13 feature an open-air amphitheatre, jointly shared by the two halls, while Hall 12 boasts a unique centrepiece - a three-face clock tower. The rooms at both halls feature space-saving, modern touches like built-in ceiling-length wardrobes and beds with curved headboards. Just outside the rooms, hostelites can enjoy the convenience of built-in shoe cabinets and clothes lines concealed from public view by clever architecture. The overall design for Halls 12 and 13 is based on the concept of a series of courtyards and streets around which the residential blocks are arranged.

During the period January to March 2000, the University received the following distinguished visitors:

- 6 Jan Dr George Rupp, President, Columbia University, USA
- 25 Jan Dr Yasuharu Suematsu, President, Kochi University of Technology, Japan
- 28 Jan Dr Jim Ebben, President, Edgewood College of Madison, USA
- 8 Feb Prof A Kalaridhi, Vice-Chancellor, Anna University, India
- 16 Feb Prof Zang Shu-liang, Vice-President, Liaoning University, China
- 21 Feb Dr Kanauchi Sakamoto, President, Ritsumeikan Asia Pacific University, Japan
- 24 Feb Dr Emmanuel Y Angeles, President, Angeles University, Philippines
- 25 Feb Prof Jens Petter Tondel, Vice-President, Norwegian School of Management BI, Norway
- 8 Mar Dr Frank Fernandez, Director, Defense Advance Research Projects (DARPA), USA
- 10 Mar Dr Frank Wood, Vice-Chancellor, Lincoln University, New Zealand
- 13 Mar Dr David Johnston, President, University of Waterloo, Canada

During this period, the University also received visiting delegations from the Korea Dae Lim Technological College, Korea; the Hong Kong University of Science and Technology, Hong Kong; the Norwegian University of Science and Technology, Norway; the Institute of Technology & Management, India; and the Nanjing University of Science and Technology, China.

Promoting a healthy balance of work and play, each of the four new halls feature, among other facilities, a reading room, music room, games room, computer room, seminar rooms and meeting rooms. There will also be two new canteens - canteens 13 and 14 - to be shared between the four halls. Together, the four new halls will be able to accommodate 2,400 students. About eleven per cent of the students will stay in single rooms while the rest will share double rooms.

All NTU matriculated undergraduates are eligible to apply for hostel accommodation on campus. As is the practice for the existing halls on campus, the four new halls will take in a mixture of students from various NTU Schools on campus, including the National Institute of Education. Senior students, however, will continue to be admitted based on their ECA points.