In this special 10th anniversary issue of CE Newsletter which coincides with the beginning of the new millennium, we will be taking a retrospective look at the Department and its progress over the years, highlighting the thrust of new initiatives in teaching and research that the Department has embarked upon.

Although we can trace the beginning of professional engineering education and our roots all the way back to 1956 and the Department of Engineering, University of Malaya (Singapore), we only became a distinct entity in 1969 when the Department of Civil Engineering was established as one of three departments in the newly constituted Faculty of Engineering, University of Singapore. Between 1958 and 1976, our premises were on the Prince Edward Road campus of the Singapore Polytechnic. The Department moved to the present Kent Ridge campus in 1977. The University of Singapore became the National University of Singapore in 1980 with the merger of Nanyang University. The Department moved to new offices on the 7th floor of Block E1A when the engineering annex was completed in 1999.

Throughout its history, the Department has kept abreast of the nation’s needs in manpower training for the economy through new initiatives in its education programme and the establishment of specialized research facilities. Some of the research have resulted in patents, commercialised products and licenced technologies, spin-off companies, technical books and awards. These developments have helped the Department progress and grow in stature over the years in terms of student enrolment numbers, research funding and service to industry.
**Brief History of the Department of Civil Engineering**

1956 • Professional engineering education commenced in Singapore at the Singapore (Bukit Timah) campus of the University of Malaya. At that time, there was only a Department of Engineering.

1958 • Legislation was passed by the Government of Singapore and the Federation of Malaya providing for the continuance of the University of Malaya as a single university but having two largely autonomous divisions of equal status, one in Singapore and the other in Kuala Lumpur.
• The Department of Engineering was elevated to full faculty status.
• The Faculty of Engineering was transferred to Kuala Lumpur.
• A four-year professional diploma course was established in the Singapore Polytechnic at the Prince Edward Road Campus.

1962 • The two divisions of the University of Malaya became separate national universities, the University of Singapore and the University of Malaya.

1964 • The four-year professional diploma course was superseded by the establishment of the four-year Bachelor of Engineering course. Engineering students of the Singapore Polytechnic were allowed to register as students of the University of Singapore for the award of the University’s Degree of Bachelor of Engineering.

1968 • The first batch of Engineering students graduated under the 1964 scheme.
• Among this first batch of graduates was Cheong Hin Fatt (Mechanical Engineering) who later became the 7th Head of our Department.

1969 • The Engineering degree scheme of the Singapore Polytechnic was integrated and a fully constituted Faculty of Engineering was established at the University of Singapore.
• The Department of Civil Engineering was born.

1977 • The Department is relocated at Kent Ridge Campus.

1980 • Nanyang University merged with the University of Singapore and the Department became a department of the National University of Singapore.

**Changes and Developments in the Past 10 Years**

**New Courses & Programmes**

<table>
<thead>
<tr>
<th>Year</th>
<th>Course/Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>Overseas Industrial Attachment</td>
</tr>
<tr>
<td>1994</td>
<td>Modular System</td>
</tr>
<tr>
<td>1994</td>
<td>Graduate Diploma in Aviation Management</td>
</tr>
<tr>
<td>1994</td>
<td>MSc (Transportation Systems and Management)</td>
</tr>
<tr>
<td>1994</td>
<td>Undergraduate Research Opportunities Programme</td>
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<tr>
<td>1995</td>
<td>Student Exchange Programme</td>
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<tr>
<td>1996</td>
<td>Accelerated Masters Programme</td>
</tr>
<tr>
<td>1996</td>
<td>The Talent Development Programme</td>
</tr>
<tr>
<td>1997</td>
<td>BEng (Civil) with specialization in Environmental Engineering</td>
</tr>
<tr>
<td>1999</td>
<td>BEng with a Minor in Business</td>
</tr>
<tr>
<td>1999</td>
<td>BEng with a Minor in Law</td>
</tr>
<tr>
<td>1999</td>
<td>BEng with a Minor in Management of Information Systems</td>
</tr>
<tr>
<td>1999</td>
<td>BEng with a Minor in Technopreneurship</td>
</tr>
</tbody>
</table>

**Laboratories & Centres**

<table>
<thead>
<tr>
<th>Year</th>
<th>Laboratory/Centre</th>
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<tbody>
<tr>
<td>1990</td>
<td>Geotechnical Centrifuge Laboratory</td>
</tr>
<tr>
<td>1990</td>
<td>Centre for Transportation Research (CTR)</td>
</tr>
<tr>
<td>1991</td>
<td>Centre for Soft Ground Engineering (CSGE)</td>
</tr>
<tr>
<td>1995</td>
<td>Centre for Construction Materials and Technology (CCMT)</td>
</tr>
<tr>
<td>1995</td>
<td>Physical Oceanography Research Laboratory (PORL)</td>
</tr>
<tr>
<td>1998</td>
<td>Marine Information Technology Laboratory (MITL)</td>
</tr>
<tr>
<td>1998</td>
<td>Centre for Protective Technology (CPT)</td>
</tr>
<tr>
<td>1998</td>
<td>Large Scale Systems Laboratory</td>
</tr>
<tr>
<td>1999</td>
<td>High Performance Concrete Research Laboratory (HPCRL)</td>
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<tr>
<td>2000</td>
<td>Wind Tunnel Laboratory</td>
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<tr>
<td>2000</td>
<td>Intelligent Transportation &amp; Vehicle Systems (ITVS) Laboratory</td>
</tr>
<tr>
<td>2000</td>
<td>Geoinformatics Laboratory</td>
</tr>
</tbody>
</table>

**Patents and Licensed Technologies**

<table>
<thead>
<tr>
<th>Year</th>
<th>Technology/Invention</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>aeSBR (aerobic Sequencing Batch Reactor); anSBR (anaerobic Sequencing Batch Reactor); Anfil and Hybridan [W J Ng]</td>
</tr>
<tr>
<td>1995</td>
<td>Propeller Circulating Type Aerator System [W J Ng]</td>
</tr>
<tr>
<td>1996</td>
<td>Passive Attenuator for Shelter Protection against Explosions, United States [W A M Alwis and K Chong]</td>
</tr>
<tr>
<td>1998</td>
<td>Aerator for Fluid Media, United Kingdom [W J Ng, H F Cheong and G H Chen]</td>
</tr>
<tr>
<td>1998</td>
<td>Membrane Reactor for the Removal of Dissolved Oxygen from Water, United Kingdom [W K Tea, W J Ng, K Li and I Chua]</td>
</tr>
<tr>
<td>1998</td>
<td>Drainage Test Apparatus for Porous (or Drainage) Road Mixes [T F Fwa and S A Tan]</td>
</tr>
<tr>
<td>1998</td>
<td>Field Permeability Apparatus for Porous Asphalt Road Mixes [T F Fwa and S A Tan]</td>
</tr>
</tbody>
</table>
Spin-Off Companies
1995 Biotreat International [W J Ng]
1999 Aromatrix Pte Ltd [L C Koe]

Books Authored / Co-authored by Academic Staff

*CE academic staff

Awards
1990 IES KYD Gin Gold Medal Award for Prestigious Publication (Application) [S.L. Lee, G.K.C. Ong, S. Swaddiwudhipong, S.T. Quek]
1990 1st IES Innovation Award (Merit) [S.L. Lee, G.P. Karunaratne, K.Y. Yong]
1992 Maurice P Van Buren Structural Engineering Award, American Concrete Institute (ACI) [M.A. Mansur]
1992 Katahira Best Paper Award, Road Engineering Association of Asia and Australasia (7th REAAA) [T.F. Fwa, W.T. Chan]
1992 Jan Schoemaker Award, International Association of Hydraulic Research (IAHR) [H.F. Cheang]
1993 Arthur M. Wellington Prize, American Society of Civil Engineers (ASCE), [T.F. Fwa]
1994 Best Paper Award, 9th Asia Pacific Congress of International Association of Hydraulic Research (IAHR) [S.Y. Liong, W.T. Chan]
1994 O WICS Ken-Francis Award [M.A. Mansur; T.H. Wee]
1994 IES/I Struct E Best Paper Award [K.K. Ang]
1995 Katahira Best Paper Award, Road Engineering Association of Asia and Australasia (REAAA), [T.F. Fwa, S.A. Tan]
1996 Choice Outstanding Academic Book Award [N.E. Shamugam, R.J.Y. Liew]
1996 IES Prestigious Publication Award (Theory) [T. Balendra]
1997 IES/I Struct E Best Paper Award [T. Balendra]
1997 IES Prestigious Publication Award (Theory) [C.G. Koh]
1997 IES ASEAN Engineering Award (Merit) [W.J. Ng, S.L. Ong, M.A. Aziz]
1997 Special Award, American Concrete Institute (ACI) for sustained and outstanding contributions in Concrete Technology in Singapore [P. Paramasivam]

Over the years, our alumni have contributed as civil engineers to infrastructure development and nation building through their knowledge, skills and talents; many of them have achieved prominent status in industry and government. We would like to pay tribute to the succession of Heads of Department who have contributed their service to the development of the Department.

Past & Present Heads of Department
1969-1970 Ralph William Ansley
1970-1971 Susanta Sarkar
1971-1972 Lewis Au Li Tang
1972-1974 Chin Kee Kean
1974-1975 Li Yu Teck
1975-1989 Lee Seng Lip
1989-1995 Cheong Hin Fatt
1995-2000 Yong Kwet Yew
2000-Present Fwa Tien Fang

In the first decade of the new millennium, civil engineers need to address new challenges posed by globalisation, accelerating environmental change, pervasive use of information technology, in order to fulfill the role in value creation within the new ‘knowledge economy’. The Department will help civil engineers address these issues through its mission of providing sound professional training and education in civil engineering to both new aspirants and alumni alike. Important changes are being planned for the education, research and training programmes of the Department. The proposed changes will emphasise the interdependence of infrastructure and the environment, urban environmental engineering, innovation in construction methods and materials, and the increasing importance of digital (spatial) information and information technology. A new curriculum is being planned which, whilst maintaining the fundamentals of a professional engineering qualification, will equip civil engineers with new application skills in geographic information systems and information technology, as well as analytical skills in civil engineering systems.

We are hopeful that the successful adoption of the proposed changes, together with the generous support of alumni and friends, will enable the Department to fulfil its promise to be a premier tertiary institution of lifelong learning and engineering innovation.
International Conference Honours CCMT

The Centre for Construction Materials and Technology (CCMT), National University of Singapore has been honoured by the 2000 ACI International conference on Repair, Rehabilitation and Maintenance of Concrete Structures, and Innovations in Design and Construction with an award for outstanding contributions in research and development pertaining to concrete materials and design. The award was presented by Dr V. M. Malhotra, Conference Chairman at the Awards Banquet on 21 Sept 2000 in Seoul, South Korea.

The award, the first received by a research centre hosted by the Civil Engineering Department, is in recognition of the sterling work put in by academic, research and technical staff and past and present students engaged in research and development pertaining to concrete materials and design. The award also serves to affirm the close support and active collaboration of CCMT’s research partners both locally and overseas.

Operation Orion 2000: The Spark that started the Fire

In July this year, a group of twenty-five undergraduate students from the Department of Civil Engineering went on an overseas community services expedition to Myanmar under the Youth Expedition Programme, supported by Singapore International Foundation (SIF) and YMCA. This student-initiated project was a great success. Students built seven houses and a playground for needy families in the village, and gained invaluable experience through hands-on involvement in real community work.

This project took them six months to plan, design and source for materials, and to raise 30 percent of the project costs through various activities before they left for Myanmar. The remaining 70 percent of the overall project cost was graciously supported by the Singapore International Foundation.

They have returned after a 18-day trip working in the Village of Hlaing Tha Yar in Yangon, Myanmar. On 26th September, they staged a campus-wide presentation to share their experiences, hoping to inspire others to take up the challenge of community work – both overseas and locally.

Mr Michael Lee, Team Leader, summarised it well: "Essentially we were there to touch lives, to experience for ourselves the different living conditions, ... as well as to appreciate how important it is to do community service."

The above activity captured the media’s attention and was on TCS 5 news segment on 27th September as well as ChannelNewsAsia’s webpage. In addition, Lianhe Zaobao carried a half-page report on this activity on 1st October.
Technology Month 2000: Highlights

Every year, September is designated as Technology Month and activities relating to science and technology are held throughout this month in Singapore. As part of our activities to celebrate this Techmonth 2000 and to promote greater awareness of the role of science and technology in the economic development of Singapore, the Department initiated special seminars as well as contributed to various activities organised by the Faculty. These included the Alumni Day activities, inaugural Professorial lectures, Final Year design project Awards, and public seminars by practising engineers.

Final Year Design Projects and Awards

A new format for conducting the Design Project module has been implemented for the present cohort of final year students. Students in groups of 4 to 5 spent practically full time during the first 3 weeks of the first semester to complete one of the six design projects. These projects include design of a continuous frame bridge, gravity caisson wharf structure, Lyric Theatre for the Singapore Arts Centre, multi-storey carpark, traffic improvement plan and sewage treatment plant. Besides academic staff, experienced practising engineers were engaged as consultants to advise the students. To motivate the students to carry out the design as realistic as possible, a competition was held to choose the best group for each design project. On 15 September, the 6 best design project groups presented their work to the CE3 students to provide them a better insight on the design projects and to enable them to make an informed choice when they select their design projects in their final year. After the presentation, Assoc Prof K H Tan, Deputy Head (Administration) presented each student of the best design groups a certificate and prize.

Alumni Day

As part of the Faculty activity, the Department took part in the poster session with displays in the foyer of the new EA building on the occasion of Alumni Day on 16 Sept. It highlighted some of the latest research and development in the fields of transport, water quality, odour control, soft-ground engineering and high performance concrete applications. The display attracted many participants from both the industry and government departments.

Public Seminar by LTA Engineer

Mr Nick Shirlaw, Design Manager (Geotechnical and Tunnels) of LTA, delivered a public seminar on “Underground construction in the weathered rocks of Singapore — some NEL experience” on 14 Sept. About 200 persons attended the seminar with over half of them were practising engineers from government, statutory boards and private companies. Mr Shirlaw highlighted on various geotechnical problems concerning tunnel and deep excavation works in various Singapore soil/rock conditions. The participants thoroughly enjoyed and benefited from the seminar as numerous photographs were shown from many case histories around Singapore. There were also lively discussion during the question and answer sections, and during the reception after the seminar.

Inaugural Professorial Lectures

Three newly promoted professors of the department delivered the lectures this year on 30 Sept. They are Professors Fwa Tien Fang, Chow Yean Khow and N E Shanmugam. The topics of their presentation are “Non-destructive evaluation of pavement performance for road network management”, “Theory and applications of dynamic compaction of loose soil” and “Steel-concrete composite construction”, respectively.

The lectures generated a lot of interests with over 80 participants. There were active discussions on various practical issues. Delegates from industry and government organisations included those from SembCorp Construction, Murray-North Consultants, Housing and Development Board, Power Grid Ltd, Building and Construction Authority, etc.
Short Courses

Computational Geotechnical Analysis with Plaxis

The first Asian short course on "Computational Geotechnical Analysis with Plaxis" was organised by the Professional Activities Centre of the Faculty, through the CGSE of the Department on 13-16 June 2000. With a total 15 participants, the course was conducted by Assoc Prof Tan Siew Ann as course leader with Mr Peter Brand of Plaxis BV Netherlands as co-instructor. As part of the goodwill generated in the course, Plaxis BV has made a generous donation of a network version of the programme with 25 user licenses for Department’s use in teaching and research. The commercial value of each copy of the software is estimated to be S$5,000. The programme is a FEM software for modelling soil and rock continuum with structural elements. It is currently being used in the final year design project and also in several research projects conducted in the CSGE.

Design of Tall Buildings for Wind and Earthquake Loads

In July 2000, the Department jointly with the Singapore Concrete Society organised a one day short course on Design of Tall Buildings for Wind and Earthquake Loads. The aim of the course was to provide an opportunity for engineers, designers and local building specialists to familiarise with the design of buildings to wind and earthquake loadings so that better, more economical and safer buildings could be designed and constructed. The course was conducted by Assoc Prof T Balendra, Assoc Prof MA Mansur and Assoc Prof Richard Liew, covering topics such as the structural systems, serviceability design for wind loads, structural forms for low seismic regions, and seismic design of concrete structures. Several case studies were presented to demonstrate the application in the field. The course attracted 35 participants from public and private sectors.

ICSF 2000

The Centre for Construction Materials and Technology (CCMT) of the Department and the Singapore Concrete Institute jointly organised the Sixth International Conference on Structural Failure, Durability and Retrofitting (ICSF 2000), held on 14 and 15 Sept 2000. The first conference in this series was held in 1987, immediately one year after the collapse of the Hotel New World in Singapore, which killed 33 people and shocked the entire nation.

Singapore has come a long way since the first conference with the implementation of various building regulations and a unique system of accredited checkers. However the recent collapse of the Compassvale Primary School’s multi-purpose hall in Singapore raised fresh concerns about the need to ensure proper building design and safe construction practices. The conference was opened by Mr Tan Siong Leng, CEO, Building and Construction Authority, who took the opportunity to announce some policy changes with regards to safe building practices.

The main themes of ICSF 2000 are case studies of structural failure, maintenance, durability and retrofit of reinforced concrete structures. Three eminent professors were invited to speak on topics of current interest, viz. Professor Oral Buyukozturk from the Massachusetts Institute of Technology, USA, Professor L A Clark from Birmingham University, UK, and Professor P Balaguru from The State University of New Jersey, USA. In addition, Er. Lau Joo Ming, Chief Structural Engineer, Housing and Development Board spoke on “Structural Design and Construction Reviews and Maintenance Feedback System – HDB Public Housing Programme”.

The two-day conference was attended by about 150 delegates from 19 countries with 45 technical papers presented. The delegates found the conference appropriate and timely as it addresses failure together with the related issues of durability, maintenance, assessment, and retrofitting, serving as an useful international forum for professionals, academics, builders and developers in the construction industry to exchange ideas and experiences for mutual benefit.
First civil engineering day of the millennium was celebrated in August this year. The enthusiasm of civil engineering students, support from faculty members and our industry sponsors made this event an unforgettable one. The theme, Abyss, was well reflected in our selection of location which was of course a swimming pool.

After a brief address by the new Head of Department, Prof Fwa Tien Fang, and short speeches by representative from our sponsor (HPCRL and its industrial partners), the event kicked off with the traditional CE costume parade. The Postgraduate and the CE3 teams have displayed rare talent in design of their respective mascots.

This year’s main highlight was poolside games and activities. The games include traditional Tug-of-War between staff and students. Anticipation rose and spirits were high as the members of staff rallied together and put their strongest players.

The event showed off true spirit of CE family. Such was the convivial atmosphere in which staff and students enjoyed together. Indeed, for CE staff and students, it was tons of poolside fun, sun, entertainment, and of course goodies from our sponsors.

CE Spirit Rises High in the new millennium…
CIVIL ENGINEERING DAY 2000

The Wits (Work Improvement Teams) Team 'CONSTRUCT' comprising twelve laboratory officers from Structures Engineering Division of the Department captured the Bronze Award in the recently concluded National Quality Control Convention held on 10 July 2000. It was organised by the Singapore Productivity and Standards Board. Teams from more than 100 organisations, representing both the public and private sectors, participated in this national competition to showcase their team’s project.

In all, more than 900 teams participated in the event. The team CONSTRUCT, formed in July 1999, competed in the newcomer category and presented its first completed project entitled "Overheating in the Cooling System for a High Pressure Power Pack". In this project, the team has devised a system that will save the engineering faculty more than 500,000 litres of water per month, or about $8000 annually. The Award includes a trophy, $400 cash and certificates of participation to individual members.

“CONSTRUCT” Wins WITS Award

Professor Fwa delivering the opening address for CE Day in T-shirt displaying our CE Day Banner

What a throw! Slam the Rubber Duckie

Our Aquadator Students

CONSTRUCT Team members
BCA & Construction Industry Scholarships

This year’s Award Presentation Ceremony for the BCA (Building and Construction Authority) Scholarships and the BCA-Construction Industry Scholarships was held on 13 July 2000. At this ceremony two overseas scholarships and two local scholarships were awarded by BCA. Both the local scholarships were grabbed by CE students from NUS. Besides these, 19 BCA-Construction Industry Scholarships were awarded to the local students. Of these 19 scholarships, 17 went to NUS students out of whom 9 were CE students. The 11 recipients from the CE Dept are:

<table>
<thead>
<tr>
<th>S/N</th>
<th>Scholar</th>
<th>Scholarship</th>
<th>Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chiew Geok Har</td>
<td>BCA-L&amp;M Precast</td>
<td>L&amp;M Precast (Tuas) Pte Ltd</td>
</tr>
<tr>
<td>2</td>
<td>Choy Kuo Chuen,  Adrian</td>
<td>BCA-Keong Hong</td>
<td>Keong Hong Construction Pte Ltd</td>
</tr>
<tr>
<td>3</td>
<td>Lau Joe-Ann</td>
<td>BCA-Pyramid Construction</td>
<td>Pyramid Construction Engineering Pte Ltd</td>
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<tr>
<td>4</td>
<td>Lim Chee Yeong</td>
<td>BCA-Eastern Industries</td>
<td>Eastern Industries Pte Ltd</td>
</tr>
<tr>
<td>5</td>
<td>Loh Boon Hwee</td>
<td>BCA-Hock Lian Seng</td>
<td>Hock Lian Seng Infrastructure Pte Ltd</td>
</tr>
<tr>
<td>6</td>
<td>Loh Kar Wei</td>
<td>BCA-Keppel</td>
<td>Keppel Engineering Pte Ltd</td>
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<tr>
<td>7</td>
<td>Low Swee Yang, Edmund</td>
<td>BCA-Who Hup</td>
<td>Who Hup (Private) Ltd</td>
</tr>
<tr>
<td>8</td>
<td>Ng Teck Guan</td>
<td>BCA-Poh Lian</td>
<td>Poh Lian Construction Pte Ltd</td>
</tr>
<tr>
<td>9</td>
<td>Poh Leong Hien</td>
<td>BCA Local</td>
<td>Building and Construction Authority</td>
</tr>
<tr>
<td>10</td>
<td>Tong Ping-Ping</td>
<td>BCA-Guan Choon</td>
<td>Guan Choon Construction Pte Ltd</td>
</tr>
<tr>
<td>11</td>
<td>Woo Yih Hau</td>
<td>BCA Local</td>
<td>Building and Construction Authority</td>
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</table>

Professor L A Clark Visits the Department

Professor Clark, the immediate Past President of the Institution of Structural Engineers, UK and Professor of Structural Engineering at the University of Birmingham, paid a visit to the Department on September 11. His visit was especially useful, as he has been involved with the development of design and assessment codes and guidance both in the UK and Europe for many years. He was appointed by the Minister for Construction, UK to chair an Expert Group on the thaumasite form of sulphate attack of concrete and recently completed a one-year review of the Expert Group’s Report. In addition, he was appointed by the UK Minister for Construction and the British Standards Institution to chair a committee to review the content and production of design codes in construction and the committee has reported to the Minister in July 2000.

During his visit he met with members of the Structural Concrete Research Group (SCoRE) of the Centre for Construction Materials and Technology (CCMT) for discussions. His feedback on the future status of British Design Codes and its impact on countries that rely on such codes was especially enlightening. At NUS he gave a seminar entitled “The Effects of Defects and Deterioration on the Behaviour of Concrete Structures”. The talk attracted more than 80 participants including many from outside organisations. During his visit Professor Clark managed to tour the research facilities of the Department and also met with the Dean, Professor Ng Wun Jern, an alumnus of Birmingham University.

Another Bumper Crop in SEP and OIA

The new millennium begins with a bumper crop in the number of civil engineering students going overseas for industrial attachment (OIA) and for academic study under the Student Exchange Programme (SEP). CE Department is actively taking part in Singapore’s globalisation effort.

There were 21 OIA placements (of a cohort of 187 students; 11%) offered to our CE students. It covered Canada (1), USA (2), France (1), Germany (1), Japan (1), Hong Kong (7), Taiwan (7), and Australia (1). These students are now back in NUS to complete their 4th year study after a 6-months stint overseas (sightseeing inclusive!). We would like to extend our deep appreciation to all participating companies for sponsoring our students.

On SEP, the number is increasing rapidly and stand at 31 (of a cohort of 188 students) which translates to about 16%. They are, at the point of this publication, spread all over the world (Canada 10, USA 7, Israel 1, UK 3, Sweden 3, France 1, Australia 3, New Zealand 3) as shown in the accompanying Table. The number of students interested in the SEP exceeds the number of places allocated to CE Department.

Given the current trend, we will have more students going overseas in the coming years!
Staff Activities

Assoc Prof T Balendra was invited to serve in the International Advisory Committee of the 5th Asia Pacific Conference on Wind Engineering, to be held in Kyoto, Japan, in Oct 2001.

Assoc Prof Choo Yoo Sang has been elected to serve as a Board Director of the International Society of Offshore and Polar Engineering (ISOPE) for a two year term, starting 1 July 2000.

Professor Chow Yean Khow has been invited to be a member of the Advisory Board/Editorial Panel of the International Journal of Geomechanics, to be launched in early 2001.

Professor Chow Yean Khow has been invited to be a member of the Editorial Board of the 8th International Conference on Civil and Structural Engineering Computing to be held in Eisenstadt-Vienna, Austria, 19-21 Sept 2001.

Professor Chow Yean Khow and Assoc Prof Leung Chun Fai have been invited to be members of the International Advisory Committee of the 2nd World Engineering Congress (WEC2002) to be held in Kuching, Sarawak, Malaysia, 22-25 July 2002.

Assoc Prof Lawrence Koe Choon Chiaw through the Department’s spin off company, Aromatrix Pte Ltd, was awarded the Enterprise Challenge Award of $250,000 to trial test the bioscrubber odour control technology at the Ministry of the Environment’s Kranji Sewage Treatment Plant.

Assoc Prof C F Leung has been invited to be Regional Co-editor and Editorial Board Member of the International Journal of Physical Modeling in Geotechnics, to be launched in early 2001.

Assoc Prof C F Leung and S A Tan have been invited to be members of the Editorial Panel of Geotechnical Engineering, journal published by the Southeast Asian Geotechnical Society.

Assoc Prof Liong Shie-Yui has been appointed as a member of the International Advisory Board of the Journal of Hydroinformatics.

Assoc Prof M A Aziz has been appointed as the Chairman of SGS International Certification Services. Singapore (ICS) Certification Council with effect from 13 Sept 2000 for a period of 5 years.

Professor P Paramasivam has been invited by the Transportation Research Board, Washington, USA as a member of A2E05, Committee on Concrete Materials and Placement Techniques for a period of three years 2000-2003.

Professor P Paramasivam has been invited to be a member of the International Scientific Advisory Committee for the Third International Conference on Non-Conventional Materials and Technologies to be held in Hanoi, Vietnam, Mar 2002.

Assoc Prof Quek Ser Tong had been invited to chair a session at the 8th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability, University of Notre Dame, USA, 24 – 26 July 2000.

Assoc Prof Quek Ser Tong had been invited to chair a session and to present a paper at the Symposium in Honour of Professor Alfredo Ang at the University of Illinois at Urbana-Champaign in USA, May 18-19 2000.

Assoc Prof Tan Kiang Hwee served as Session Chairman at the 3rd International Conference on Advanced Composite Materials in Bridges and Structures (ACMBS-3), held in Ottawa, Canada, from Aug 15 to18, 2000.

Assoc Prof Tan Kiang Hwee and Professor P Paramasivam have been invited to be members of the International Advisory Committee for the International Conference on FRP Composites in Civil Engineering (CICE 2001), to be held in Hong Kong, Dec 12-14, 2001.

Assoc Prof Harry Tan Siew Ann was awarded the SAC-SINGLAS (Singapore Accreditation Council) Technical Assessor Gold Certificate of Appreciation.

Assoc Prof Wang Chien Ming has been invited to be a member of the Editorial Board of the International Journal of Computational Structural Engineering.

Professor Yong Kwet Yew was awarded the Public Administration Medal (Silver) in this year’s National Day Awards.

Publications. April - June 2000


Liew, R J Y and L K Tang, “Advanced plastic-hinge analysis for the design of tubular frames, engineering structures”. Int. J. of Earthquake Engineering, 22(7), 769-783.


Research Scholars

Ms Aye Monn Monn Shein – Self Compacting Concrete
Mr Cai Jing – Study on Columns with WWF ties
Mr Chen Wen – Mechanism of Penetration and Soil Compaction
Mr Chia Kian Boon Edwin – Modelling of UCBR System
Mr Choo Kian Meng – Vibration Monitoring System for Transit Trains
Mr Cui Zhe – Structural Mechanics
Mr Dong Jie – Steel Structures
Mr Goh Yang Miang – Construction Safety Management
Mr Jirasak Arummongkol – Centrifuge Model Tests on Piles Subjected to Compression and Tension in Clay
Mr Li Lian – Concrete Materials
Ms Li Ying – Stability of Coastal Slope under Wave Attack
Mr Liang Juxiang – Structural Steel Construction
Mr Liu Qun – Traffic Engineering
Mr Ni Qing – Soft Ground Engineering
Mr Prasenjit Bhattacharya – Thin Walled FRP Reinforced Members
Mr Qi Hongtu – Transportation Engineering
Mr Shen Lin – Early Age Deformation Characteristics of High-Strength Concrete
Mr Sirivadidurage S Pradeep Kumara – Transportation Engineering
Mr Song Yuanbin – Construction Management
Ms Suyanthi Srisaktivhe – Structural Engineering
Mr Tan Bo – Construction Management
Mr Tan Jun Yew – Adaptive Road Layout Optimisation
Mr Tan Tze Wee – Modelling of Water Reclamation Systems
Mr Thamindra Lakshan Jayanti Wasage – Transportation Research
Mr Tee Kong Fah – Computational Structural Mechanics
Mr Venugopalan s/o Rajamani – Steel Structure System

New Faculty

Dr Lin Pengzhi
Dr Lin joined the Department as an Assistant Professor in the Hydraulic & Environmental Engineering Division on 19 September 2000. He received his PhD degree in Civil Engineering from Tianjin University, China in 1991, MS degree in Environmental Engineering from University of Hawaii, Manoa in 1993 and PhD degree in Hydraulics from Cornell University in 1998. From 1998 to 1999, he served as a Postdoctoral Associate at Cornell University. He joined Hong Kong Polytechnic University as a Postdoctoral Fellow prior to joining NUS. His research interests include three-dimensional modeling of wave structure interaction and pollutant transport around island as well as large-scale modeling of typhoon-generated waves.

Dr Song Lianfa
Dr Song joined the Department of Civil Engineering at Hong Kong University of Science and Technology in 1996. Dr Song's research interests include physical and chemical water/wastewater treatments, colloidal phenomena in aquatic environments, and modelling and simulation of environmental systems. He is a member of the North American Membrane Society and the International Water Association.

Appointments

Visiting Professor
Professor Van-Thanh-Van Nguyen, 8 July to 19 Aug 2000

New Appointments

Dr Lin Pengzhi, Assistant Professor, 19 Sept 2000
Dr Song Lianfa, Assistant Professor, 15 Sept 2000
Dr Shankar Krishnapillai, Teaching Fellowship, 18 Sept 2000
Dr Hong Geck Meng, Principal Administrative Officer, 1 July 2000
Ms D Indra Devi, Administrative Officer, 4 Sept 2000
Ms Zeng Hong, Helen, Professional Officer, 28 Aug 2000
Mr Shen Rui Fu, Professional Officer, 1 Aug 2000
Ms Lee Leng Ling Ling, Laboratory Technologist, 21 Aug 2000
Ms Koh Seow Wei, Valerie, Laboratory Technologist, 2 Aug 2000
Mr Shaja Khan s/o Abdul Kassim, Laboratory Technologist, 10 July 2000
Mr Wong Kah Wai, Laboratory Technologist, 10 July 2000
Mdm He Xiao Lu, Laboratory Technologist, 1 July 2000
Miss Mya Sanda Win, Corporate Support Officer V, 1 July 2000

Research Engineer
Ms Sim Bang Janet • Mr Tan Toong Wuay
Mr Wee Sim Ho • Ng Giap Leng
### Seminars held, July - September 2000

<table>
<thead>
<tr>
<th>When</th>
<th>On What</th>
<th>By Whom</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 Apr</td>
<td>Appropriate Soil Models in Soil Structure Interaction Analyses</td>
<td>Dr D W Hight Distinguished Visiting Professor, Dept of Civil Engineering, NUS and Director of Geotechnical Consulting Group, UK</td>
</tr>
<tr>
<td>11 Jul</td>
<td>Inverse Methods in Coastal Morphology</td>
<td>Professor Dominic Reeve Chair, Environmental Fluid Mechanics, University of Nottingham, UK</td>
</tr>
<tr>
<td>13 Jul</td>
<td>Earthmoving Operations and Construction Equipment</td>
<td>Dr Govindan Kannan Volvo Construction Equipment, Ashville, North Carolina, USA</td>
</tr>
<tr>
<td>04 Aug</td>
<td>Hydrologic Frequency Analysis: A Review of Current Practices</td>
<td>Professor V T Van Nguyen Visiting Professor, CE Dept, NUS</td>
</tr>
<tr>
<td>07 Aug</td>
<td>The Design Storm Concept</td>
<td>Professor V T Van Nguyen</td>
</tr>
<tr>
<td>10 Aug</td>
<td>Conceptual Design of Tall Buildings</td>
<td>Professor Lee Seng Lip Emeritus Professor, CE Dept, NUS</td>
</tr>
<tr>
<td>10 Aug</td>
<td>Analytically-Derived Distribution Functions for Storm Volume and Mean Areal Rainfall</td>
<td>Professor V T Van Nguyen Visiting Professor, CE Dept, NUS</td>
</tr>
<tr>
<td>15 Aug</td>
<td>New Statistical Approaches to Regional Estimation of Floods</td>
<td>Professor V T Van Nguyen Visiting Professor, CE Dept, NUS</td>
</tr>
<tr>
<td>16 Aug</td>
<td>Recent Advances in the Modelling of Extreme Rainfalls and Floods</td>
<td>Professor V T Van Nguyen Visiting Professor, CE Dept, NUS</td>
</tr>
<tr>
<td>17 Aug</td>
<td>Development of Conceptual Hydrologic Models</td>
<td>Professor V T Van Nguyen Visiting Professor, CE Dept, NUS</td>
</tr>
<tr>
<td>28 Aug</td>
<td>Status of Intelligent Transportation Systems in North America</td>
<td>Professor Chelsea C White, III Professor, Industrial and Operations Engrg. and, Electrical Engrg. and Computer Science, USA</td>
</tr>
<tr>
<td>31 Aug</td>
<td>Fibredrain Development, Design and Performance</td>
<td>Professor Lee Seng Lip Emeritus Professor, CE Dept, NUS</td>
</tr>
<tr>
<td>8 Sep</td>
<td>Application of Support Vector Machines in Arterial Street Incident Detection</td>
<td>Mr Yuan Fang Research Scholar, CE Dept, NUS</td>
</tr>
<tr>
<td></td>
<td>A Comparative Study on the Land Transport Systems between Metropolitan Paris and Singapore</td>
<td>Miss Cherion Florence Research Scholar, CE Dept, NUS</td>
</tr>
<tr>
<td>11 Sep</td>
<td>The Effects of Defects and Deterioration on the Behaviour of Concrete Structures</td>
<td>Professor Les A Clark F Eng Professor of Struct. Engrg., University of Birmingham, UK</td>
</tr>
<tr>
<td>12 Sep</td>
<td>Microsensor for Health Monitoring</td>
<td>Professor V K Varadan Department of Engineering Science and Mechanics Pennsylvania State University, USA</td>
</tr>
<tr>
<td>14 Sep</td>
<td>Underground Construction in the Weathered Rocks of Singapore – Some NEL Experience</td>
<td>Mr Nick Shirlaw Design Manager (Geotechnical and Tunnels) LTA, Singapore</td>
</tr>
<tr>
<td>21 Sep</td>
<td>Construction Safety</td>
<td>Mr Goh Chye Guan LC2 Safety Consultancy</td>
</tr>
<tr>
<td>30 Sep</td>
<td>Inaugural Professorial Lecturers:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nondestructive Evaluation of Pavement Performance for Road Network Management</td>
<td>Professor Fwa Tien Fang Head, CE Dept, NUS</td>
</tr>
<tr>
<td></td>
<td>Dynamic Compaction of Loose Granular Soils – Theory and Applications</td>
<td>Professor Chow Yean Khow Vice Dean (Academic) Faculty of Engineering, NUS</td>
</tr>
<tr>
<td></td>
<td>Steel-Concrete Composite Construction – Connections</td>
<td>Professor N E Shanmugam CE Dept. NUS</td>
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**Visiting Professor Van-Than-Van Nguyen**

Professor Van Nguyen, holder of the endowed Brace Professor Chair in Civil Engineering at McGill University (Canada), was appointed as Visiting Professor in the Department from July 8 until August 19, 2000. Professor Nguyen has been a regular visitor to this department since 1992 and has participated in various collaborative teaching and research activities. During the most recent visit, he presented a public seminar on Recent Advances in Modelling of Extreme Rainfalls and Floods, and conducted a series of five workshops dealing with many challenging issues in water research and in engineering practice. In addition, he shared with Assoc. Prof. Shie-Yui Liong the teaching of a graduate course on “Water Resources Systems Analysis”. Professor Nguyen is currently Associate Director of McGill’s Brace Centre for Water Resources Management as well as Coordinator of the Inter-departmental Master’s Program in Environmental Engineering.
The Department launched the Civil Engineering Newsletter (published quarterly) in October 1990 to promote closer interaction between the alumni and their alma mater. It started with in-house layout design and printing. The first issue had a circulation of only 500 copies. Ten years have passed since then and, over these years, it established itself as an effective link-way to reach out to the alumni and our industrial partners. The circulation has now grown to over 2000 copies. On the occasion of its 10th Anniversary, we would like to convey our best wishes to the valued readership of the CE Newsletter and look forward to its continued support.

Editorial Committee

<table>
<thead>
<tr>
<th>Date</th>
<th>Conference/Workshop</th>
<th>Contact Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 - 29 June 2001</td>
<td>7th International Symposium on Ferrocement and Thin Reinforced Cement Composites</td>
<td>Assoc Prof M A Mansur E-mail: <a href="mailto:cvemansu@nus.edu.sg">cvemansu@nus.edu.sg</a>, Tel: 874 2284</td>
</tr>
<tr>
<td>29 Jul - 1 Aug 2001</td>
<td>Fifth CANMET/ACI International Conference on Recent Advances in Concrete Technology</td>
<td>Professor P Paramasivam E-mail: <a href="mailto:cveparam@nus.edu.sg">cveparam@nus.edu.sg</a>, Tel: 874 2226</td>
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</tbody>
</table>

To receive a complimentary copy of the Civil Engineering Newsletter, please contact:

Assoc Prof M A Mansur
Editorial Committee
Department of Civil Engineering
National University of Singapore
Blk E1A #07-03
1 Engineering Drive 2
Singapore 117576
Tel: 874 2149
Fax: 779 1635
E-mail: cveliudm@nus.edu.sg

Advisers Professor T F Fwa, Head of Department. Assoc Prof K H Tan, Deputy Head of Department (Admin) Editorial Committee Assoc Prof M A Mansur, Chairman. Assoc Prof V Thevendran, Member