New man at the helm

Just as Prof Su Guaning takes over the mantle of presidency in January 2003, he quietly garners several prestigious awards on the side for his sterling leadership and contributions to engineering education and IT development. The new chief of NTU has set himself a time frame of three to five years to turn NTU into a comprehensive university with multidisciplinary finesse and global impact.

Prof Su Guaning, NTU’s new President, has been busy taking on the tasks of university chief. As he feels the ground and stakes out his vision for NTU, awards have been streaming in – an apt reminder of the calibre of our new captain.

In November last year, just before stepping into the shoes of President-Designate, the Institution of Engineers Singapore (IES) and the Institute of Electrical and Electronic Engineers (IEEE) honoured him with the inaugural Joint Medal of Excellence. This rare accolade, given once every two years, recognises an individual’s outstanding contributions to engineering education and the engineering profession.

More recently, Prof Su received word that he would be initiated into the IT Hall of Fame at the IT Leader Awards 2003 this February. This prestigious honour, accorded by the Singapore Computer Society, is a testament to his outstanding leadership and contributions through IT both in the government sector and industry.

The latest awards add to an already impressive resume that includes other honours such as two Public Administration Medals (Silver and Gold), the Public Service Medal, and the IES Bronze, Silver, and Gold Medals.

Accolades aside, Prof Su has an outstanding career track record to show for his talents and visionary leadership. A top scholar, he started out as an electrical engineer with the Ministry of Defence (MINDEF) developing electronic warfare systems. His technical brilliance and leadership ability quickly emerged, making him the natural choice for directorship of the Defence Science Organisation (DSO) in 1986. In 1997, he took DSO into the private sector, forming DSO National Laboratories, and became its first CEO. After assuming the appointment of Deputy Secretary in MINDEF for two years, he formed the 2,800-strong Defence Science & Technology Agency and held the reins as founding Chief Executive from 2000 to 2002.

At DSTA, through the deployment of several pioneering web-based systems including an innovative e-procurement system, Prof Su used IT and e-commerce to enhance work efficacy, setting the standard for other government outfits. While organising a massive cultural shift within the organisation, he also instituted a flexible self-funding framework to recruit, retain, and train the best staff.

Now at NTU, Prof Su is confident of shaping yet another success story as the University looks ahead to being one of the two major comprehensive universities in Singapore. “After 30 years in the defence field, I am excited to move on to new and bigger challenges in education.”

He added: “Under Dr Cham’s leadership, NTU has grown by leaps and bounds. It is now one of Asia’s best universities, both in terms of teaching and research quality. On the basis of the assets Dr Cham has put together, I hope to take NTU to greater heights as a global name and a force to be reckoned with.”

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Hinting that a name change to “Nanyang University” may be possible in 2005, when NTU becomes a comprehensive university, Prof Su said: “NTU can be a successor to the old Nanyang (Nanyang University) and embody the same spirit of grit and enterprise. We already have a rich culture of innovation on campus.”

He noted that a recent Singapore Press Holdings survey concluded that NTU graduates are more creative and enterprising than their local counterparts, exactly what the knowledge-based economy needs.

NTU’s heritage can be traced back to Nanyang University, which was established in 1955 with funds from the Chinese community as the first Chinese-medium university outside China and Taiwan. Donors ranged from the wealthiest businessmen to the humblest hawkers. The “Nantah Spirit”, a source of inner strength, determination, zeal, and enterprise, is a legacy of this community.

Fleshing out his vision for a diversified NTU, Prof Su said that if all goes according to plan, the University will have three new schools – in physical sciences, humanities and social sciences, and design and media – by 2005. This will make NTU a truly comprehensive and multidisciplinary university.

The proposal, first mooted by an inter-ministry committee reviewing university education in Singapore, has been endorsed by the International Academic Advisory Panel, which recently convened in Singapore.

To give the new schools a head start, Prof Su intends to woo top talent into NTU’s fold, such as professors from Stanford University, his alma mater, and Cambridge University. “More and more world-class universities such as Stanford, Cambridge, University of Washington, and Shanghai Jiao Tong are collaborating with us. They recognise our top-notch expertise and will come if we can offer them the right environment and challenges.”

With the expansion of disciplines comes a renewed mission to carve new niche areas and blaze new trails in global academia. Said Prof Su: “We are a young university – nimble and agile. We can sprint to success ahead of the competition and be a commanding force, not just locally but internationally.”

Seeing NTU as a service organisation tasked to “provide a great educational experience, inspiring scholarship and valuable economic contributions”, he said that the curriculum should be responsive and flexible to cater to different career needs.

“Engineering training, for example, could be practice-oriented, research-oriented, or technopreneurial and business-oriented. It’s different strokes for different folks and we will reflect this in our training approach.”

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Top-ranked Chinese U opens first overseas graduate school at NTU

Shanghai Jiao Tong University now operates out of the Nanyang Business School to offer its MBA programme in Singapore

Shanghai Jiao Tong University (SJTU) has partnered NTU to groom a special class of business and professional leaders in Singapore and China. In doing so, it has become the first Chinese university of world-class standing to establish a significant presence in Singapore.

The SJTU Graduate School at NTU, the first of its kind ever approved by China's Ministry of Education, received its pioneer batch of 26 MBA students last October. Its establishment reflects SJTU’s first major effort to internationalise.

The strategic alliance between SJTU and NTU includes the following: SJTU offering its popular MBA programme in Singapore; the Nanyang Business School (NBS) launching its 18-month Executive MBA (EMBA) programme in Shanghai; and SJTU and NTU jointly conducting executive programmes in Environmental Management and Construction Management.

The programmes, targeted at senior managers and industry leaders from China, Singapore, and the region, will be co-taught by SJTU and NTU professors.

“SJTU’s interest in collaborating with NTU will better position NTU as a premium provider of educational services in China, by strengthening our programmes with more in-depth China-related content and curricula,” said former NTU President Dr Cham Tao Soon.

The inauguration of the graduate school, held at LT 28 on 30 October 2002, was graced by His Excellency Mr Zhang Jiuhuan, Ambassador, People’s Republic of China, and Mr Tharman Shanmugaratnam, Senior Minister of State for Trade & Industry and Education, who said that the new partnership would “build linkages between both countries and consequently forge stronger business, industry, and research collaborations.”

As part of the alliance, NBS opened its first graduate office in China at SJTU last December to facilitate the running of its EMBA programme for senior Chinese managers.

NBS Dean Prof Neo Boon Siong said: “Executives will get to network, and academics from both sides will also work together on research projects. This synergy will benefit both countries.”

Under an Economic Development Board scheme launched in 1997, SJTU is the ninth international World Class University (WCU) to open an overseas wing in Singapore.

Distance’s no barrier to research

NTU professors are discovering how the latest e-learning tool is a great online facilitator of collaborative research

Not just a user-friendly tool for online and distance learning, iNTUition has been leading professors from the virtual classroom into the virtual lab, by facilitating collaborative project work with distant associates.

Faculty and researchers from the Satellite Engineering Centre (SEC) at the School of Electrical and Electronic Engineering, for example, have been using iNTUition to communicate simultaneously with their counterparts from the Institute for Telecommunications Research in Australia and the Satellite Technology Research Centre in Korea.

The overseas users have given iNTUition the thumbs-up: they find it convenient to use and are impressed with the sound quality. SEC, which is building its first micro-satellite, will continue to use the platform to interact with satellite specialists from other parts of the world, including Europe and the United States. For SEC, using iNTUition is cost effective since it is web-based.

An enhanced version of edveNTUre’s virtual classroom (Tutornet), iNTUition was introduced by the Centre for Educational Development last July to enable professors to conduct classes, meetings, seminars, conferences, and even mentoring sessions online. It can be set up in a few minutes at a PC or computer notebook. The live sessions can be edited for re-use or be made available on-demand as stand-alone recordings.

For more information, surf to http://edveNTUre.ntu.edu.sg.
$10 million partnership in high-performance computing

NTU’s three-year collaboration with Sun Microsystems promotes engineering and life sciences research and includes the setting up of a new centre at NTU.

The tie-up, formalised on 20 December 2002, benefits NTU’s Nanyang Centre for Supercomputing and Visualisation (NCSV). It paves the way for new joint research projects in mechanical computer-aided engineering and design, high-performance and grid computing, nanotechnology, and the life sciences, as well as collaborative inquiry into the underlying technologies supporting researchers in these fields.

Another significant aspect of the partnership is the establishment of a new centre – the Asia Pacific Science and Technology Centre (APSTC) – within NCSV at NTU. Through this partnership, and with additional support from the Economic Development Board, APSTC will be staffed by three research scientists and six engineers who will develop new capabilities in high-performance and grid computing through tie-ups with both local and overseas collaborators.

APSTC will work closely with NCSV, which is affiliated to the School of Mechanical and Production Engineering. Sun, an industry leader in high-performance and technical computing (HPTC), will facilitate other research tie-ups through its extensive network of Centres of Excellence around the world. With Singapore being the headquarters, other similar HPTC centres are planned in Tokyo, Beijing, Seoul, Brisbane, and India.

NTU is pumping $5 million worth of infrastructure and expertise into the partnership. Sun’s contribution of $5 million – $2 million in cash and $3 million in products and technology – will support R&D and scholarships for research students.

For a young centre established in 2001, NCSV has made great strides in exploiting high-performance computing to crack complex engineering problems. According to NCSV Director Prof Liew Kim Meow, this collaboration with Sun now places NCSV as the key high-performance computing centre in the region.

For negotiation expert Dr Tan Joo Seng, the second half of 2002 saw him publishing not one but two books. The first, Strategic Negotiation Across Cultures, was a joint effort with his NBS colleague, Ms Elizabeth Lim Ngah Kiing. It examines the negotiations of US multinational companies in China, Japan, and India, and offers negotiation tips for negotiators doing business in these countries. The role of cultural values and norms is spotlighted with a new approach to the analysis of cross-border negotiations.

Dr Tan’s other book, Emerging Issues in Organizational Behavior: An Asian Perspective of Globalization’s Challenges, was written with Mrs Chi Ching, who is also from NBS. This book examines issues affecting new-generation Asian employees and organisations, such as work commitment and motivation. Two contrasting views of globalisation and its impact on work and the work setting are presented.
Environment Minister issues green challenge

Last November, Mr Lim Swee Say kicked off a science-based innovation programme organised by NTU to unleash the creative energies of JC students participated in workshops and visited sites such as landfills and wastewater treatment plants.

Then, working in teams of 15 – 20 during the November/December vacation, they floated ideas for innovative applications that would tackle problems in environmental management, such as the management of water resources and waste.

The participants of the NTU-JC-ENV Challenge 2003 first explored topics in “Environmental Infotech” at a four-day residential camp at NTU, during which they participated in workshops and visited sites such as landfills and wastewater treatment plants.

To illustrate his point, he explained that vehicle emissions have continued to grow, despite emission limits set by the National Environment Agency. In this case, arriving at a sustainable solution could mean eventually replacing all diesel-run vehicles with “green” vehicles.

This year’s Challenge, supported by the Educational Technology Division of the Ministry of Education and sponsored by SUT Sakra Pte Ltd, Dayen Environmental Limited, and PerkinElmer Instruments, is the fourth in a series of programmes organised annually to promote science and technology pursuits among pre-university students.

The students’ applications will be judged at a grand finale in February 2003. But it does not end there. Outstanding projects will be sent to the relevant ministries for review and possible implementation, said Assoc Prof Simon Yu, Principal Staff Officer, who oversees the organisation of the programme.

Building a healthier community

Building a healthier community

Dr Cham, gracing ACTIVE Day for the last time, revealed new initiatives to keep staff on the track to good health.

Launching ACTIVE Day last September at the Sports and Recreation Centre, Dr Cham Tao Soon revealed plans for intervention programmes targeted at staff prone to or suffering from lifestyle diseases such as heart disease and diabetes.

He also disclosed plans to chart walking and jogging trails on campus to enhance the University’s image as a health-conscious organisation. For a more vibrant health and fitness culture on campus, he suggested decentralising health promotion at NTU. Schools and departments are encouraged to form their own local committees and to organise their own activities with the help of the main NTU Healthy Lifestyle Committee (HLC).

Not one who distances action from his words, Dr Cham makes healthy living a way of life. According to Assoc Prof Quek Jin Jong, Principal Officer, NIE, and HLC Chairman, Dr Cham devotes 30 minutes a day to exercise. “Few people know that Dr Cham used to represent Singapore in table-tennis. He’s a rare individual who excels both academically and in sports, a feat that few Presidents or Vice Chancellors can achieve.”

ACTIVE Day is a day within the National Healthy Lifestyle Campaign month set aside by the Health Promotion Board to promote the importance of exercise and healthy living among Singapore workers.
Designing to meet your needs

Equipped with the most advanced R&D facilities in the region, the Centre for Human Factors & Ergonomics (CHFE) aims to break new ground in product and system design and development and designs. There are also facilities for 3D motion-tracking to capture, in real time and space, human work movements and user-product interactions. An eye-tracking system is also available.

CHFE’s research takes on a particular urgency as Singapore’s workforce ages. Its research agenda includes work and device design to maximise the contributions of an ageing workforce. Technology advancement is also key. For instance, human-centred design is advocated to realise in full the potential of our national infrastructure, such as the national digital information infrastructure underpinning the SingaporeOne/IT2000 Masterplan.

The centre, established in 2002 with backing from MNCs, ST Group, MINDEF, the Ministry of Manpower, the Economic Development Board, and A*STAR, also supports the world’s first Dual Masters degree programme in human factors engineering. This was launched in August 2001 with Linkopings University, home to the largest graduate human factors programme in Europe.

For more information about CHFE, visit http://www.ntu.edu.sg/mpe/centres/hfe/index.htm.

NTU is doing its part to promote a more ergonomically-sensitive society with a new centre boasting state-of-the-art facilities for human factors engineering research and training.

The Centre for Human Factors & Ergonomics (CHFE), hosted by the School of Mechanical and Production Engineering (MPE), undertakes research and trains experts in human-centred design to create more user-friendly industrial automation and systems, consumer products, and military systems.

Assoc Prof Lim Kee Yong from MPE, who heads the centre, said that its R&D facilities are presently the most advanced in Singapore and the region. “They support the entire spectrum of design concerns and activities, and include a fully-equipped usability laboratory which can be used to study team dynamics and evaluate simulations, prototypes, and designs. There are also facilities for 3D motion-tracking to capture, in real time and space, human work movements and user-product interactions. An eye-tracking system is also available.

To facilitate the study of office and industrial ergonomics, the centre has been equipped with basic physiological measurement tools and the latest human modelling software for simulation and analysis of human-workspace interaction.

Targeting PSA’s remotely operated crane operations: Development of a 3D Display and Control System to enhance operator performance of remote container handling

CareerMall@NTU

Hiring? Take your pick at this mall

NTU has a pool of talented graduates eager and ready to embark on their careers. Employers can check them out at CareerMall@NTU, a state-of-the-art virtual career centre.

Those who sign up will be able to search for candidates and post job vacancies any time. This service is free for employers who are keen to recruit NTU graduates.

Interested employers can register online at CareerMall@NTU (http://www.ntu.edu.sg/opawww/careermall/). For enquiries, contact Poh Ling at 6790-5852.
Making things smooth

Focused on removing bottlenecks, CSCM undertakes research, teaching, and consultancy in supply chain management and development.

Vital links to resources and expertise at the new Centre for Supply Chain Management (CSCM)

The centre taps on multidisciplinary expertise across campus. Its current research focus relates to closed-loop supply chains, supply chain contracts (such as vendor-managed inventories), and health-care supply chain management.

In training, the centre supports the highly successful MSc in Logistics programme offered jointly by the Schools of Mechanical and Production Engineering (MPE) and Civil and Environmental Engineering (CEE). It also runs an executive programme in Global Supply Chain Management with Erasmus University in the Netherlands. This unique cross-cultural programme trains practitioners from the two participating countries.

Well plugged into the local government and industry network, the centre, hosted by MPE, has been routinely collaborating with the Infocomm Development Authority of Singapore to do studies on the local logistics industry.

For more information on the centre and its services, contact CSCM Director Assoc Prof Rajesh Piplani (tel: 6790-5601; email: mrpiplani@ntu.edu.sg) or Ms Leong Yit Lin (tel: 6790-4333; email: mylleong@ntu.edu.sg).

Second Intelligent20 award

NTU has won the Intelligent20 Award for the second year running. It was one of 20 winners from the region and the only educational institution from Singapore to bag the annual award which recognises the outstanding IT accomplishments of companies.

Regarded as a major event in the Asia-Pacific region’s IT calendar, the Intelligent20 Awards, organised by Intelligent Enterprise Asia, assesses the region’s best IT projects across ten performance indicators. Management support and involvement, the benefits of implementation to employees/customers, return-on-technology investment, innovation, and project execution are some of the factors considered.

The winners were selected by an independent panel of judges from 10 leading IT research and management consulting firms.

According to Assoc Prof Daniel Tan, Director of the Centre for Educational Development, the judges were impressed with NTU’s e-learning eco-system. He said: “This award recognises the synergistic efforts of the stakeholder communities responsible for the success of the University’s e-learning initiative, such as the Schools and the various administrative departments. All have made e-learning an effective strategic pillar for attracting, retaining, and training human capital and talent.”

New MSc programme in embedded systems

The School of Computer Engineering (SCE) is offering a new Master of Science programme in Embedded Systems.

The MSc (Embedded Systems) programme, which starts this July, will draw on the expertise of the Centre for High Performance Embedded Systems, which is hosted by SCE. The programme is timely in relation to Singapore’s economic future as it complements the efforts of the Economic Development Board and A*STAR to establish a strong embedded systems presence in Singapore.

The programme aims to produce highly skilled and employable graduates for the rapidly evolving embedded systems industry. It comprises core modules focusing on essential skills for embedded systems design and elective modules on more advanced topics.

Students will acquire relevant theory and knowledge of new tools and methodologies used in industry and academia. During a compulsory year-long project, they gain hands-on experience developing market-viable products.

Designed with the practicing professional in mind, the programme will initially be offered only on a part-time basis. Prospective students can enrol online at http://www.ntu.edu.sg/sce/msc-embeddedsystems.htm. Applications close on 28 February 2003.
Breaking new ground

Imagine learning in executive comfort and playing in a resort-like setting – all under one roof. A pipedream? Not anymore, with NTU’s new campus and alumni clubhouse making its grand entrance soon at the peak of One-North, Singapore’s new life sciences and knowledge hub.

Giving a taste of things to come, the ground-breaking for the 24,000-sq-m campus and clubhouse was held on Thursday, 19 December 2002 at a ceremony officiated by Deputy Prime Minister and Minister for Defence Dr Tony Tan. Education Minister RAdm Teo Chee Hean was among the 200 guests, staff, and alumni who got glimpses of the new facility through architectural plans and models.

The design of NTU One-North Campus and NTU Alumni Clubhouse embodies the close relationship between NTU and its alumni through a “weaving network” design concept which also allows educational and recreational facilities to be integrated over its nine storeys. Within the compound, there is ample shared space for course participants, professors, industrialists, and alumni to mingle.

Facilities run the gamut from lecture theatres, seminar rooms, and a multimedia theatrette to resort and fun pools, a spa, an eight-lane bowling alley, tennis courts, posh lounges, and a Nantah-themed restaurant.

At a choice location on the periphery of town, just a five-minute walk from Buona Vista MRT station, the new satellite campus will offer greater convenience to working professionals taking NTU’s part-time MBA, Masters, and continuing education programmes.

Continued on page 9
Describing the site as “ideal”, former NTU President Dr Cham Tao Soon said: “It’s near the MRT, along an established education belt, and in the centre of a vibrant science hub where scientists and high-tech workers are based. It’s also next to the Ministry of Education, making it the perfect place for in-service training of teachers.”

The University plans to attract students and even trainers for its courses from the One-North community. Those among NTU’s 73,000 alumni can look forward to continuing education at discounted rates.

The NTU Alumni Club, which currently operates a town club in River Valley Road, is wooing new members with the promise of an exclusive establishment boasting clubhouse facilities comparable to the best in Singapore.

“The distinctive, innovative, and wholesome facilities would not only cater to the needs of the younger graduates and their families, but also to the needs of the older Nantah graduates and their families,” said Mr R Sinnakaruppan, President of the NTU Alumni Club.

An added icing to the cake is a very attractive entrance fee of $3,600 for the first 3,000 alumni who sign up after the ground-breaking.

### Java’s their cup of tea

Computer Engineering trio scoops the “Best Idea” and “Audience Choice” awards at Wireless Java Jam, a competition for tertiary students

Treasure Island, an exciting game that can be played anywhere and anytime, earned its inventors from the School of Computer Engineering – Dev Ramnane, Prashant Goela, and Romil Gupta – two top awards at Wireless Java Jam 2002. This competition, held as part of an entrepreneurship development programme, was organised by the Java Wireless Competency Centre (JWCC).

The competition brought together over 200 students from six local tertiary institutions for a marathon coding session at NIE last December. The students spent over two days (and nights) developing novel applications for Java™-enabled mobile phones using the Java™ 2 Platform, Micro Edition (J2ME). Only the top three J2ME applications received awards. Judging was done by a distinguished panel from Singtel, M1, Starhub, IDA, JWCC, Nokia, Siemens, and Sun Microsystems.

In Treasure Island, players solve clues, the answers of which are found at participating retail stores, to win prizes such as store vouchers. An example of a clue could be “Simply Black” – a line of clothes by Giordano. Players can chat and collaboratively solve the clues in a bid to be the fastest team at the right store with the correct answer. To ensure security while redeeming vouchers, a unique access code is sent to the gamers via SMS.
Entrepreneurs have great business ideas based on substantive innovation. And they are driven to make a big difference to themselves and to the world, by not being deterred by the first failure or giving up on the second.

So said Mr Teo Ming Kian, Chairman of the Economic Development Board, at the inaugural graduation ceremony for the graduate diploma Technopreneurship and Innovation Programme (TIP). TIP, a vigorous four-month programme jointly conducted with the University of Washington (UW), includes a six-week stint of “real-life” training in venture creation in Seattle.

Speaking at the Main Lecture Theatre on 15 November 2002, Mr Teo added that “disruptive innovations” have been responsible for “new worlds and markets, and increased efficiencies”.

Prof Neo Boon Siong, too, had an important message for the graduates – avoid “ethical pitfalls” when chasing corporate dreams. Recalling the implosion of former business stalwarts like Enron and Worldcom, the Nanyang Business School Dean said: “Be clear about what you will not do… forgetting and neglecting our spiritual, moral centre will ultimately destroy us.”

For Mr Jeffrey Goh, CEO of Lightspeed Technologies Pte Ltd, who added to the afternoon’s inspirational timbre, the path to success is based on “a certain simplicity”. A venture borne into hard times, such as during a recession, is almost certain to be very streamlined, he said.

TIP, the Nanyang Technopreneurship Center’s maiden effort, has made the grade, if industry feedback and the students’ entrepreneurial zeal are anything to go by. About half of the 49 graduates are now embarking on new start-ups. And many have been grabbed by companies, including six who were recruited to join a start-up that is venturing into China.

“We are aggressively exploring opportunities opened to us by the programme,” said Denise Chng, a Dean’s List TIP graduate. “In fact, a couple of us are heading back to the States in a few weeks’ time.”

The pioneer TIP graduates, from diverse academic backgrounds, have been raving about the course, which is the first of its kind in the Asia-Pacific. They now each hold a TIP graduate diploma scroll jointly issued by NTU and UW.

Their six weeks in Seattle were particularly exciting; they toured corporate giants, participated in an exciting business plan competition, and even met Microsoft CIO Rick Devenuti and Starbucks founder and CEO Howard Shultz.

Emboldened to reach new heights of success is TIP graduate Ruby Teo, who started Stalford Tuition Centre at age 18 and now runs a chain of five tuition centres in Singapore with an enrolment of 2,000. “I plan to expand from five to ten centres in the next two years. The sky is the limit!”

Darren Loi, who started three companies as a student, is happy to put his newly acquired “accounting, financial analysis, and strategic thinking skills” to good use. He set up eFormula Pte Ltd just before the course began and now plans to open another office in Vietnam. “The programme has taught me how to strategise my business so that it can globalise,” he shared.

Andy Ng, who earned his Bachelor’s degree last year, is grateful for getting his big break through TIP. “It was at one
Head-turning research

Triple E students show their stuff in recent competitions and take home top awards

Four students from the School of Electrical and Electronic Engineering (EEE) have done their mentor proud.

One of them, graduate student Lim Wei Keat, devised a novel method of classifying breast cancer using fuzzy neural networks and emerged a finalist in the Far Eastern Economic Review’s Young Inventors Awards 2002. His work, supervised by Assoc Prof Er Meng Joo, was judged against 173 entries from 15 countries across the region.

In presenting his technique based on artificial intelligence, Wei Keat hopes to give a second opinion to radiologists, who, in local hospitals, are currently relied upon to classify mammographic masses. “Human interpretation can be unreliable due to factors such as fatigue and age,” he said. Dr Mark Brooks, an Interventional Radiologist at Austin Repatriation Medical Centre in Australia, is keen to carry out clinical trials with NTU using the new technique.

For undergraduates John Nah Khuan Holm and Low Chang Boon, success came in the form of the top prize in the Electronics and Computer Engineering category of a student paper contest organised by the Institution of Engineers Singapore. Their paper, “Real-time Implementation of a Dynamic Fuzzy Neural Networks Controller for a SCARA”, supervised by Assoc Prof Er, beat 15 entries from NUS and NTU, repeating the previous year’s win by EEE students.

Not to be outdone, Sun Yafei, a PhD student, presented an innovative method of designing fuzzy logic controllers and did his School proud. His groundbreaking paper, “Design of a Mixed-Type Fuzzy Logic Controller by Computing with Words”, earned him a place in the finals of the 4th Asian Control Conference (ASCC) best paper competition.

of those many networking sessions organised for us that I had the opportunity to meet and talk to Mr Leslie Loh, 1998 Entrepreneur of the Year. He has offered me the opportunity to work in tandem with him to develop his second start-up.”

For professional trainer Gena Chen, who gave her TIP classmates free lessons in public speaking and presentation, the best thing about the course is the wide business network and new opportunities gained. She added: “I used to be uneasy with technology, but not anymore.”

Second launch of Technopreneurship & Innovation Programme

Want to start a company, but lack the skills and confidence to do this? Join the highly successful graduate diploma Technopreneurship & Innovation Programme (TIP), which will run again from 2 June to 15 August. The exhilarating TIP curriculum offers 10 weeks of experiential learning at NTU followed by a six-week programme at the University of Washington (UW) in Seattle. To join the programme, apply online at http://www.ntu.edu.sg/ntc before Monday, 31 March 2003. All successful applicants qualify for consideration for “zero-bond” scholarships, each worth up to $20,000.
Journeying to the depths of disease

Researchers from the School of Biological Sciences are making sense of chronic ailments. They have between them almost 50 projects on cancer, hepatitis, heart disease, and AIDS.

Even before the School of Biological Sciences (SBS), set up in July 2001, moves into its own facility in 2005, its researchers have been hard at work addressing the latest medical concerns and exposing the pioneer Biological Sciences students to the intricacies of the field.

The projects at the Biological Sciences Research Centre (BSRC) are varied and tackle the most virulent of diseases, such as cancer. One researcher is uncovering how integrins (which can be thought of as velcro on the surface of cells) speed up the growth of cancer cells. Another researcher is trying to understand how a protein called BCL-2 may be able to cause cancer cells to die.

A project, of great significance to women everywhere, investigates the link between receptors for two female hormones, progesterone and estrogen, and breast cancer.

Troubled by high cholesterol? NTU researchers are hard at work studying the phenomenon to understand how cholesterol-carrying particles called lipoproteins cause cholesterol build-up in our arteries (Atherosclerosis). If an answer is found, antibodies could be developed to stop this build-up of plaque, and in arteries rather than the liver where cholesterol is produced naturally by the body.

Viruses are also a hot topic at BSRC. One researcher is developing a vaccine that targets just the virus, and not good cells. Hepatitis B, Hepatitis C, Epstein-Barr, and Avian Corona are some viruses being investigated to see how they interact with their host and cause organ injury. For example, it has been found that the Hepatitis C virus, which infects 170 million people worldwide every year, activates some genes that trigger the production of very dangerous liver-damaging proteins. A study is also being done on the West Nile Virus spread by mosquitoes that causes life-threatening brain encephalitis.

The Dean of SBS himself, Prof James Tam, is uncovering how HIV enters cells, causing infection and disease progression. Based on this understanding, his group is developing more potent new-generation therapeutic agents and vaccines to prevent HIV entry into host cells.

In the area of bioinformatics, SBS researchers are using computing tools to write computer software to analyse the structure and functions of genes and proteins.

Making sense of biology with QuickSENSE

Portable bio-sensors developed by a multidisciplinary team can quickly detect disease-causing bacteria.

The new QuickSENSE biosensor technology, developed over two years, provides a very quick and accurate method of sensing target analytes such as proteins, bacteria, viruses, and DNA. A prototype is being tested for the healthcare industry.

The QuickSENSE sensors are portable and simple to use, allowing bedside and on-site testing. By comparison, conventional methods of identifying or detecting biological analytes are generally slow and often involve a laborious process.

The instruments used also tend to be bulky and laboratory-based.

On how the healthcare industry might benefit from QuickSENSE, lead researcher Assoc Prof Lim Chu-Sing from the School of Mechanical and Production Engineering (MPE) said: “We are hoping that because of the biosensor’s higher sensitivity, new information can also be learnt about diseases.” The team is also working towards applying the technology to other industries. It recently tied up with a local security agency and a life-science...
The media connection

SCI forum examines how the media shapes national identity and raises the need for responsible reporting

Last October, students at the School of Communication and Information (SCI) participated in a two-hour discussion on “national identity” and the media’s role in shaping it.

They were at a forum titled “Inform, Entertain, Connect: Singapore’s Media and National Identity”.

Leading the forum were familiar faces – Dr Vivian Balakrishnan, Minister of State for National Development, who chairs the Remaking Singapore Committee; Ms Ida Bachtìar, Executive Producer, Naga Films, and the former host of Talking Point; and Mr Jack Neo, Comedian and Producer of hit films I Not Stupid and Money No Enough.

Dr Balakrishnan argued that the Singapore media is not a fourth estate of the government and that it is either a business or a citizen-stakeholder in society. “Be aware of the limitations of the society you live in and the system in which we operate,” he said, adding that journalists should not “masquerade, and then, when it starts to storm, say that you are a bystander and not a player.” He further urged fresh journalists to be responsible for what they report to the public.

SCI aims to conduct such informal forums regularly to benefit students as well as faculty and alumni.

Talking sports

Three Asian athletics stars – each an Olympian – were prominently featured at an “Olympians Forum” last November

At Sentosa Resort, CK Yang from Taiwan, C Kunalan from Singapore, and Hari Chandra from Malaysia bantered with one another and entertained the audience – final-year PESS teacher-trainees and participants from 13 countries – on wide-ranging topics such as key influences in their sporting careers, typical training and study schedules, reward systems, and values and attitudes gained through sports.

All three boast outstanding track records. CK Yang is a three-time Olympian, a world record holder, and a silver medalist (1960 Rome Games decathlon event). Closer to home, C Kunalan is a two-time Olympian and a national record holder in sprints. Hari Chandra raced in the 1956 Melbourne Games.

The forum took place during an international academic session organised by the Singapore Olympic Academy (SOA). SOA, the education arm of the Singapore National Olympic Council, is housed in NIE’s Physical Education and Sports Science (PESS) Academic Group.

Rapid detection of disease-causing bacteria is now possible with new technology developed by (clockwise from left) Assoc Prof Lim Chu-Sing, Dr Kishen, Prof Asundi, and their students.
“Mega university” soon

“You will hear soon that the University is going to expand to a ‘mega-university’ with 35,000 students.”

This was what Dr Cham Tao Soon let slip at the last Thank You Lunch he hosted as NTU President for 75 long-serving supporters and senior staff of the University on 20 November.

“With that, the University would need more help from you,” he continued, to laughter from his guests.

NTU has come a long way – from 582 students in 1982 to close to 25,000 students today.

Guests enjoyed a 20-course international buffet spread in the Nanyang Auditorium Exhibition Hall. Dr Cham later presented each guest a token of appreciation – a specially engraved crystal glass.

The Thank You Lunch is organised annually by the Public Relations Office on behalf of the President of NTU to thank contributors to the University, such as members of School Advisory Committees.

French decoration for NIE Director

Kudos to Prof Leo Tan, who now joins an elite group of Asians who have been conferred the Ordre national du merite (National Order of Merit) by the President of France. This award, the youngest and one of the most distinguished of the French Orders, is given to reward “distinguished merits” acquired in a public post (civilian or military) or privately. Prof Tan has greatly enhanced cooperation between France and Singapore in the field of science. One initiative he has facilitated is a project on aeroponic culture undertaken by NIE and CIRAD-Forêts researchers to produce quality saplings for softwood forests in the region.

Speedy detection of Alzheimer’s

Researchers from the School of Computer Engineering recently showcased how Grid Technology can be used to pool together vast amounts of resources from geographically dispersed locations, such as Singapore and Japan, to process live medical images of the brain.

Their technology enables fast detection of Alzheimer’s and epilepsy, and is being expanded to include detection of other mental illnesses and brain afflictions.

Medically significant and visually exciting, “Brain Data Processing and Visualisation” was one of the top 40 most-visited booths at SuperComputing 2002, the premier high performance computing conference and exhibition held in Baltimore, USA, last November. The project results from a partnership with Osaka University, where a team of medical and IT experts has been studying brain disorders.

No mantra-chanting fanatics allowed!

When a group of students first thought of forming a Hindu Society at NTU back in 2000, they knew that the greatest hurdle to overcome would be public perception. Just mentioning “Hindu Society” often prompted images of mantra-chanting fanatics in an incense-soaked haze.

Full of idealism, and despite all odds, these pioneers went ahead to form a Hindu Society anyway.

Materials Engineering student S Thevigha, the President of the first management committee, said that the society hopes to clear misconceptions about Hinduism among both Hindus and non-Hindus. “At the moment, we are concentrating on the infrastructure and publicity. Then we will be focusing on our basic objectives to create an interest in and awareness of the religion among NTU students.”

Appointments

Appointments

Assoc Prof Lawrence Koe Choon Chiaw (CEE) – Director, Environmental Engineering Research Centre (EERC)
Ms Sim Hwee Hwang – Lecturer, Humanities & Social Studies Education, NIE
Mr Michael Vallance – Lecturer, English Language & Literature, NIE

Appointed Assistant Professor on conferment of PhD/EdD (NIE): Dr Cyraine Marissa Wettasinghe (Instructional Science); Dr Lim Beng Soon (English Language & Literature); Dr Sim Wai Chew (English Language & Literature); Dr Phillip Alexander Towndrow (English Language & Literature); Dr Teo Chin Soon, Peter (English Language & Literature); Dr Roksana Bibi Bte Abdullah (Asian Languages & Cultures); Dr Seetha Lakshmi (Asian Languages & Cultures); and Dr Yeap Ban Har (Mathematics & Mathematics Education)

Re-appointments

Prof Tan Hong Siang – Director of Research
Prof Henry Fan (CEE) – Director, Centre for Transportation Studies
Assoc Prof Lua Aik Chong (MPE) – Deputy Director, EERC
The University welcomes the following new staff members:

**Nanyang Business School (NBS)**
- Miss Elizabeth Ann O’Neil - Research Associate
- Asst Prof Adel Ben Maanour - Assistant Professor
- Asst Prof Shri Daming - Assistant Professor
- Mr Lua Eng Keong - Lecturer
- Mr Vinod Achutavarri Prasad - Lecturer
- Prof Gagakowicz Andre - Visiting Professor
- Dr Ravishankar Sharma - Senior Fellow
- Dr Jaya Sirl - Research Fellow
- Dr Pramod Kumar Meher - Research Fellow
- Mr Lu Ji - Project Officer
- Mr Shi Jian - Project Officer
- Mr Tan Ching Wai - Project Officer
- Mr Xavier Percival - Project Officer
- Mr Yin Ming - Project Officer
- Mr Zhao Hanfeng - Project Officer

**School of Computer Engineering (SCE)**
- Asst Prof Cheah Yuen Jen - Assistant Professor
- Prof Anthony Gordon Fane - Temasek Professor
- Miss Chow San San - Assistant Professor
- Mr Hu Ou’er - Project Officer
- Mdm Ji Yajun - Project Officer
- Mr Ju Changle - Project Officer
- Mr Julianto Cahyadi - Project Officer
- Mr Lui Qishan - Project Officer
- Mr Pan Shun - Project Officer
- Mr Wang Kuei - Project Officer
- Mr Yee Woon Kang - Project Officer
- Mr Yuan Weifeng - Project Officer
- Mr Zhang Hua - Project Officer
- Mr Lim Kong Meng - Senior Officer (Grade 3)

**School of Civil & Environmental Engineering (CEE)**
- Asst Prof Ng Beng Koon - Assistant Professor
- Prof Sanjib Kumar Mitra - Adjunct Associate Professor
- Assoc Prof (Adj) Lakshmi Narasimhan - Adjunct Associate Professor
- Assoc Prof (Adj) Ronda Venkateswralu - Adjunct Associate Professor
- Dr Zhang Hong - Senior Fellow
- Dr Cheng Min - Research Fellow
- Dr Dong Xinyong - Research Fellow
- Dr Guo Fei - Research Fellow
- Dr Huang Lei - Research Fellow
- Dr Li Jianping - Research Fellow
- Dr Supratik Chakraborty - Research Fellow
- Dr Tian Yuan - Research Fellow
- Dr Wu Daolong - Research Fellow
- Dr Xu Chuxiang - Research Fellow
- Mr Tan Meng Tong - Research Associate
- Mr Wang Haibo - Research Associate
- Mr Wang Daowe - Research Associate
- Mdm Yang Huizhuan - Research Associate
- Mr Ge Ning - Project Officer
- Mr Lee Yi - Project Officer
- Mr Lu Hao - Project Officer
- Mr Luo Yang - Project Officer
- Mr Ng Teck Chew - Project Officer
- Mdm Tan Xiaoyan - Research Associate
- Miss Wang Yan - Project Officer
- Miss Zuo Yuexi - Project Officer

**School of Electrical & Electronic Engineering (EEE)**
- Asst Prof Cheah Yuen Jen - Assistant Professor
- Prof Anthony Gordon Fane - Temasek Professor
- Miss Chow San San - Assistant Professor
- Mr Hu Ou’er - Project Officer
- Mdm Ji Yajun - Project Officer
- Mr Ju Changle - Project Officer
- Mr Julianto Cahyadi - Project Officer
- Mr Lui Qishan - Project Officer
- Mr Pan Shun - Project Officer
- Mr Wang Kuei - Project Officer
- Mr Yee Woon Kang - Project Officer
- Mr Yuan Weifeng - Project Officer
- Mr Zhang Hua - Project Officer
- Mr Lim Kong Meng - Senior Officer (Grade 3)

**School of Mechanical & Production Engineering (MPE)**
- Asst Prof Duh Beon-Lim - Assistant Professor
- Asst Prof Ng Teng Yong - Assistant Professor
- Dr Chao Zhixia - Research Fellow
- Dr Guo Lixin - Research Fellow
- Mr Chen Xiaojun - Research Associate
- Mr Fun Ailong - Research Associate
- Mr Jiang Long - Research Associate
- Mr Kithva Prakash Hariram - Research Associate
- Mr Ren Ji - Research Associate
- Mdm Sun Yuhong - Research Associate
- Mr Wong Chang Hoo, Stephen - Research Associate
- Mr Xia Zetao - Research Associate
- Mr Zhang Qinghang - Research Associate
- Mr Zhang Zheng - Research Associate
- Mr Zhao Xin - Research Associate
- Mr Abele Stoelwinder - Project Officer
- Mr Liu Dongsheng - Project Officer

**School of Biological Sciences (SBS)**
- Dr Nikolay Korolev - Research Fellow

**President's Office**
- Miss Lai Li Fah - Management Support Officer (Grade IV)

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**Office of Finance**
- Mdm Goh Hwee Oon - Senior Officer (Grade 3)

**Student Affairs Office**
- Mr Kee Ying Hwa - Senior Officer (Grade 5A)
- Mdm Ng Ai Suam, Ervina - Senior Officer (Grade 5A)
- Mr Quek Wee Lim - Senior Officer (Grade 5A)
- Miss Tng Ee Hwei - Hostel Management Officer (Grade IV)

**Centre for IT Services**
- Mr Goh Koon Ngee - Senior Officer [IT] (Grade 5)

**NIE**
- **Special Programmes**
  - Miss Lim Puay Yin - Senior Officer
- **Policy & Management Studies**
  - Mrs Haron Saleh - Lecturer
- **Institutional Science**
  - Mrs Jarina Peer - Teaching Fellow
- **Physical Education & Sports Science**
  - Asst Prof Ch’ng Teck Heong, Alan - Assistant Professor
- **Natural Sciences**
  - Asst Prof Kwa Kien Chian - Assistant Professor
- Dr Huang Shuang - Research Fellow
- **Public & International Relations Department**
  - Mdm Lee Phing Phing - Head

**Promotions**

We congratulate our colleagues on their recent promotion.

**To Full Professor**
- Graduate Programmes & Research, NIE: Assoc Prof Lee Sing Kong

**To Associate Professor**
- CEE: Asst Prof Karina Gw Yew-Hoong, Asst Prof Ashraf Mohamed Hefny, Asst Prof Li Bing, Asst Prof Stephen Tay Tiong Lee, Asst Prof Wang Jing-Yuan, Asst Prof Kevin Wong Kau Fai; EEE: Asst Prof Martin David Adams, Asst Prof Cheah Chien Chieh, Asst Prof Chua Chin Seng, Asst Prof Rusli, Asst Prof Wijerupage Sarinda Wijesoma, Asst Prof Shahrul Ping, Asst Prof Yuan Xiaocong; MPE: Asst Prof Lim Chu-Seng, Asst Prof Miao Jiaomin, Asst Prof Vassili Borisovich Novozhivlov, Asst Prof Rajesh Pipani, Asst Prof Tai Kiang, Asst Prof Xu Daolin; SCE: Asst Prof Clement Chi Liang Tien, Asst Prof Ng Wee Kiong, Asst Prof Michel B Pasquier; SME: Asst Prof Chen Zhong; NBS: Asst Prof Amit Das, Asst Prof Rohit Bhatnagar, Asst Prof Joao C Henderson, Asst Prof Low Buan Sin, Asst Prof Tan Joo Seng, Asst Prof Harry Tan Sook Kiat; SCI: Asst Prof Indrajit Banerjee, Asst Prof Sharen Liu Min Kune, Asst Prof M Shalinee Majid; Centre for Chinese Language & Culture: Asst Prof Crossland-Guo Shuyun, Asst Prof Lee Guan Kin

**To Senior Officer (Special Grade)**
- Office of Academic Services: Mrs Lim-Lim Pai Suam; Student Affairs Office: Mrs Seah-Poon Wai Choo
- Office of Academic Services: Mr Tai Kian Heng; Internal Audit Office: Miss Mow Yee Hoon; Centre for Educational Development: Mr Lee Chee Seng
- Office of Academic Services: Mrs Judy Neo-Seah Bee Woon; Library: Miss Chng Chor Noy; Centre for IT Services: Mr Loh Koah Fong, Mr Nazri Bin Ibrahim, Miss Lily Seah Leng Hia, Mr Shafarudin Bin Ibrahim, Mr Srirendran Sundaresan
- Office of Financial Services: Mrs Tan-Ong Siew Kuan; Office of Academic Services: Miss Chen Wan Ling, Miss Chan Siew Mui, Miss Ong Hue Sien; Student Affairs Office: Mrs Tan-Ong Siew Kuan; Public Relations Office: Mrs Eileen Khoo-Tan Leng Hwei; Centre for Continuing Education: Mrs Suah-Chu Pei Ling; EEE: Mrs Chua-Goh Wei Jiuan, Mrs Lee-Yap Hew @ Yap Siew; MPE: Mdm Koh Ping Hoon; NBS: Mr Ho Chee Wei; SCI: Mr Teo Hee Kwang

**To Senior Officer (Grade 1) or equivalent**
- Office of Academic Services: Mr Tai Kian Heng; Internal Audit Office: Miss Mow Yee Hoon; Centre for Educational Development: Mr Lee Chee Seng
- Office of Academic Services: Mrs Judy Neo-Seah Bee Woon; Library: Miss Chng Chor Noy; Centre for IT Services: Mr Loh Koah Fong, Mr Nazri Bin Ibrahim, Miss Lily Seah Leng Hia, Mr Shafarudin Bin Ibrahim, Mr Srirendran Sundaresan

**To Senior Officer (Grade 2) or equivalent**
- Public Relations Office: Mrs Judy Neo-Seah Bee Woon; Library: Miss Chng Chor Noy; Centre for IT Services: Mr Loh Koah Fong, Mr Nazri Bin Ibrahim, Miss Lily Seah Leng Hia, Mr Shafarudin Bin Ibrahim, Mr Srirendran Sundaresan

**To Senior Officer (Grade 3) or equivalent**
- Deputys' Office: Mdm Tan Xia Yu; Centre for Academic Services: Miss Chen Wan Ling, Miss Chan Siew Mui, Miss Ong Hue Sien; Student Affairs Office: Mrs Tan-Ong Siew Kuan; Public Relations Office: Mrs Eileen Khoo-Tan Leng Hwei; Centre for Continuing Education: Mrs Suah-Chu Pei Ling; EEE: Mrs Chua-Goh Wei Jiuan, Mrs Lee-Yap Hew @ Yap Siew; Library: Mdm Koh Ping Hoon; NBS: Mr Ho Chee Wei; SCI: Mr Teo Hee Kwang

**To Senior Officer (Lab) (Grade 3)**
- Office of Academic Services: Mr Tai Kian Heng; Internal Audit Office: Miss Mow Yee Hoon; Centre for Educational Development: Mr Lee Chee Seng

**To Senior Officer (Lab) (Grade 4)**
- Office of Academic Services: Mr Tai Kian Heng; Internal Audit Office: Miss Mow Yee Hoon; Centre for Educational Development: Mr Lee Chee Seng

**To Senior Officer (Lab) (Grade 5)**
- Office of Academic Services: Mr Tai Kian Heng; Internal Audit Office: Miss Mow Yee Hoon; Centre for Educational Development: Mr Lee Chee Seng

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**School of Natural Science**
- Dr Guo Lixin - Research Fellow
- Dr Chao Zhixia - Research Fellow

**School of Physical Education & Sports Science**
- Assoc Prof Indrajit Banerjee, Asst Prof Sharen Liu Min Kune, Asst Prof M Shalinee Majid; Centre for Chinese Language & Culture: Asst Prof Crossland-Guo Shuyun, Asst Prof Lee Guan Kin

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**Staff News**

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Distinguished chiefs visit

The International Academic Advisory Panel (IAAP), which visited NTU on 14 January, supports the proposal to turn NTU into a comprehensive university by 2005.

According to the IAAP, a group of twelve distinguished academic and industry leaders from around the world, NTU has achieved a great deal in teaching, research, and personnel management in the last two years.

The proposal to add three schools offering physical sciences, humanities and social sciences, and design and media is a good one, as it would allow NTU to offer a more comprehensive undergraduate education, the panel said.

Convening for the fourth time in Singapore from 13 – 16 January 2003, the panel deliberated on the preliminary recommendations of the Committee to Review the University Sector and Graduate Manpower Planning, one of which is to expand NTU into a full-fledged university. The panel last met in January 2001.

Prof Xu Zhihong, President of Beijing University, said that as a comprehensive university, NTU could nurture top talent for Singapore as well as be a magnet for overseas talent.

The IAAP was established by the Ministry of Education in April 1997 to help the universities in Singapore develop into world-class centres of excellence in scholarship and research.

Visitors

<table>
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<tr>
<th>Date</th>
<th>Visitor</th>
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<tbody>
<tr>
<td>25 Oct</td>
<td>Prof Nguyen Van Nam, Chairman, Trade Institute, Ministry of Trade, Vietnam</td>
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<tr>
<td>15 Nov</td>
<td>Mr Nie Shaomin, Party Secretary-General, Chairman of School Affairs Administration Committee, Yanshan University, PRC</td>
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<tr>
<td>22 Nov</td>
<td>Dr Peter George, President &amp; Vice-Chancellor, McMaster University, Canada</td>
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<tr>
<td>18 Dec</td>
<td>Prof Zhuang Huajie, Vice President, Zhejiang University City College, PRC</td>
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During the period October to December 2002, the University received the following distinguished visitors:

During this period, the University also received visiting delegations from University of Copenhagen, Denmark; Khon Kaen University and University of the Thai Chamber of Commerce, Thailand; Saigon Centre of Technique & Technology and The National Assembly Committee, Vietnam; International Islamic University Malaysia; Kun-Shan University of Technology, Taiwan, Republic of China; Jiangxi Provincial Education Bureau and Tianjin University, PRC; and the Scientific Advisory Board of the Institute for Mathematical Sciences.