NTU NEWS
No. 36
April – June 2000
Nanyang Technological University Singapore Internet: http://www.ntu.edu.sg/pro/nnews

NTU & SGH collaborate on new Master of Science in Biomedical Engineering

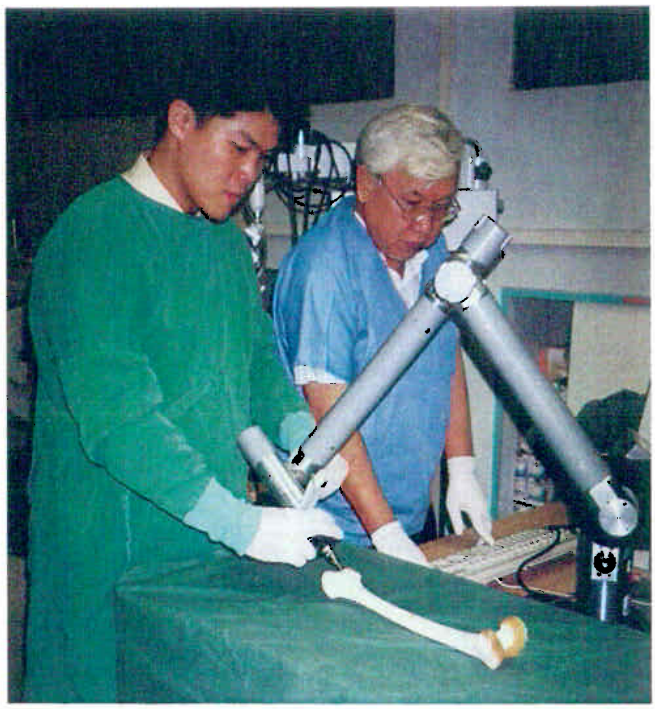
New Masters programme a boost to life sciences industry

Singapore aims to triple its output from the life sciences sector by 2010. To play its part in building a world-class life sciences hub in Singapore, NTU is offering a new Masters course in Biomedical Engineering to train manpower for this high-growth industry

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.



***Anatomical measurement** of human bones (biomechanics)*

PROFILE OF THE BIOMEDICAL ENGINEER

- Works alongside physicians, surgeons and therapists in hospitals, universities and research institutes
- Uses advanced engineering technology to solve clinical problems, design new medical instruments, establish new clinical procedures and guidelines, conduct research, and provide consultancy services to health care companies

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.

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.

First Prize winners: *(left to right) Liew Chin Chuan, Ong Kok Leong, Tan Beng Suang and Zhao Lei (not in picture - Asst Prof Ng Wee Keong)*

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/.

Best Java Application Award winners: *(left to right) John I C Gomes, Sneha N Shah, Jayanth Nagarajan and Asst Prof Clement Chia*

Merit Award winners: *(left to right) Sim Han Seah, Zhang Jianfeng, Assoc Prof Francis Lee and Assoc Prof Yeo Chai Kiat*

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

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.