1. OVERVIEW OF DEPARTMENT

2006 was another year of growth and development for the Department of Civil Engineering. It continued to attract increasing numbers of undergraduate and postgraduate students to its programs, while maintaining a high quality of delivery. The Department was involved in the Australian University Quality Audit and was again praised for its performance. Details about the department can be found on its web site at:
http://civil.eng.monash.edu.au/

Staff
The Department had eighty-two (82) staff members (16 holding honorary positions), 2006 was the first year in over a decade that there was not an academic staff member leaving the Department. In fact, there was a considerable increase in the research positions in key areas. Dr Bill Wong and Associate Professor Michael Boulazze respectively won the Dean's award for excellence in teaching and research. Mr Mike Leech won the Dean's Award for Exceptional Performance by a member of General Staff. Mr Roger Oats, Managing Director of Coffey International, was the 2006 Alumnus of the Year.

Special mention should be made of several past staff members and their awards. Professor Russell Mein was presented with a Medal of the Order of Australia for his services in the field of flood hydrology in 2005. Mr Norman Swath was presented with a Medal of the Order of Australia for his services to structural engineering in 2006. Professor Peter LeFevre Derrid was given an Officer of the General Division of the Order of Australia in the 2007 Awards for his services to education.

Undergraduate teaching
The Department continued to offer Bachelor of Engineering, Bachelor of Technology and Double Degrees (with Arts, Commerce, Law and Science) program. It also contributes to the Environmental Engineering degree. These programs attracted a considerable increase in enrolments; 40 students graduated for the Bachelor of Civil Engineering, 13 from the Bachelor of Environmental Engineering and 4 from the Bachelor of Technology. 22 prizes were presented to the undergraduates for high performance in aspects of the undergraduate program. Most of these prizes are donated by major Civil Engineering organisations.

Postgraduate Education Programs
The Department continued to offer off-campus programs in Traffic, Transport and Infrastructure. There were seventeen (17) students graduating from these programs in 2006. The research programs graduated four (4) students in 2006. There were twenty-eight (28) students enrolled in the Master of Engineering Science program and forty-six (46) in the Doctoral program. The total number of research student studying within the Department increased to 74, this is the largest research school in the history of the Department of Civil Engineering.

Industry Education Programs
The Department continued to offer off-campus programs in Bus and Coach Management and Parking. Enrolments in these programs remained steady in 2006.

Research
One hundred and forty-six (146) research projects have provided the focus for staff and students during 2006. Research funding support of $3,069,648 has been attracted to support these projects. Staff members were involved in the preparation of two (2) books of proceedings (Eds), sixty-five (65) refereed journal articles, sixty-two (62) refereed conference papers and one (1) research report. Staff attended sixty-six (66) conferences. Staff, research students and visitors presented twenty-two (22) seminars on their research and activities during the Departmental seminar series.

Staff in the Department carried out consulting and contract research for thirty (30) government and private organisations.

Visitors and Visits
The Department hosted twenty-three (23) visitors from all parts of the world. These visitors worked closely with departmental staff to develop research and teaching activities. The linkages developed between staff and these visitors ensure the maintenance of high standards of research and teaching as well as the strengthening of links between the department and other universities throughout the world. Departmental staff visited twenty-six (26) destinations in 2006.

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OVERVIEW OF DEPARTMENT

External Activities
Staff members were involved in the review of paper and journal editorial committees on ninety (90) occasions and presented twenty-seven (27) seminars at other institutions. They were also involved in ninety-four (94) professional associations and their activities.

Centres
Institute of Transport Studies, Monash Node (ITS)
ITS (Monash)'s efforts in 2006 have resulted in considerable growth in the education and research activities of ITS (Monash). Through its education programs, ITS (Monash) plays a key role in developing professional capacity for the transport and traffic professions. Enrolments in the postgraduate program in Transport and Traffic, along with the Transport Management Courses in Bus and Coach Operations, remained stable while strong growth was recorded in undergraduate subject enrolments. As part of the undergraduate programs in Civil and Environmental Engineering, we had responsibility for 460 subject enrolments in transport-related subjects in 2006. That figure represented a 16 per cent increase over 2005. Interest in undertaking research in transport was also high amongst final year students in the undergraduate program with a record number of 133 students enrolled in 2006 in final year transport projects – a 74 per cent increase over the previous year. These increased numbers were accommodated without compromising quality and once again the students rated a number of the transport and traffic subjects as amongst the best they have taken at the University. This year we received very positive feedback on the Transport Management Course in Bus and Coach Operations following an external review conducted by the Department of Infrastructure. The consultants who conducted this review noted that the effective quality improvement process established by ITS (Monash) has contributed to keeping the course responsive to the needs of the industry and the key stakeholders.

In addition to our contributions to structured education programs, ITS (Monash) was also active in offering professional development workshops. This year two courses were offered in the public transport field, namely ‘Public Transport Planning II – Network and Strategic Perspective’ and ‘Train Planning – Lessons from Toronto’. Each of these courses attracted over 50 professional and they provided very positive feedback on the value they gained from attending the workshops.

ITS (Monash) continued to undertake a diversity of transport-related research in 2006. Professor Graham Currie was honoured with the Bus Association of Victoria’s Industry Contribution Award and he also secured a $1.1M Linkage Grant to investigate transport disadvantage, social exclusion and well being in Metropolitan, Regional and Rural Victoria.

Further details about the Institute can be found on its website at:
http://civil.eng.monash.edu.au/its

Institute for Sustainable Water Resources (ISWR)
The Institute for Sustainable Water Resources (ISWR) within the Faculty of Engineering is located in the Department of Civil Engineering. ISWR is a Centre of Excellence for research, teaching and postgraduate training, in areas related to the sustainable management of water resources. Its aim is to conduct research which is of both national and international importance. The Institute brings together relevant expertise from across the Faculty of Engineering and the broader University (particularly the Faculty of Arts and Faculty of Science) with the aim of enhancing collaboration to deliver innovative solutions to sustaining water resources.

Further details about the Institute can be found on its website at:

eWater CRC (Monash Node)
The eWater Cooperative Research Centre (eWater CRC) commenced in July 2005. Its aim is to build and support decision systems and models for total water cycle management in urban and rural catchments, integrating water quality and quantity, stream ecology and economics. This CRC has 9 industry partners, 1 local government partner, 24 state government partners, 3 Australian government partners and 8 university partners (45 in total). The Department of Civil Engineering is involved in several research program areas, including Landscape Analysis, Biophysical Processes and Water Management.

The Monash Node director is Dr Grace Mitchell.
OVERVIEW OF DEPARTMENT

Further details about the QRC can be found on its website at:

Facility for Advancing Water Biofiltration, FAWB

Water biofiltration is the process of improving water (stormwater and waste water) quality through the processes of filtration through biologically influenced media.

Stormwater biofiltration systems include:
- Bioretention systems
- Constructed surface flow wetlands
- Constructed sub-surface flow wetlands

The Facility for Advancing Water Biofiltration, FAWB, commenced in July 2005 with total cash and in-kind funding of $4.3 million over three years.

FAWB is a joint venture research facility between Ecological Engineering Holdings Pty Ltd and Monash University under the auspices of the Victorian Government’s STI Initiative. FAWB also has six Water Industry collaborators.

In October 2006, Mr Matt Vney, MP, Parliamentary Secretary for Innovation and Industry, launched FAWB and opened the Monash Carpark Biofilter.

FAWB’s management team is composed of the following personnel:

Chief Executive Officer: Dr Tony Wong, Ecological Engineering
Research Manager: Dr Ana Deletic, Civil Engineering, Monash
Project Leader: Dr Rebekah Brown, Geography and Environmental, Monash
Dr Tim Fiechter, Civil Engineering, Monash
Mr Justin Lewis, Civil Engineering, Monash
Business Manager: Mr John Molloy, Civil Engineering, Monash

Further details about the research facility can be found on its website at:
http://www.monash.edu.au/aweb/

CURRENT DEPARTMENTAL STRUCTURE

2. CURRENT DEPARTMENTAL STRUCTURE

2.1. Management Committee

In 2006, the Management Committee of the Department consisted of:
- Professor William Young (Head of Department), Professor Xiao-Ling Zhao (Deputy Head and Director of Research), Associate Professor Jay Sanjayan (Director of Teaching), Mr Christopher Powell (Director of Resources)

L to R: Chris Powell, Dominique Thomson, Bill Young, Jay Sanjayan, Xiao-Ling Zhao

2.2. Research/Teaching groups

The department operates through the following four groups:

2.2.1. The Geomechanics Group

The group is led by Associate Professor Malek Bouazza and includes:
- Dr Jayantha Kodikara, Dr Asadul Haque, Dr Ranjith Pathmegama, Dr Bill Gates, Dr Hosssam Abuel-Naga, Dr Chaminda Gallage

Front row (L to R): Ranjith Pathmegama, Jayantha Kodikara, Malek Bouazza (Head), Asadul Haque
Back row (L to R): Bill Gates, Hosssam Abuel-Naga, Chaminda Gallage

Research Strengths: Environmental Geotechnics, unsaturated soils, soil and rock stabilisation
2.2.2. The Structures Group

The group is led by Dr Riadh Al-Mahaidi and includes:

Prof. Xiao-Ling Zhao, Assoc. Prof. Raphael Groebieta, Assoc. Prof. Jay Sarjiani, Dr Bill Wong, Dr Michael Bambrick, Dr Luneng Shen, Dr Frank Collins, Dr Zhigang Xieo, Dr Liz Skoric, Dr Roger Zhou, Assoc. Prof. Bob McLaren, Mr Chris Adam, Emeritus Prof. Paul Grundy.

Research Strengths: Advanced Thin-Walled Structures and Crashworthiness, Lifetime Integrity of Structures, Timber Structures

2.2.3. The Water Group

The group is led by Dr Tony Ladson and includes:

Assoc. Prof. Gary Codner, Assoc. Prof. Robert Keller, Dr Ana Deletic, Dr Tim Fletcher, Dr Grace Mitchell, Dr Gavin Mudd, Dr Guangzhi John Sun, Mr Erwin Welkomann, Dr James Grove, Dr Tony Wong, Mr Frank Winston

Standing (L to R): Guangzhi (John) Sun, Peter Poulos, Justin Lewis, Tony Ladson (Head of Group), Tim Fletcher

Seated (L to R): Frank Winston, Ana Deletic, Gavin Mudd

Standing (L to R): Ashot De Alwis, John Clamanitis, Brenda O'Keefe, Zed Senberg, Majid Sani, Imran Muhammad, Ali Zarabadi

Seated (L to R): Geoff Ross (Head of group), Bill Young, Graham Currie

Research strengths: Transport Management, Public Transport, Traffic Systems

2.3. Industry Advisory Committee

The last meeting of the Industrial Advisory Committee was held in November 2005.
The membership of the department's Industrial Advisory Committee is as follows:

Industry representatives:

Mr Colin Jordan (Chair) Chief Executive of RACV Ltd, Melbourne, Victoria
Mr Peter Bishop Principal (Civil Section), Connell Wagner, South Melbourne, Victoria
Mrs Ann Kolmsorgen Consulting Engineer, Sinclair Knight Merz, Melbourne, Victoria
Mr Ross Bateem Principal, Flagstaff Consulting Group Pty Ltd, Melbourne, Victoria
Dr Bronwyn Ridgway Environmental Engineering Consultant, Cresgen, Victoria
Mr Murray Cuthnan General Manager, Business Div., Public Transport Section, Department of Infrastructure, Victorian Government, Melbourne Victoria
Dr Brian Wrench Principal, Golder Associates Pty Ltd, Hawthorn, Victoria
Mr John String Director, Hudson, Melbourne, Victoria
2.4. Current staff list

Professors
William Young BE(Hons) NSW MSc PhD GradDipMgt Deakin MBA Deakin FIEAust CPEng FCIT. MPAA MAITPM
Xiao-Ling Zhao PhD SciT ME Shanghai Jiao-Tong MASCE FIEAust CPEng MSDOE MIIFC [Deputy Head of Department]
Graham Corrie BSc(Hons) Huddersfield MSc Cranfield MICT

Associate Professors
Abdulmalek Buzaa Civing Algiers PhD Glasgow
Gary Peter Codner DipCE Coulsdon T T BE(Hons) MBA PhD FIEAust
Raphael Hilary Grabielis Mgrpinz(Hons) T C Cracow PhD MIEAust CPEng NPER MEAA MEAE
Robert John Keeler BE(Hons) PhD CIVIL NZ MASCE MIEAust MIPENC
Henry Robert Miller BE MENGSci Qld PhD Lond CPEng AUST CPEng NPER AWS
Geoffrey Rose BE(Hons) Queensland T T MSc PhD Northern Newmeas MIEAust
Jay G Sanjayan BScEng(Hons) Perambikulam PhD MIEAust

Senior Lecturers
Riad Al-Mahadi BSc(Civil Eng) (Hons) Baghdad MSc PhD Cornell MIEAust MASCE CPEng
John Clements BCom(Hons) DipEd Melb MSc Madinah FCIT
Ana Daitetto BSc(Hons) Belgrade MSc Belgrade PhD Aberdeen GradCertHighEd MIW
Tim Fletcher BEng(Hons) MedPh PhD MedPh MRMS
Jayantha Kottegoda BSc(Hons) Peradeniya PhD MIEAust CPEng
Anthony Ladron BE(Hons) MedPh MSc MPhil PhD MedPh GradCertHighEd
Ranjith Pathirajana Gampaha BScEng(Hons) Moratuwa PhD Waykamaya MASCE MIRSM MAGS MMSSE
Bill M B Wong BScEng Lond PhD NSW CEng MIEAust CPEng

Lecturers
Abulhusn Haque BScEng KIBT MEngAIT PhD Wollongong MIEAust
Gavin Mudd BEng(Hons) RMIT PhD VIT MAIC MIFE
Majid Sarv BEng(Hons) Tehran MEng PhD UST PhD Tokyo MScUE MURATTSC MCTE
Luming Shen BE(Building) Tongji MSc(Structural) Tongji PhD Missouri-Columbia
Guangxiang John Sun B Eng(Chemical) Tianjin M Eng(Chemical) Tianjin PhD Birmingham GradCertHighEd(Chem)
Queen’s Univ.

Assistant Lecturers
Azad da Alna BA CGD TBEHg RMIT MLogMgt MCTE
Michael Bembard BE Syd PhD Syd

Senior Tutor
Lee Simeon BEng Dic MSc PhD

Research staff
Hossam Abuel-Naga BSc(Civil) Zagazig MSc Cairo PhD AIT

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2.6. Staff changes in 2006

New Staff members
Dr Guangzh Sun (Lecturer in Water Engineering)
Dr Luming Shen (Lecturer in Structural Engineering)
Dr Will Gates (Research Fellow)
Dr Annat Kramszczuk (Research Fellow)
Mr Imran Muhammad (Research Assistant)
Mrs Nilima Siriwardena (Research Fellow)
Mr Geoff Taylor (Research Fellow)
Mr Ali Zavedi (Research Assistant)
Dr Zhigang Xue (Research Fellow)
Dr Hossam Abual-Haga (Research Fellow)
Mr Alexander Mendes (Research Assistant)
Mr Zed Senburg (Research Assistant)

Promotions
Dr Gavin Moito (from Assistant Lecturer to Lecturer)
Dr P.G. Sandiford (from Lecturer to Senior Lecturer)

Resignations
Ms Julia Arnold

2.7. Staff Awards

Dr Bill Wong won the Dean’s Award for Excellence in Teaching.

Associate Professor Malaki Bouazza won the Dean’s Award for Excellence in Research.

Dr Riadh Al-Mahaidi and co-authors Mr Alen Hon and Dr Geoff Taplin were awarded the RUF Chapman Medal by Engineers Australia for their paper “Compressive membrane action in reinforced concrete one-way slabs” (important contribution to the science of engineering).

Mr Mike Leuch won the Dean’s Award for Exceptional Performance by a member of the General Staff.

These awards were presented at the Faculty of Engineering Awards Ceremony on 31st May 2006.

Mr Norman Smaith, former staff member of the department, was presented with a Medal of the Order of Australia for his services to Structural Engineering.

2.8. Visitors to the Department

The following visitors came to Civil Engineering, Monash University in 2006:

Associate Professor Michael Bleirn from the Department of Transport and Planning at Delft Technical University in the Netherlands, visited APProfessor Geoff Rose in March and presented a seminar to members of the Transport Group entitled “Dynamic traffic modelling and its applications in traffic management”.

Associate Professor Jean-Luc Bertrand-Krajewski of the Civil Engineering Research Unit (URSC) at INSA (Institut National des Sciences Appliquees) Lyce, France, visited Dr Tim Fletcher in April for research collaboration and co-chairing of the 7th International Conference on Urban Drainage Modelling and 4th International Conference on WOOD held in Melbourne. He also worked with Dr Ana Davelo, Dr Tim Fletcher and Dr Grace Mitchell on joint chapters of a book and also continued ongoing collaborations over uncertainty assessment of data stormwater quality datasets.

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CURRENT DEPARTMENTAL STRUCTURE

Professor Ati Ceder of the Technion-I revoke Institute of Technology visited Assoc. Professor Geoff Rose to strengthen research activities. His visit also provided a valuable opportunity for students to hear first hand of research developments overseas.

Professor Zhen Chen, LaPierre Professor at the Department of Civil and Environmental Engineering at the University of Missouri-Columbia, Columbia, Missouri, USA, visited Dr R. Al-Mahaidi and Dr Luming Shen in May to discuss future collaboration and to present a seminar entitled “Simulation-based engineering science for blast-resistant design”.

Dr Edward Chung of EPFL Switzerland visited Assoc. Professor Geoff Rose to discuss research activities.

Professor Del Freedun of the University of Saskatchewan, Canada, visited the department in November to collaborate specifically with Dr Jayanta Kooikar. His visit will directly contribute to the ongoing research projects in the area of unsaturated soil behaviour and saturated/unsaturated numerical modelling.

Mr Tibor Gerhart, postgraduate student at École Nationale Supérieure d'Électricité, de l'Informatique, d'Hydraulique et des Télécommunications (ENSEEIHT), Toulouse, France, visited the department as an occupational trainee, working with Dr Tim Fletcher between February and August.

Professor Noir Haug of the Department of Civil and Geological Engineering at the University of Saskatchewan (Canada), spent time in the department in 2006 as part of a sabbatical that commenced in 2005. Professor Haug collaborated with Dr Jayanta Kooikar and members of the Geomechanics group.

Professor Julian Hine, Transend Chair of Transport, from the Transport Planning and Policy Group of the University of York, Belfast, Northern Ireland, UK, visited Professor Graham Currie in April. Professor Hine is a co-investigator on an ARC Linkage application entitled “Investigating transport disadvantage, social exclusion and well-being in metropolitan, regional and rural Victorian”.

Professor Sunshou Jang commenced a year long visit to the department in July, primarily to translate a book entitled “Cold-formed tubular members and connections structural behaviour and design”, co-authored by Prof. Xiao-Ling Zhang, Dr Tim Wilkinson and Prof. Gregory Hancock.

Professor Massae Kuwahara of the Institute of Industrial Science, University of Tokyo, Japan, visited Dr Majid Sani in November to discuss a Memorandum of Understanding to underpin collaborative research between Prof. Kuwahara’s group and Civil Engineering/TS Monash.

Professor Ning Lu from the Colorado School of Mines, Denver, USA, visited A/Prof Malaki Bouazza in March.

Professor Marco Manassero of the Politecnico di Torino, Italy, visited Assoc. Prof. Malaki Bouazza.

Dr Angel Palomo of the Escola Tècnica de Ingeniers (CISC), Madrid, Spain, visited the department in September and presented a seminar on “Mineral Alkaline Polymers Cement or Ceramic”.

Professor Sanil Ridkalla, Distinguished Professor of Civil Engineering and Construction at North Carolina State University, visited Dr Riadh Al-Mahaidi in June to collaborate on the use of FRP composites in strengthening of steel and concrete structures. He gave a seminar at Monash and another one co-sponsored by Monash and the Victorian branch of Engineers Australia.

Dr Himanshu Bhushan Sahu of the Department of Mining Experience at the National Institute of Technology, Rourkela, India, visited Dr Ramji.

Assistant Professor Amer Shalaby of the Department of Civil Engineering, Laus University of Technology, Laus, Sweden, visited the department in October. He collaborated with Dr Riadh Al-Mahaidi on the use of FRP composites in strengthening of steel and concrete structures; he conducted a short course on the use of CFRP in strengthening buildings and bridges.

Professor Siew Ann Tan of the National University of Singapore visited the department in May to collaborate on research projects with A/Prof Malaki Bouazza.

Professor Ali Uromeihy from Tarbiat Modares University, Iran, was a visiting academic sponsored by that university and collaborating with Dr Ramji.

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CURRENT DEPARTMENTAL STRUCTURE

Professor Hwei-Chung Wu of the College of Engineering, Wayne State University, USA, visited Professor Xiao-Ling Zhao in July-August. Professor Wu presented a seminar entitled "Emerging Advanced Infrastructure Materials".

Dr Ji Hong Ye of the College of Civil Engineering, Southeast University, Nanjing, China, visited Professor Xiao-Ling Zhao to conduct research on fabricated sections utilising very high strength steel tubes, in July-August.

Prof Jorge Zemburg, from the Department of Civil Engineering at the University of Texas at Austin, USA, visited the department in August, collaborating with A/Prof Marek Bocausz in the area of gas-synthesis and unsteady wind behaviours. He also conducted a short course during his stay at Monash.

2.9. Alumnus of the Year Award

Mr Roger Ota is the Civil Engineering Alumnus of the Year for 2006. Roger is the Managing Director of Coffey International Ltd and has been in this role for 10 years. Roger obtained first class honours in civil engineering, graduating in 1978. He also has a diploma of geotechnical engineering which he received in 1992.

Roger's career has involved specialisation in geotechnical engineering. He commenced his career with Geotechnical Engineering, gaining practical hands-on field, laboratory and office experience. He then joined Coffey in 1979. Roger worked in Canada for some years, returning to Coffey in 1992 and continued to gain experience on a wide range of projects throughout Victoria and other parts of Australia.

In 1989 Roger was appointed Manager of Coffey (Victoria and Tasmania), at a time when design and construction contracts were just commencing in Victoria. He became involved in several of these projects, including the grade separation of the Monash Freeway with Burke, Toorak and Tooronga Roads, and also the Western Ring Road. Roger also took on increasing management roles in Coffey before rising to Managing Director of the Group in 1996.

In his role as Managing Director of Coffey, Roger has seen staff numbers grow from 300 to 1700, and expansion of the business to be one of Australia's leading contractors in delivery of Australian aid projects, one of Australia's leading geotechnical, environmental and mining companies, and recently to expand into the project management field. Apart from expansion of activities into Asia, Coffey has more recently increased operations in the Middle East and has now established a presence in the British and European aid market.

Roger has blended a strong technical career with increasing roles in management and leadership. He is actively involved in the Australian engineering community with involvement in environmental initiatives.

COURSE OFFERINGS

3. COURSE OFFERINGS

3.1. Undergraduate programs

The Department offers undergraduate programs in Civil Engineering and Infrastructure Engineering and Management (Bachelor of Engineering and the Bachelor of Technology (Infrastructure)).

The Civil program is combined with Arts, Law, Commerce and Science to offer double degrees: Bachelor of Engineering/Bachelor of Arts, Bachelor of Engineering/Bachelor of Science, Bachelor of Engineering/Bachelor of Laws, Bachelor of Engineering/Bachelor of Commerce.

The Department also provides teaching for the Bachelor of Environmental Engineering.

3.2. Transport programs

The postgraduate program continued to attract interest from students both within and outside Victoria. It attracted an increased enrolment in 2006.

- Certificate in Transport and Traffic
- Diploma in Transport and Traffic
- Master in Traffic
- Master in Transport

3.3. Industry Programs

The industry programs in Bus & Coach and Parking continued to attract students, although in the case of the former at a predictably reduced rate. The number of workshops offered by ITS (Monash) increased in 2006, thanks to visits from a number of overseas academics.

- Transport Management Course in Bus and Coach Operations
- Program in Parking Management

3.4. Infrastructure Engineering and Management

The Master of Infrastructure Engineering and Management focuses on the issues related to the planning, design, construction and maintenance of civil engineering structures. Most of the applicants attracted to this program are from local governments, roads and water departments within and outside of Australia. In 2006, an additional 34 new applicants commenced the program totalling 57 students. Dr Azadul Haque manages the program (Graduate Certificate, Postgraduate Diploma, Master).
### 4. RESEARCH AND DEVELOPMENT

#### 4.1. List of research projects undertaken in 2006

### Geotechnical Engineering

<table>
<thead>
<tr>
<th>Projects</th>
<th>Investigators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atmosphere and soil interaction modelling</td>
<td>Koizuka</td>
</tr>
<tr>
<td>Behaviour of raft foundation over a fill</td>
<td>Haque/Ranji</td>
</tr>
<tr>
<td>Behaviour of rock joints</td>
<td>Haque</td>
</tr>
<tr>
<td>Deep and shallow soil mixing</td>
<td>Bouazza</td>
</tr>
<tr>
<td>Deterioration modeling of road pavements</td>
<td>Kodikara</td>
</tr>
<tr>
<td>Dynamic behaviour of rock joints</td>
<td>Ranji</td>
</tr>
<tr>
<td>Effects of CO₂ and CO on stress-strain characteristics of coal</td>
<td>Haque</td>
</tr>
<tr>
<td>Filtration behaviour of subbituminous coal</td>
<td>Bouazza</td>
</tr>
<tr>
<td>Gas adsorption and diffusion migration through GCLs</td>
<td>Bouazza</td>
</tr>
<tr>
<td>Gas flow and coupling with suction in porous media</td>
<td>Bouazza</td>
</tr>
<tr>
<td>Ground anchors</td>
<td>Bouazza</td>
</tr>
<tr>
<td>Modelling of MSW landfill settlement using geostatistics</td>
<td>Kodikara</td>
</tr>
<tr>
<td>Modelling of shrinkage cracking</td>
<td>Kodikara</td>
</tr>
<tr>
<td>Moisture dynamics in GCLs</td>
<td>Bouazza</td>
</tr>
<tr>
<td>Particle flow and compaction analysis</td>
<td>Koizuka</td>
</tr>
<tr>
<td>Pipe failure due to ground movement in reactive soils</td>
<td>Koizuka</td>
</tr>
<tr>
<td>Polymer modified bentonites</td>
<td>Bouazza</td>
</tr>
<tr>
<td>Railway subgrade improvement by injecting time-fyash slurry</td>
<td>Haque/Koizuka</td>
</tr>
<tr>
<td>Soil movement and crystallisation modelling</td>
<td>Koizuka</td>
</tr>
<tr>
<td>Soil improvement by using time-drag additives</td>
<td>Haque</td>
</tr>
<tr>
<td>Stone columns</td>
<td>Bouazza</td>
</tr>
<tr>
<td>Study of leachate cracking of clay</td>
<td>Koizuka</td>
</tr>
<tr>
<td>Thermo-hydro-mechanical behaviour of GCLs and porous media</td>
<td>Bouazza</td>
</tr>
<tr>
<td>Unsaturated flow behaviour of geosynthetics</td>
<td>Bouazza</td>
</tr>
<tr>
<td>Unsaturated behaviour of GCLs</td>
<td>Bouazza</td>
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</tbody>
</table>

### Structural Engineering

<table>
<thead>
<tr>
<th>Projects</th>
<th>Investigators</th>
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</thead>
<tbody>
<tr>
<td>Advanced numerical simulation of failure mechanisms of CFRP laminated concrete members</td>
<td>Al-Mahadi</td>
</tr>
<tr>
<td>Application of datamining algorithms to infer pavement deterioration models from roughness progression data</td>
<td>Sanjayan</td>
</tr>
<tr>
<td>A numerical and experimental investigation on the delamination of CFRP sheets from steel plates</td>
<td>Shen</td>
</tr>
<tr>
<td>Atomic-scale simulation of water film formation on glass beads</td>
<td>Wang</td>
</tr>
<tr>
<td>Behaviour of composite beams in fire</td>
<td>Al-Mahadi/Zhao</td>
</tr>
<tr>
<td>Behaviour of FRP retrofitted steel structures under very low to very high temperature exposure</td>
<td>Sanjayan</td>
</tr>
<tr>
<td>Bridge performance modeling using inspection data and datamining techniques</td>
<td>Zhao/Teng</td>
</tr>
<tr>
<td>CFRP (Carbon Fibre Reinforced Polymer) strengthening of steel structures</td>
<td>Zhao/Al-Mahadi/Rajalla</td>
</tr>
<tr>
<td>Debonding failure in CFRP strengthened steel structures</td>
<td>Zhao/Al-Mahadi/Rajalla</td>
</tr>
<tr>
<td>Design of welded steel tubular connections</td>
<td>Bambach</td>
</tr>
<tr>
<td>Development of a prototype blast lab to test metal structures under blast loads</td>
<td>Sanjayan</td>
</tr>
<tr>
<td>Development of an alkali activated slag based construction material for high fire risk infrastructures</td>
<td>Al-Mahadi/Colonna</td>
</tr>
<tr>
<td>Durability of CFRP - concrete retrofitting systems subjected to severe environmental conditions</td>
<td>Al-Mahadi/Al-Mahadi</td>
</tr>
</tbody>
</table>

### Safety Technology and Crashworthiness Systems

<table>
<thead>
<tr>
<th>Projects</th>
<th>Investigators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle rollover collapse data</td>
<td>Grazebieta</td>
</tr>
<tr>
<td>High strength steel protection ballasts</td>
<td>Grazebieta/Zhao</td>
</tr>
<tr>
<td>High tensile tubular beams subjected to impact loads</td>
<td>Grazebieta/Zhao</td>
</tr>
<tr>
<td>Maximising crashworthiness of railroad infrastructure</td>
<td>Grazebieta/Zhao</td>
</tr>
<tr>
<td>Thin walled structures subjected to impact and blast loading</td>
<td>Grazebieta</td>
</tr>
<tr>
<td>Impact loading of square hollow beams</td>
<td>Grazebieta</td>
</tr>
<tr>
<td>Impact loading of circular beams</td>
<td>Grazebieta/Day/Nikole</td>
</tr>
<tr>
<td>Investigating the safety of all terrain vehicles (ATV)</td>
<td>Grazebieta/Bambach/McIntosh</td>
</tr>
<tr>
<td>Protecting occupants in vehicle rollover crashes</td>
<td>Grazebieta/Ridhertman/Young</td>
</tr>
</tbody>
</table>

---

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Timber Engineering

Projects
- Wood product methods in structural engineering
  Investigators: Milner

Transportation Engineering

Projects
- Comparison of cycling in Melbourne and Sydney
  Investigators: Rose
- Demand impacts of real time passenger information systems
  Investigators: Curnoe, Sainsbury, Wilson
- Developing an institutional car
  Investigators: Curnoe, Wilson
- Dynamic signal priority project - logic review and development
  Investigators: Curnoe
- Dynamic signal priority project - optimum location of detectors
  Investigators: Curnoe, Wilson
- Evaluation of the campus TravelSmart initiative at three Melbourne universities for the Department of Infrastructure
  Investigators: Curnoe
- Guidelines for the evaluation of non-pricing travel demand management measures for Australian cities in conjunction with ARRB Group
  Investigators: Curnoe, Young
- Impact of fuel price on public transport usage
  Investigators: Curnoe, Young, Sainsbury, Young
- Improving methodologies to assess on-road public transport priority
  Investigators: Curnoe, Allen
- Land use, sustainability and urban transport
  Investigators: Curnoe, Sainsbury, Young
- Management of research organisation
  Investigators: Curnoe
- Melbourne Public Transport Market Futures R & D project (Meltrans)
  Investigators: Young, Sainsbury, Young
- Modelling of weaving phenomena observed during traffic congestion
  Investigators: Young, Sainsbury, Young
- Pavement management
  Investigators: Young, Sainsbury, Young
- Project management
  Investigators: Curnoe, Stanley
- Public transport market development research (Meltrans)
  Investigators: Curnoe, Stanley
- Public transport social capital and community strengthening
  Investigators: Curnoe, Stanley
- Safety at intersection
  Investigators: Curnoe, Sainsbury, Smyth, Vallis, Bosicki, Stanley, Mons
- Transport disadvantage and social exclusion in metropolitan, regional and rural Victoria
  Investigators: Curnoe, Sainsbury, Smyth, Vallis, Bosicki, Stanley, Mons

Water I Environmental Engineering

Projects
- A preliminary study on microbial community composition
  Investigators: Sun
- A simplified process-based model for predicting pathogen transport in catchments
  Investigators: Deletic, Codron, Herdt, Heydon
- Developing stormwater treatment technology
  Investigators: Deletic, Zinger
- Developing an improved unified equation for prediction of stormwater treatment
  Investigators: Deletic, Zinger
- Developing novel stormwater treatment technologies for safe re-use
  Investigators: Deletic, Zinger
- Epidemiological health assessment (eWater associated project)
  Investigators: Ladson
- Evolving existing urban water systems
  Investigators: Mitchell
- eWater CRC: Groundwater project D3
  Investigators: Mudd
- eWater CRC Stream Restoration project A2
  Investigators: Ladson
- eWater CRC Urban Scale and Systems project E1
  Investigators: Mitchell, Deletic, Codron, Ladson
- eWater CRC Urban systems and design program
  Investigators: Mitchell, Deletic, Codron
- eWater CRC Water management Program
  Investigators: Mitchell, Deletic, Codron, Ladson

Water I Environmental Engineering

Projects
- A preliminary study on microbial community composition
  Investigators: Sun
- A simplified process-based model for predicting pathogen transport in catchments
  Investigators: Deletic, Codron, Herdt, Heydon
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  Investigators: Deletic, Zinger
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Water I Environmental Engineering

Projects
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  Investigators: Sun
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- Evolving existing urban water systems
  Investigators: Mitchell
- eWater CRC: Groundwater project D3
  Investigators: Mudd
- eWater CRC Stream Restoration project A2
  Investigators: Ladson
- eWater CRC Urban Scale and Systems project E1
  Investigators: Mitchell, Deletic, Codron, Ladson
- eWater CRC Urban systems and design program
  Investigators: Mitchell, Deletic, Codron
- eWater CRC Water management Program
  Investigators: Mitchell, Deletic, Codron, Ladson

4.2. List of research grants and income

Research Funding for 2006 as follows:

<table>
<thead>
<tr>
<th>Investigators</th>
<th>Project Title</th>
<th>Amount Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosazza</td>
<td>ARC Linkage Funds Allocated in 2006</td>
<td>32,618</td>
</tr>
<tr>
<td>Curnoe/Richardson/Smyth/Vallis/Bradbrook/Hines et al</td>
<td>Development of a new technique to improve very soft soils using geogrid wrapped columns</td>
<td>149,500</td>
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<tr>
<td>Haque/Kudukara</td>
<td>Stabilisation of railway subgrade by lime-fly ash slurry injection</td>
<td>19,557</td>
</tr>
<tr>
<td>Kodkani/Cui/Zhao/Bouazza/Zhao et al</td>
<td>Prediction and controlling of pipe failures in buried water and gas pipe systems</td>
<td>389,313</td>
</tr>
<tr>
<td>Ladson/Doonan</td>
<td>Indicators of river condition: are they useful for environmental management</td>
<td>20,276</td>
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</table>

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<table>
<thead>
<tr>
<th>Investigators</th>
<th>Project Title</th>
<th>Amount Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raj Jith, Ronika</td>
<td>Improvement of the performance of water-sensitive geomaterials using</td>
<td>35,113*</td>
</tr>
<tr>
<td></td>
<td>Hydrophobic additives</td>
<td></td>
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<tr>
<td>Sanjayan</td>
<td>Investigation of the mechanism causing shrinkage strains in concrete made</td>
<td>25,282*</td>
</tr>
<tr>
<td></td>
<td>with very low ambient temperature</td>
<td></td>
</tr>
<tr>
<td>Zhao Dayawansa, Pradeep</td>
<td>Fatigue behaviour of diagonal tubular structures</td>
<td>100,160*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grozeveta, Zhao</td>
<td>High strength steel protection bolts</td>
<td>56,113*</td>
</tr>
<tr>
<td>Note: Funding with an asterisk include in-house contribution from industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>partner</td>
<td></td>
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<tr>
<td>Zhou, Packer</td>
<td>Design of welded steel tubular connections</td>
<td>9,583</td>
</tr>
<tr>
<td>Zhao, Xiong</td>
<td>CFRP (Carbon Fibre Reinforced Polymer) strengthening of steel structures</td>
<td>5,000</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td>Zhao, Richard, A.</td>
<td>Debonding failure in CFRP strengthened steel structures</td>
<td>109,262</td>
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<tr>
<td>Mohamad</td>
<td></td>
<td></td>
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<tr>
<td>Bouazza</td>
<td>Experimental and theoretical analysis of gas leakage rate through composite</td>
<td>49,959</td>
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<tr>
<td></td>
<td>landfills due to geomembrane defects</td>
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<tr>
<td>Delic</td>
<td>Predicting the clogging of storm water infiltration</td>
<td>50,043</td>
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<tr>
<td>Grozeveta, Bambrick</td>
<td>Protecting occupants in vehicle rollover crashes</td>
<td>163,040</td>
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<tr>
<td>Sanjayan</td>
<td>Development of an alkali-activated slag based construction material for high</td>
<td>93,636</td>
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<td>fire risk infrastructures</td>
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<tr>
<td>Sanjayan, Rangan</td>
<td>Investigation of geopolymer based concretes for the construction of high fire</td>
<td>101,900</td>
</tr>
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<td></td>
<td>risk infrastructures</td>
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<tr>
<td>Grozeveta, Zhao</td>
<td>Three-walled structures subjected to impact and blast loading</td>
<td>90,000</td>
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<tr>
<td>China, Burman</td>
<td></td>
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<tr>
<td>Engineering Faculty</td>
<td>Small Grant Scheme</td>
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<tr>
<td></td>
<td>Development of time domain reflectometry (TDR) waveguide technology for</td>
<td>13,000</td>
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<tr>
<td></td>
<td>application in GeoEnvironmental engineering</td>
<td></td>
</tr>
<tr>
<td>Bouazza</td>
<td>New method for the measurement of critical strain energy release rate in soils</td>
<td>8,000</td>
</tr>
<tr>
<td>Kodikara</td>
<td>during moment 1 fracture</td>
<td></td>
</tr>
<tr>
<td>Zhao</td>
<td>Fire resilience of gusset weld connections</td>
<td>19,050</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty of Engineering</td>
<td>Research Fund Travel Grant (Round 2)</td>
<td>2,500</td>
</tr>
<tr>
<td></td>
<td>International Symposium on Transport Simulation (IST'09, September)</td>
<td></td>
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<tr>
<td>Shen</td>
<td>Second Asia-Pacific International Conference in Computational Methods in</td>
<td>1,800</td>
</tr>
<tr>
<td>Engineering (ICOMIC,</td>
<td>Engineering) in Hefei (China), November</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun</td>
<td>1/3rd International Conference on Wetdins Systems for Water Pollution</td>
<td>2,500</td>
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<tr>
<td></td>
<td>Control , Lisbon (Portugal), September</td>
<td></td>
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<tr>
<td>Currie</td>
<td>Enhancing Melbourne Public Transport Markets</td>
<td>28,000</td>
</tr>
<tr>
<td>Keller</td>
<td>Yarra Valley Water – Yarra</td>
<td>60,208</td>
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<tr>
<td>Mitchell, Deletic,</td>
<td>Smart Water Fund</td>
<td>50,085</td>
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<tr>
<td>Fletcher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitchell, Deletic,</td>
<td>Melbourne Water, Ecot Monitoring</td>
<td>30,273</td>
</tr>
<tr>
<td>Fletcher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haque</td>
<td>Rail CRC</td>
<td>86,000</td>
</tr>
<tr>
<td>Miller</td>
<td>Comparison of face bond quality tests for structural glulam</td>
<td>23,000</td>
</tr>
<tr>
<td>Miller</td>
<td>Pull-out capacity of steel and fibre composite rods grouted into timber</td>
<td>60,000</td>
</tr>
<tr>
<td>Laidon</td>
<td>Murray Darling Basin Commission</td>
<td>60,000</td>
</tr>
</tbody>
</table>

4.3. Research activity at Centres (ITS, ISWR, eWater CRC, FAWB)

Institute of Transport Studies, Monash Node (ITS)

ITS (Monash) continued to undertake a diversity of transport related research in 2006. Of particular note was Professor Currie's success in securing a $1.1M ARC Linkage Grant to investigate transport disadvantage, social exclusion and well being in Metropolitan, Regional and Rural Victoria. Over the three years of that project, Graham will have the opportunity to work closely with the local industry sponsors, the Department of Infrastructure, the Brotherhood of St Lawrence and the Bus Association of Victoria, as well as with two international collaborators (Professor Hines from the University of Ulster and Dr Karen Lucas from University of Westminster in London).

Professor Currie was also honoured with the Bus Association of Victoria’s Industry Contribution Award at the 2006 Bus Maintenance and Expo Conference held in Melbourne. Associate Professor Geoff Rose began a new project for AUSTRADIS, in conjunction with ARR B Group, which is developing a national evaluation framework for travel demand management initiatives.

Dr Sanjiv has continued his development work on an instrumented vehicle which will play a valuable role in gathering data to improve our understanding of driver behaviour on motorways.

Other new projects include the exploration of market futures for public transport, development of a framework to manage the patronage data to be collected by smart card ticketing systems and exploration of the performance of active signal priority using traffic microsimulation.

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Institute for Sustainable Water Resources (ISWR)

ISWR is involved in research in a number of water sustainability issues, but its key research aim is to develop:

"Strategies and technologies for water resource sustainability in urban development and renewal".

Within this focus area, a number of strategic research areas have been adopted:

- Sustainable and integrated technologies to improve the sustainability of water resources across the urban water cycle
- Alternative sources and allocation of urban water, including treatment and storage
- Interactions between ground water and surface water and the implications for ground water management
- Institutional reform to facilitate the sustainable management of water resources
- Interactions between urban water management and ecosystems and the services provided by urban aquatic ecosystems
- Ecosystem and geomorphic restoration of urban waterways,

Further details about the Institute can be found on its website at:
http://iser.eng.monash.edu/

In 2006, the Institute had a number of highlights:

- The Institute was the host of the 7th Urban Drainage Modelling and 4th Water Sensitive Urban Design Conference held in Melbourne in April 2006 with more than 370 delegates. The Conference resulted in special editions of Water Science and Technology, the Australian Journal of Water Resources and Water Practice and Technology
- Attracting a number of talented postgraduates (there are over 30 postgraduate researchers within the Institute)
- Winning a number of large research grants, including a SmartWater grant on stormwater re-use
- Three ISWR PhD students submitted their theses during 2006 (Shane Haydon, Geoff Taylor and Narnie Griffith)
- Contribution to a number of key international research initiatives and efforts. For example, ISWR staff members were appointed to a range of international committees and editorial boards during 2006
- Leadership of the UNESCO International Hydrologic Program project on "Data requirements for integrated urban water management".

eWater CRC (Monash Node)

Water Management Deputy Program Leader: Dr Grace Mitchell, Monash University; E1 Project Leader: Dr Grace Mitchell, Monash University

eWater CRC has grouped its research projects into four areas, with the Department of Civil Engineering involved in three of these: Landscape Analysis, Biophysical Processes and Water Management. The Water Management program includes the E1 project entitled "Sensing, technologies and systems analysis for urban water management". This project focuses on developing urban water models which explicitly consider spatial and temporal scaling issues, investigating the scaling of fine scale models within coarser scale models, account for uncertainty and reflect complex urban system dynamics.

Facility of Advancing Water Biofiltration (FAWB)

The Civil Engineering Department obtained a Victorian Science Technology and Innovation grant of $1.4M for establishment of the national Facility for Advancing Water Biofiltration (FAWB). The total value of this project, including industry cash and in-kind contribution, is $4.3 million.

The main aims of FAWB are to:

- Provide scientific "proof of concept" for the application of stormwater biofilter technologies so that greater certainty is afforded to all stakeholders in relation to the choice and design of such technologies,
- Facilitate industry-wide adoption and implementation of the technology after proof-of-concept is established.

Research activities for 2006 were focused on:

- Industry capacity assessment and improvement for biofiltration technologies
- Optimising and demonstrating biofiltration technology

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4.6. Publications

Journal papers


Conference papers


Bambach, M.R. (2006). Recent Research on Local Lancing and Prestressed Lancing of Cold-Formed Steel Sections*, Indi-Australia Workshop on Cold-Formed Steel Structures, Ets G Henricq and V Kalyanaraman, IIT Madras, Chennai, January 2006, pp. 53-75.


RESEARCH AND DEVELOPMENT

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RESEARCH AND DEVELOPMENT


4.7. List of postgraduate students and research topics

<table>
<thead>
<tr>
<th>Student Name</th>
<th>MEngSc Research Title</th>
<th>Project Title</th>
<th>Main Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbas, Basim</td>
<td>MEngSc</td>
<td>Durability of CFRP repaired structural members and their cyclic temperature and humidity</td>
<td>R. Al玛hadi</td>
</tr>
<tr>
<td>Abdullah, Shal</td>
<td>MEngSc</td>
<td>FRP Rehabilitation of alkali aggregate reaction damaged concrete structures</td>
<td>R. Al玛hadi</td>
</tr>
<tr>
<td>Bai, Tao (Mr)</td>
<td>MEngSc</td>
<td>The study of bond behaviour of CFRP reinforced steel plates under high-amplitude cyclic loading</td>
<td>R. Al玛hadi</td>
</tr>
<tr>
<td>Carpenter, Lisa (Ms)</td>
<td>MEngSc</td>
<td>Indicators of river condition Are they useful for environmental management?</td>
<td>A. Laddan</td>
</tr>
<tr>
<td>Chan, Dei Li (Mr)</td>
<td>MEngSc</td>
<td>Failure of buried pipes due to ground movement and prevention of pipe leaks in buried water and gas pipe systems</td>
<td>D. Peterson</td>
</tr>
<tr>
<td>Cheruvuchan, Mahinda</td>
<td>MEngSc</td>
<td>Performance of earthen cover systems under various climatic conditions</td>
<td>J. Kodikara</td>
</tr>
<tr>
<td>Costa, Susang (Mr)</td>
<td>MEngSc</td>
<td>Modelling of shrinkage crack development in clay soils</td>
<td>J. Kodikara</td>
</tr>
<tr>
<td>Cekkos, Daniel (Mr)</td>
<td>MEngSc</td>
<td>Identifying measures of public transport reliability performance that are related to passenger perceptions</td>
<td>G. Corta</td>
</tr>
<tr>
<td>Darlington, Wili (Mr)</td>
<td>MEngSc</td>
<td>Investigating of strength deformability and failure of mechanisms of rock slopes in large open pit mines</td>
<td>G. Rose</td>
</tr>
<tr>
<td>Flower, David (Mr)</td>
<td>MEngSc</td>
<td>Capturing complexity in water demand and wastewater generation modelling</td>
<td>J. Kodikara</td>
</tr>
<tr>
<td>Groot, Joel (Ms)</td>
<td>MEngSc</td>
<td>Investigation of rheus of geosynthia for support of storm coves in very soft soils</td>
<td>G. Mitchell</td>
</tr>
<tr>
<td>Jasmin, Lieske (Ms)</td>
<td>MEngSc</td>
<td>A study of geomechanical properties of coal with application to enhanced coal bed methane recovery and CO2 sequestration</td>
<td>M. Bouza</td>
</tr>
<tr>
<td>Kabir, Ershamur (Mr)</td>
<td>MEngSc</td>
<td>Filtration behaviour of granular soils under repeated load</td>
<td>A. Haque</td>
</tr>
<tr>
<td>Kabir, Ispali (Mr)</td>
<td>MEngSc</td>
<td>Impacts of major road infrastructure on land use and city development</td>
<td>M. Bouza</td>
</tr>
<tr>
<td>Klass, Dua (Mr)</td>
<td>MEngSc</td>
<td>Indigenous water management: Options for sustainable water conservation in karst-dominated area in Rote Island, NTT Province, Indonesia</td>
<td>M. Bouza</td>
</tr>
<tr>
<td>Kurucuk, Nurses (Ms)</td>
<td>MEngSc</td>
<td>Multi-scale studies of unsaturated granular materials using one-dimensional compression</td>
<td>J. Kodikara</td>
</tr>
<tr>
<td>Medustil, Soheil (Ms)</td>
<td>MEngSc</td>
<td>Intrinsic behaviour of high strength steel channel sections in bending</td>
<td>M. Bouza</td>
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<tr>
<td>Matalon, Tony (Mr)</td>
<td>MEngSc</td>
<td>A rational method of specification of unbound granular materials in road pavements</td>
<td>M. Bouza</td>
</tr>
<tr>
<td>Mezabah, Mahmoud (Mr)</td>
<td>MEngSc</td>
<td>A novel methodology to study transit priority at network level utilizing evolutionary computing</td>
<td>M. Bouza</td>
</tr>
<tr>
<td>Morip our, Sara (Ms)</td>
<td>MEngSc</td>
<td>The lane changing behaviour of heavy vehicles during congested traffic conditions</td>
<td>M. Bouza</td>
</tr>
<tr>
<td>Salim, Maya (Ms)</td>
<td>MEngSc</td>
<td>Impedance spectroscopic method for permeability measurements in concrete</td>
<td>J. Sanjuan</td>
</tr>
<tr>
<td>Schull, Martin (Mr)</td>
<td>MEngSc</td>
<td>Settlement of raft foundations on fill and soft soils</td>
<td>A. Haque</td>
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<tr>
<td>Senter, Matthew (Mr)</td>
<td>MEngSc</td>
<td>Investigation of fibre reinforced polymer (FRP) strands as an alternative for steel strands in high capacity ground anchors</td>
<td>M. Bouza</td>
</tr>
<tr>
<td>Shadkam, Michael (Mr)</td>
<td>MEngSc</td>
<td>Structural crashworthiness performance of vehicle roofs as rollover protection</td>
<td>M. Bouza</td>
</tr>
<tr>
<td>Tan, Guoxia (Mr)</td>
<td>MEngSc</td>
<td>Parting of the ways? Toll roads and sustainability in Australia</td>
<td>M. Bouza</td>
</tr>
<tr>
<td>Tokman, R (Mr)</td>
<td>MEngSc</td>
<td>Parting of the ways? Toll roads and sustainability in Australia</td>
<td>M. Bouza</td>
</tr>
<tr>
<td>Yong, Fui Fern (Ms)</td>
<td>MEngSc</td>
<td>Could porous pavements be a part of the urban water system?</td>
<td>M. Bouza</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Student Name</th>
<th>MEngSc Research or PhD</th>
<th>Project Title</th>
<th>Main Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zhu, Pan (Mr)</td>
<td>MEngSc</td>
<td>Investigation of geopolymer based concretes for the</td>
<td>J. Sanjayan</td>
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<tr>
<td></td>
<td></td>
<td>construction of high fire risk infrastructures</td>
<td></td>
</tr>
<tr>
<td>Adams, Con Y. (Mr)</td>
<td>PhD</td>
<td>Advanced strengthening techniques applied to timber</td>
<td>R. Miwa*</td>
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<tr>
<td></td>
<td></td>
<td>bridges with prefabricated decks</td>
<td>A. Rashid</td>
</tr>
<tr>
<td>Al-Shawaf, Ahmed (Mr)</td>
<td>PhD</td>
<td>Public transport measures for road traffic congestion</td>
<td>G. Currie*</td>
</tr>
<tr>
<td></td>
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<td>relief</td>
<td>M. Sanvi</td>
</tr>
<tr>
<td>Ali, Tanveer (Mr)</td>
<td>PhD</td>
<td>Investigation of the mechanism causing shrinkage in concretes made</td>
<td>J. Sanjayan</td>
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<tr>
<td></td>
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<td>with alkali bentonite and</td>
<td></td>
</tr>
<tr>
<td>Browne, Dale (Mr)</td>
<td>PhD</td>
<td>Predicting and modelling the clogging of stormwater</td>
<td>A. Deloit*</td>
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<td>infiltration systems</td>
<td>T. Fletcher</td>
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<td>Byrne, Matthew (Mr)</td>
<td>PhD</td>
<td>A minimum message length approach to</td>
<td>J. Sanjayan*</td>
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<td></td>
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<td>pavement determination</td>
<td>J. Kodikara</td>
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<td>Droto, Cirilo (Ms)</td>
<td>PhD</td>
<td>Uncertainties and scale issues in storm water pollution</td>
<td>A. Deloit*</td>
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<td></td>
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<td>modelling</td>
<td>T. Fletcher</td>
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<td>Fawzia, Sabrina (Ms)</td>
<td>PhD</td>
<td>Bond characteristics between steel members and</td>
<td>A. Al-Mahadi*</td>
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<td>carbon fibre reinforced polymer (CFRP) composites</td>
<td>X.L. Zhao</td>
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<td>Fletcher, Peter (Mr)</td>
<td>PhD</td>
<td>Research into improvement of Coode island silt by deep</td>
<td>M. Bouazza*</td>
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<td>Francis, Matthew (Mr)</td>
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<td>H. Duncan</td>
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<td>A. Al-Mahadi*</td>
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<td>Gamage, Kumari (Mr)</td>
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<td>Effect of temperature cycles on bond between fibre</td>
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<td>reinforced polymers and concrete</td>
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<td>R. Al-Mahadi*</td>
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<td>J. Sanjayan*</td>
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<td>Guerin, Maurice (Mr)</td>
<td>PhD</td>
<td>Development of an alkali activated slag based</td>
<td>R. Grzebieta*</td>
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<td>construction material for high fire risk infrastructures</td>
<td>M. Bambach*</td>
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<td>Haefer, Jimmy (Mr)</td>
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<td>Development of high strength bottles</td>
<td>R. Grzebieta*</td>
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<td>M. Bambach*</td>
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<td>Heiti, Belinda (Ms)</td>
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<td>Developing novel stormwater treatment technologies</td>
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<td>Haydon, Shane (Mr)</td>
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<td>A simplified process based model for predicting</td>
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<td>G. Codner*</td>
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<td>Hilt, Adrian (Mr)</td>
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<td>Tensile strengthening of reinforced concrete beams</td>
<td>R. Al-Mahadi*</td>
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<td>Jana, Husseini (Mr)</td>
<td>PhD</td>
<td>Thermochemical reactions subjected to</td>
<td>R. Grzebieta*</td>
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<td>M. Bambach*</td>
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<td>X.L. Zhao</td>
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<td>Kabir, Mobashshara (Ms)</td>
<td>PhD</td>
<td>Modelling long term groundwater rebound and recharge</td>
<td>G. Mudd*</td>
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<td>Ranger Uranium Mine, Kakadu National Park</td>
<td>T. Laidon</td>
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<td>Kerperich, Mark (Mr)</td>
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<td>Transport infrastructure and engineering projects based on</td>
<td>W. Young</td>
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<td>transferred technology financed in China</td>
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<td>Khalaf, Hussein (Mr)</td>
<td>PhD</td>
<td>Reliability-based assessment of load capacity of existing</td>
<td>P. Grundy</td>
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<td>Kong, Daniel (Mr)</td>
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<td>concrete bridge</td>
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<td>Development of high fire resistant</td>
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<td>Le Cousterme, Sebastien (Mr)</td>
<td>PhD</td>
<td>Modelling and modelling of hydraulic and environmental performance of urban stormwater infiltration systems</td>
<td>T. Fletcher*</td>
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<td>incorporation of environmental effects into pavement design</td>
<td>J. Kodikara</td>
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<td>Lee, Kok Yun (Mr)</td>
<td>PhD</td>
<td>Enhancing travel time prediction models through explicit</td>
<td>G. Rose</td>
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<tr>
<td>Li, Ruijin (Ms)</td>
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<td>Incorporation of travel time variability</td>
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<td>Li, Yong (Ms)</td>
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<td>Modelling performance of a series of surface flow</td>
<td>A. Deloit*</td>
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<td>T. Fletcher*</td>
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<td>Ling, Tong Wei (Mr)</td>
<td>PhD</td>
<td>The tanara behaviour of guedel plate fused to</td>
<td>X.L. Zhao*</td>
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<td></td>
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<td>connections in very high strength (VHS) tubes</td>
<td>A. Al-Mahadi*</td>
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<td>Liu, Shengwei (Ms)</td>
<td>PhD</td>
<td>Fatigue of tube-tubular T-connections partially filled</td>
<td>X.L. Zhao*</td>
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<table>
<thead>
<tr>
<th>Student Name</th>
<th>MEngSc Research or PhD</th>
<th>Project Title</th>
<th>Main Supervisor</th>
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<tbody>
<tr>
<td>Liu, Hui (Mr)</td>
<td>PhD</td>
<td>with concrete or reinforced with FRP</td>
<td>R. Al-Mahadi*</td>
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<td>Fire resistance of composite tunnel members</td>
<td>X.L. Zhao</td>
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<td>McCarthy, David (Mr)</td>
<td>PhD</td>
<td>Modelling micro-organisms in urban stormwater</td>
<td>G. Mitchell*</td>
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<tr>
<td>Magyar, Imre (Ms)</td>
<td>PhD</td>
<td>Determining the design of residual rainwater tank efficacy water quality</td>
<td>G. Mitchell*</td>
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<tr>
<td>Martin, Tim (Mr)</td>
<td>PhD</td>
<td>Components of uncertainty in predicting pavement</td>
<td>T. Laidon</td>
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<td></td>
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<td>performance of a road network and program level</td>
<td>W. Young*</td>
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<td>Nahidzai, Hamid (Mr)</td>
<td>PhD</td>
<td>Unsaturated behaviour of geotextiles</td>
<td>M. Bouzaza*</td>
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<tr>
<td>Pang, Daniel (Mr)</td>
<td>PhD</td>
<td>Fatigue behaviour of dragline tubular structures</td>
<td>J. Kodikara</td>
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<td>Pati, Arun (Mr)</td>
<td>PhD</td>
<td>Research and development of a scientific model for the</td>
<td>P. Dayawansa</td>
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<td>accreditation and quality assurance in engineering</td>
<td>G. Codner*</td>
</tr>
<tr>
<td>Richardson, Shane (Mr)</td>
<td>PhD</td>
<td>Rollover protection systems for Military 4x4 vehicles</td>
<td>R. Grzebieta*</td>
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<td>Development of an experimentally-derived clogging</td>
<td>A. Deloit*</td>
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<td>prediction method for stormwater infiltration and filtration</td>
<td>T. Fletcher*</td>
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<tr>
<td>Tam, Yan (Mr)</td>
<td>PhD</td>
<td>A study of parking movement in multi-storey parking systems</td>
<td>W. Young*</td>
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<tr>
<td>Turner, Margaret (Ms)</td>
<td>PhD</td>
<td>Environmental consequences of water allocation proposals</td>
<td>G. Cochrin*</td>
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<td>Stormwater injection aquifer storage and recovery in Melbourne</td>
<td>M. Stewardson</td>
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<td></td>
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<td>and associated water quality issues</td>
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<td>Winstead, Arke (Ms)</td>
<td>PhD</td>
<td>Improvement of the performance of water-sensitive</td>
<td>A. Vajtek*</td>
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<td>geomaterials using hydrophobic additives</td>
<td>J. Kodikara</td>
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<td>Williams, Alexander (Mr)</td>
<td>PhD</td>
<td>Effects of emerging large road height vehicles on</td>
<td>W. Young*</td>
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<td>the performance of typical Australian road pavements</td>
<td>J. Kodikara</td>
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<td>Yao, Richard (Mr)</td>
<td>PhD</td>
<td>Protecting occupants in vehicle rollover crashes</td>
<td>R. Grzebieta*</td>
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<td>Young, David (Mr)</td>
<td>PhD</td>
<td>Advancing stormwater desalter technologies</td>
<td>X.L. Zhao</td>
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<td>Zinger, Zoran (Mr)</td>
<td>PhD</td>
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4.8. Theses accepted for Higher Degree in 2005

**PhD**

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>Supervisor (s)</th>
<th>Thesis Title</th>
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<tbody>
<tr>
<td>Avsar</td>
<td>Sina (Mr)</td>
<td>A/Prof. M. Bouazza</td>
<td>Geostatistical analysis of municipal solid waste settlement, stiffness and unit weight</td>
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<td>Jiang</td>
<td>Tao Tony (Mr)</td>
<td>A/Prof. R. Grobler/Prof. X.L. Zhao</td>
<td>Predicting impact loads and lateral deflections of road safety barrier systems</td>
</tr>
<tr>
<td>Judd</td>
<td>Dean (Mr)</td>
<td>A/Prof. R. Keller</td>
<td>Hie a river-embankment form: A process study on the Rivera Plain of South-Eastern Australia</td>
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<tr>
<td>Yang</td>
<td>Yanan (Mr)</td>
<td>A/Prof. J. Sanjayan</td>
<td>Deterioration of reinforced concrete beams due to chloride-induced reinforcement corrosion under service loads</td>
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**MEngSc (Research)**

<table>
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<th>Last Name</th>
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<th>Supervisor (s)</th>
<th>Thesis Title</th>
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<tbody>
<tr>
<td>Lee</td>
<td>Kah Ying (Mr)</td>
<td>Dr. J. Kodurapati/Dr. A. Haque</td>
<td>Numerical analysis of piles loaded laterally by structural forces or moving soil</td>
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</tbody>
</table>

4.9. Graduating Class of 2006 (Postgraduates;)

**Master of Engineering Science (Research)**

- Lee Kah Ying
- Master of Traffic
  - Lindsay Susannah Smith BE(Civil) RMIT
  - Melanie Kennedy-Masgrove
  - Kevin Hideo Mura
  - Timothy David Hampton
  - Olivia Diana Ryan, Bcom BE(Hons)
  - Timothy Mark Bickersstaff

**Master of Transport**

- Bryce Laurence Hall
- Keith Milson
- Kate Louise Mould
- Peter Bethune Wilks
- Christopher Luke De Greyer BE(Hons)

**Master of Transport and Traffic**

- Paul Scott Morris

Postgraduate Diploma in Transport and Traffic

- Katrina Jane Stuettzel
- Postgraduate Diploma in Infrastructure Engineering and Management
  - David Leonard Miranda
- Master of Infrastructure Engineering and Management
  - Roland Shing Yan Chu
  - Luke Anthony Veyria
  - Michelle Jane Banan BE(Civil) BEng(Hons)
  - Doctor of Philosophy
    - Dr. Dean Andrew Judd BE(Civil)(Hons) Melb. MEngSc UNSW
    - Dr. Tong Wei Ling BE(Hons)
    - Dr. Huynh Pham BE(Hons)
5. UNDERGRADUATE STUDENTS AND PRIZES

5.1. Graduating Class of 2006

Bachelor of Engineering (Civil)
Alexandr Michael Savilla
Sney Kie Tan
Jarod Leslie Wicks
Dean Adam Holvay
Keck Siu Sammy Hung
Wenren Kwong
Eric Ka Tat Yu
Manfred Takashi Tschirnch

Bachelor of Engineering (Civil) with Honours
Peri Alexiou
Jordaan Rhyn Allen
Evanita Amonta
Justin Budman Arif
James Lachlan Averlie
Tamara Jane Bladen
Dominic Francis Brizzi
Leigh Robert Bronkwy
Wah Yi Chan
Kang Yeo Jimmy Chang
James Lee Cherlin
Matthew Cwe
Rihannan Jo Cooper
Frank Jason Cosk
John Constantine Dimarco
Leah Jane Forrest
David Clinton Frigaro
Simon Benjamin Francis
Robert Bruce Gibson
Tahsin Clinton Forbess Hocking
Kuan Kii Hooi
Jaeil Huang
Nicholas Charles Peter James
James Rodney Kay
Kate Mane Kelly
Marina Jacek Kisiel
Nayza Kojima
Victoria Kwok
Sti Adشرمala Lask
Daniel Leonard
Yeu Ching Ling
Kryssla Irene Ling
Clyle Mall
Alessa Grein McDonald
Benjamin John Mattos
Maud Melka
Rebecca Joy Mur
Renadhka Naderajah
Jared Henry Oke
Wei Zhe Poh
Aaron John Portall
Siti Hannah Rahman
Paul James Reade
John Colin Richardson
Joel David Ridgeway
Andrew KINDley Sen
Richard John Woll

Jason Paul Williams
Travis Geofrey Wittinglow
David Bonche
Jason Denis Matthews
Kari Adam Hose
Alan Chiak Ling Ng
Yin Young Zong
Seifang Tan
Matthew Leigh Taylor
Huang Leong Ting
Tina Wing-San Yeung
Matthew James Comproth

Bachelor of Arts and Bachelor of Engineering in the field of Civil Engineering
Herman Henry-Wing Leoi

Bachelor of Arts and Bachelor of Engineering (Hons) in the field of Civil Engineering
Nicole Katherine Bullo
William Charles Robertson Roy
Christopher James Tadler

Bachelor of Science and Bachelor of Engineering (Hons) in the field of Civil Engineering
Tak Wing Cheng
David Jonathan Mark Flower
Benny Cathryn Rogers
David Paul Young
Rick Jay Williams

Bachelor of Commerce and Bachelor of Engineering (Hons) in the field of Civil Engineering
Mark David Ayers
Shane Robert Bennett
Clintia Kenna

Bachelor on Environmental Engineering
John Matthew Pathi

Bachelor on Environmental Engineering (with Honours)
Gwilym Lloyd Craig
Clare Eleanor Davie
Joshua Paul Delroy
Matthew Charles Koulond
Kai Chi Koh
Aram Maragian
Brett Anthony Resty
Siwe Elaine Washington
George Christopher Chiaroecs
Luke James Cunningham

5.2. Undergraduate Prizes and Awards

Scholarships (Faculty)

<table>
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<tr>
<th>Scholarship Name</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
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<tr>
<td>Leighton Contractors &quot;Keith Rex&quot; Scholarship</td>
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<td>Chris Arndt</td>
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<tr>
<td>Traffic Group Scholarships</td>
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<td>Jennifer Willcock</td>
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<td>Civil Contractors Federation Prize</td>
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Prizes

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<tr>
<th>Faculty Name</th>
<th>Prize Name</th>
<th>Department</th>
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<tr>
<td>Faculty</td>
<td>Gordon Associates Pty Ltd Prize</td>
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<tr>
<td></td>
<td>Civil Engineering</td>
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<tr>
<td></td>
<td>Krystle Long</td>
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</tbody>
</table>

Level 1 Prize

- Highest achieving single degree student entering Civil Engineering
  - Terry Leach
- Highest achieving double degree student entering Civil Engineering
  - Dean Baker

Level 2 Prize

- Raild Prize for Water Engineering (for best overall performance in 2nd year Water supply)
  - Peter Woodman
- Stans Smith Timber Industries Prize (for greatest proficiency in the field of timber structures)
  - Tim Catterford
- SRA Prize for Concrete Structures (to the student who demonstrated an outstanding achievement in reinforced concrete design)
  - Truc Viet Anh

Level 3 Prize

- Australian Steel Institute Prize (for greatest proficiency in the field of steel structures)
  - Deniz Ibrahim
- Douglass Partners Prize for Geomechanics (greatest proficiency at 3rd Level in Geomechanics units)
  - Lee Renton
- Raild Prize for Water Engineering (best overall performance in CV2064 urban water & wastewater systems)
  - Siti Harisah Ramen
- GHD Highway Design Prize (to the group who submitted the best Highway design project)
  - Michael Matthews
- Thomas Achilles
**Level 4 Prize**

- GHD Prize in Water Engineering: Joel Ridgeway
- Foundation Industry Prize for Soil Engineering (Best Foundation Design in Soil Engineering CV4249): Judy Ngan
- Richardson Prize in Transport (greatest proficiency in one transport elective and the transport final year project): Jordan Allen
- Thess Cooper Prize for Civil Engineering Design (group who has submitted the best design in Civil Engineering Practice 4): Andrew Morrison, David Flower, David Young, Rick Williams, Brett Radn, Jordan Allen
- Traffic Group Traffic Engineering Prize (greatest proficiency in transport engineering): Maid Mehic
- Foundation QA Prize (for the best final year project in geomechanics): Nicole Bolle

**Top Level 4 Graduate**

- Clinton Kenna

**Outside Award**

- David Flower received the Australian Stag Association Education Award from Independent Consilt and Lime Ltd.

**5.3. Undergraduate Seminars**

Mr. Roger Dean, Principal Manager, Building Structures with Comill Wagner Pty Ltd gave a seminar to Third Year students on the Eureka Project.

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**6. PROFESSIONAL ACTIVITIES**

6.1. Conference Attendance

- **Al-Mahaidi, R. (Dr)** Keynote Speaker, Second Int. Conference on Applications of Traditional and High Performance Materials in Harsh Environments, American University of Sharjah, United Arab Emirates, March
- **DEST (Federal Government Department of Education, Science and Training)** International Education Forum, Brisbane, Qld, April
- **Founding Meeting for Arab Expertise Scientists organized by the Qatar Foundation, Qatar, Qatar, April**
- **Invited Speaker, US National Science Foundation Workshop on Civil Engineering Infrastructure Systems—High Performance Materials, Monitoring and Management**, Dubai, United Arab Emirates, April-May
- **Keynote Speaker, Int. Construction Innovations Conference (ICC)** Peoria, Illinois, USA, October
- **Workshop on Fast Hybrid Testing, University of Colorado, Boulder, Colorado, USA, November**
- **American Concrete Institute Fall Convention, Denver, Colorado, USA, November**
- **Meeting of the Iraq Higher Education Committee, London, UK, November**
- **Australian Civil Engineering Conference, Perth WA, September**

- **Bambach, Michael (Dr)** India—Australia Workshop on Cold-formed Steel Structures, Chennai, South India, January

- **Bouzaa, Malek (Assoc Prof)** 6th European Geotechnics Conf., in Montpellier, France, June
- **5th Int. Congress on Environmental Geotechnics, Cardiff, June**
- **Council meeting of the Int. Geosynthetics Society, June**
- **8th Int. Conference on Geosynthetics, Yokohama, Japan, September**

- **Currie, Graham (Prof)** Transport Research Board Annual Conference, Transport Operations Research Unit, University of Newcasto-Upon-Tyne, UK, January
- **International Conference on Bus Development, Barcelona, Spain, February**
- **Conference on Transport, Social Disadvantage and Well-Being, Institute of Transport Studies, Monash University, April**
- **Conference on Innovative Infrastructure Funding, VLGA/Australian Institute of Urban Studies, May**
- **National Conference of the Australian Institute of Traffic Planning and Management, Melbourne VIC, August**
- **Institution of Transportation Engineers Annual Conference, Milwaukee, Wisconsin, USA, August**
- **Australian Transport Research Forum, Gold Coast QLD, September**

- **Deletic, Ana (Dr)** 7LDM and 4WSUD International Conference held in Melbourne, April
- **Workshop on Integrated Urban Water Management Modelling: Challenges and Developments, Melbourne, April**

- **Fletcher, Tim (Dr)** 7th Int. Conf. on Urban Drainage Modelling and 4th Conf. on WSUD, Melbourne, Victoria, April
- **Workshop on Integrated Urban Water Management Modelling: Challenges and Developments, Melbourne, Victoria, April**
- **Meeting of the Joint Committee on Urban Drainage, IRWA and IRWA Specialist Working Group, Melbourne, Victoria, April**
- **Conference on Sustainability of Water in the Urban Environment, invited keynote presentation, Sunshine Coast, Queensland, June**

- **Grove, James (Dr)** Australian and New Zealand Geomorphology Group Meeting, Taipa Bay, New Zealand, May
- **"Supporting Networks Using Information Technology" Conference, Centre for Excellence in Teaching and Learning, University of Plymouth, UK, May**
- **30th Hydrology and Water Resources Symposium, Launceston, Tasmania, December**

- **Grzebiela, Raphael (Assoc Prof)** National Road Safety Strategy Panel meeting, representing the Australasian College of Road Safety and Institution of Engineers Australia, Canberra, August
- **Road Safety Researchers, Education and Environment Conference, Surfers Paradise, QLD, October**
- **Australasian Conference "Road Side Barriers", September**
- **European Union Workshop on Energy Absorbing Structures and Materials in Railway and Aerospace**

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PROFESSIONAL ACTIVITIES

Cranworthiness 2006 Conference in Athens, Greece, July
Road Safety Summit in the Green Chamber at Parliament House, Brisbane, QLD

Kodikara, Jayantha (Dr)
4th Int. Conference on Unsteamed Suits, Carolina, Arizona (USA), April
22nd ARRB Conference, Canberra ACT, October

Ladson, Tony (Dr)
Hydrology and Water Resources Symposium, Launceston, Tasmania, December.
7th Int. Conference on Urban Drainage Modelling and the 4th Int. Conference on Water Sensitive Urban Design, April
Melbourne, Victoria.

Mitchell, Grace (Dr)
7th Int. Conference on Urban Drainage Modelling and 4th Int. Conf. on Water Sensitive Urban Design, April
Sustainable Water in the Environment II, Australia Water Association, June

Mudd, Gavin (Dr)
10th Murray-Darling Basin Groundwater Conference, Canberra ACT, September
2nd Australian Environmental Isotope & Hydrogeology Research Conference, Adelaide SA, December

Pathmegama Gamage, Ranjith (Dr)
International Symposium on Advances in Mining Technology and Management, IIT Kharagpur, India, December

Rose, Geoff (Assoc Prof)
US Transportation Research Board Conference, Washington DC, January
First National Conference on Transport, Social Disadvantage and Well Being, Monash University, ITS, March
Chivas Experimental Design workshop, ITLS, University of Sydney, March
20th Australian Transport Research Forum, ATRFIA, Transport - Making the most of it, Gold Coast QLD, September
Workshop on Travel Demand Management Evaluation, Melbourne, Brisbane, Sydney and Wellington (NZ), Queensland, November

Sanjay, Jay (Assoc Prof)
Int. Conference on Pozzolana Concrete and Geopolymer, Kohn Kent, Thailand, May
Advances in Cement and Concrete: Sustainability, Davos, Switzerland, July
19th Australian Conf. on the Mechanics of Structures and Materials, Christchurch (New Zealand), November

Sarvi, Majid (Dr)
IEEE (Institute of Electrical and Electronics Engineers) Conference, Toronto, Canada, October

Shen, L. (Dr)
2nd Asia-Pacific Int. Conf. on Computational Methods in Engineering (ICOCO2006), Hebi (China), November

Sun, Guangzhui (Dr)
10th International Conference on Water}
PROFESSIONAL ACTIVITIES

Grove, James (Dr)
Member, Physical Form Technical Advisory Group, Murray Darling Basin Commission, Sustainable Rivers

Grzebieta, Raphael (Assoc Prof)
Steering Member, Standards Australia CE 35 Road Safety Barrier Committee (AS3845)
Member National Australian Standards Committee MS-003 Motor Vehicles – Frontal Protection Systems
Member National Australian Standards Committee CS-085 Child restraints for use in motor vehicles
Member National Australian Standards Committee CS-075 Automotive occupant restraints
Member Australian Transport Safety Bureau National Committee Food Safety Strategy Panel
Corresponding Member Institution of Engineers National Committee on Transport

Kodikara, Jayantha (Dr)
Member, Australian Association for Computational Mechanics (AACM)
Member, Austroads Committee on Road Steel/Welding
Member, Australian Standard Committee on Soil Stabilisation
Member, Australian Geotechnical Society, Victorian Chapter
Member, Council for Paramedic Education Inc
Member, Int. Advisory Committee, 12th ACMAK Conference
Member, Int. Advisory Committee, WasteEng2005 Int. Conf. on Engineering for Waste Valorisation to be held at the University of Patras, Greece in June 2005
Member, Int. Advisory Committee for the Int. Conference on Soil and Rock Engineering, Colombo, Sri Lanka, to be held in August 2007

Ladson, Tony (Dr)
Member, Committee of the Water Engineering Branch, Engineers Australia

Mitchell, Grace (Dr)
Member, UNESCO IHP-III Data for Urban Water Management group
Member, Organising Committee, UMD & WUAS Conference held in April, Melbourne, Victoria
Chair, Committee of the Water Engineering Branch, Engineers Australia
Member, Data and Modelling Working Group, Joint Committee on Urban Drainage of IWA and IAH

Mudd, Gavin (Dr)
Member, Great Artesian Basin Coordinating Committee
Environment Representative on Working Group for two new booklets on Leading Practice Sustainable Development for Tannings and Acid Mine Drainage (project being auspiced through Commonwealth DITR)
Committee Member, Victorian Branch, Society for Sustainability and Environmental Engineering

Pathegama, Ranjith (Dr)
Member, International Advisory Committee, 12th Int. Conference of Int. Assoc. of Computer Methods and Advances in Geomechanics to be held in Goa, India in October 2008

Rose, Geoff (Assoc Prof)
Member, Advisory Committee for the "Bicycling Research Network", established by Bicycle Victoria
Member, US Transportation Research Board, Travel Demand Management Committee
Member, "State of the Environment—Transport" Working Group, Office of the Commissioner for Environmental Sustainability

Sanjayan, Jay (Assoc Prof)
President, Concrete Institute (Victoria Branch)

Sarvi, Majid (Dr)
Member, Engineers Australia, Transport Committee

Wong, M.B. (Dr)
Member, ISEAUST Structural Branch Committee, Victoria
Member, Organising Committee for Australian Structural Engineering Conference to be held in Melbourne, June 2008
Member, International Scientific Committee, International Conference on Adhesives in Steel Structures to be held in Singapore, December 2007

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PROFESSIONAL ACTIVITIES

Young, William (Prof)
Treasurer, AITPM (Australian Institute of Traffic Planning and Management), Victorian Committee
Member, Standards Association of Australia, Parking Committee

Zhao, Xiao-Ling (Prof)
Chairman, IWW Subcommission XV-E on Tubular Structures
Chairman, IFC (Int. Institute for FRP in Construction) Working Group on FRP-strengthened metallic structures
Council Member, IFC (Int. Institute for FRP in Construction)
Member, CIDECT (Int. Committee for the Development and Study of Tubular Structures) Project Working Group
Member, Int. Scientific Committee, 11th Int. Symposium on Tubular Structures, Canada held in August
Member, Int. Scientific Committee, 3rd Int. Conf. on FRP Composites in Civil Engineering, held in Miami, Florida, USA, December
Member, Int. Scientific Committee, 9th Int. Symposium on Structural Engineering for Young Experts, Fuchou and Xiannan, China held in August
Member, Int. Scientific Committee, 6th Int. Conf. on Steel and Aluminium Structures, held in Oxford, UK in July
Member, Int. Scientific Committee, 5th Int. Conf. on Advances in Steel Structures to be held in 2007
Member, Int. Scientific Committee, IMPLAST, to be held in Bochum, Germany in August 2007
Member, Int. Scientific Committee, Asia-Pacific Conf. on FRP in Structures to be held in Hong Kong in December 2007

6.3 Visits to Other Institutions

Al-Mahaidi, Riahid (Dr)
Denmark Technical University (laboratories), Copenhagen (Denmark), November

Bambach, Mike (Dr)
University of Cape Town, Blast Impact and Survivability Research Unit, Cape Town (South Africa), June

Bouazza, Malek (Assoc Prof)
Asian Institute of Technology, Bangklok (Thailand)
National University of Singapore (NUS), Singapore
University of Western Australia, Perth WA

Currie, Graham (Prof)
University of Southern Florida, Centre for Urban Transport Research, Florida (USA), January
University of Newcastle Upon Tyne (UK), January

Fletcher, Tim (Dr)
INSA National Institute of Applied Sciences, Lyon (France), November-December
UNESCO (United Nations Education and Scientific Cooperation Organisation), Paris (France), December

Grove, James (Dr)
University of Plymouth (UK), May
Auckland University (UK), May

Kodikara, Jayantha (Dr)
University of Peradeniya, Sri Lanka, May
University of Moratuwa, Sri Lanka, June
University of South Australia and University of Adelaide, Adelaide SA, November

Mitchell, Grace (Dr)
Kings College London (UK), June-July
University of Sheffield, Penne Water Group, Department of Civil and Structural Engineering (UK), July

Mudd, Gavin (Dr)
Institute of Environmental Studies (EIS), University of New South Wales, Kensington, NSW

Pathegama Gamage, Ranjith (Dr)
University of New South Wales, Sydney, NSW, July
University of Sydney, NSW, July
Indian Institute of Technology (IIT) Kharagpur (India), December

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6.4. Editorial Services

Ali-Mahaidi, Riadh (Dr)
- Examiner, External PhD thesis from Tarumunara University, Jakarta, Indonesia
- Reviewer, ASCE Composites in Construction Journal
- Reviewer, Composite Part B Journal
- Examiner, External PhD thesis defence committee, University of Tarumunara, Jakarta, Indonesia

Bambach, Mike (Dr)
- Reviewer, J. of Engineering Mechanics (ASCE)
- Reviewer, J. of Structural Engineering (ASCE)
- Reviewer, Advances in Structural Engineering

Bouazzza, Malek (Assoc Prof)
- Member, Editorial board for International Journal of Geotechnics and Geomembranes
- Member, Editorial board for International Journal of Lowland Technology
- Member, Editorial board for Geosynthetics International
- Member, Editorial board for Geotechnical Engineering
- Member, Australian Standard Committee on Geosynthetics
- Member, Editorial board, Geotechnical Testing Journal
- Member, ASCE, Geotechnical Committee
- Member, Education and Communication Committee, Int. Geosynthetics Society
- Core member and coordinator, Technical Committee No 5 (Environmental Geotechnics) of the International Society of Soil Mechanics and Geotechnical Engineering
- Member, Scientific Committee, 5th Int. Congress on Environmental Geotechnics held in Caen, France
- Member, Scientific Committee, 5th Int. Conf. on Unsaturated Soils, UNSAT2006 held in Phoenix, Arizona, USA
- Member, Scientific Committee, 6th French Conf. on Geosynthetics, Held in Montpellier, France
- Member, Scientific Committee, 8th Int. Geoenvironmental Engineering Conference held in Tokyo, Japan

Currie, Graham (Prof)
- Reviewer, Applied GIS Journal, Transportation Research Board, Australasian Planner
- Reviewer, Australian Road Research Board Journal
- Reviewer, Australasian Transport Research Forum
- Reviewer, US Transportation Research Board Annual Meeting

Zhou, Xiao-Ling (Assoc Prof)
- Hong Kong University, China, December
- Hong Kong Polytechnic University, China, December

Deletic, Ana (Dr)
- Reviewer, Water Research
- Reviewer, Geotechnical Engineering
- Reviewer, Journal of Hydrology
- Reviewer, Journal of Environmental Management
- Reviewer, Urban Water
- Reviewer, Scientific Committee, UCD & WSD Conference held in Melbourne, April

Fielder, Tim (Dr)
- Reviewer, Urban Water (UK)
- Reviewer, Water Research
- Reviewer, Revue Européenne de Génie Civil
- Reviewer, Environmental Management
- Reader, Australian Research Council (Discovery and Linkage research projects)

Grzebieta, Raphael (Assoc Prof)
- Member, Editorial Board for International Journal of Crashworthiness
- Member, Editorial Board for IJS/ Aust Australian Journal of Structural Engineering
- Member, Editorial Board for Electronic Journal of Structural Engineering
- Peer reviewer, Editor-in-chief of Roadways – Australian Journal of Road Safety

Kodikara, Jayantha (Dr)
- Reviewer, Canadian Geotechnical Journal
- Reviewer, Geotechnical Testing Journal
- Reviewer, Aust. J. of Soil Research
- Reviewer, Computers and Geotechnics
- Reviewer, Int. J. of Structural Health Monitoring
- Reviewer, Int. J. of Underground Space Technology
- Reviewer, Geosynthetics Int.
- Reviewer, Soils and Foundation
- Reviewer, Geosynthetics and Geomembranes
- Reviewer, J. of Geotechnical and Geoenvironmental Engineering

Ladson, Tony (Dr)
- Reviewer, Australian Journal of Water Resources
- Reviewer, Applied GIS

Mitchell, Grace (Dr)
- Associate Editor, Australasian J. of Water Resources
- Reviewer, J. of Environmental Management
- Reviewer, ASCE, J. of Water Resources Planning and Management
- Reviewer, J. of Environmental Modelling and Software
- Reviewer, Agricultural and Forest Meteorology

Mudd, Gavin (Dr)
- Reviewer, Journal of Environmental Management
- Reviewer, Environmental Science and Technology

Pathegama, Raniljith (Dr)
- Reviewer, J. of Geotechnical and Geoenvironmental Engineering
- Reviewer, Australian J. of Soil Research
- Reviewer, Computers and Geotechnics
- Reviewer, Int. J. of Underground Space Technology
- Reviewer, Soils and Foundation
- Reviewer, J. of Geotechnical and Geoenvironmental Engineering

Rose, Geoff (Assoc Prof)
- Reviewer, Scientific Committee, Thinking on Two Wheels Conference
- Reviewer, Scientific Committee, International Symposium on Transportation and Traffic Flow Theory
- Reviewer, Scientific Committee, AIRSS Conference
PROFESSIONAL ACTIVITIES

Reviewer, Scientific Committee, Australasian Transport Research Forum
Reviewer, Editorial Board, ASCE Journal of Transportation Engineering
Reviewer, Editorial Board, Road and Transport Research Journal
Reviewer, Editorial Board, Transportation Research Board Journal
Sarvi, M. (Dr)
Reviewer, Transportation Research Board Journal
Reviewer, IEEE on Intelligent Transport Journal
Reviewer, ASCE Journal
Sun, Guangzh (Dr)
Reviewer, Ecological Engineering
Reviewer, J. of Hazardous Materials
Reviewer, Engineering in Life Sciences
External examiner, The University of Birmingham, UK (May)
Weinmann, Erwin (Mr)
Editor, Australian Journal of Water Resources (Engineers Australia)
Corresponding member, National Committee for Water Engineering of Engineers Australia
Wong, Bill (Dr)
Reviewer, Engineering Structures
Reviewer, J. of Constructionsal Steel Research
Reviewer, Communications in Numerical Methods in Engineering
Young, William (Prof)
Reviewer, Scientific Committee, Australasian Transport Research Forum (ATRF) 2006 Conference
Reviewer, Transportation
Zhao, Xiao-Ling (Prof)
Editorial Board, Thin Wall Structures
Editorial Board, Int. J. of Structural Stability and Dynamics
Editorial Board, Advanced Steel Construction
Reviewer, Engineering Structures
Reviewer, J. of Structural Engineering (ASCE)
Reviewer, J. of Constructionsal Steel Research
Reviewer, Academic Research Fund (A*STAR) Tier 2 grant, Ministry of Education, Singapore
Examiner, PhD thesis, Nanyang University of Technology, Singapore

6.5. Services to Expert Bodies and Expert Advice

Fletcher, Tim (Dr)
Research Expert Representative, Melbourne Water; Waterways Advisory Committee
Grove, James (Dr)
Advisor, Department of Sustainability and Environment, on their index of Stream Condition Training Course
Ladson, Tony (Dr)
Advisor to Victorian National Parks Association on water management in the Barrabool Millwa Forest
Advisor to Environment Victoria on water policy
Mitchell, Grace (Dr)
Member, National Working Group for National Stormwater Recycling Guidelines
Working Group Member, Alternative Urban Water Supplies: Rainwater Guidance for Commercial, Industrial and other multi-tenancy scenarios (Victorian EPA)
Mudd, Gavin (Dr)
Invited Foundation Member of the Energy Science Coalition (experts from several Australian universities).
Wong, Bill (Dr)
Review of a research proposal for City University of Hong Kong, January

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PROFESSIONAL ACTIVITIES

6.6. External Seminars, Courses, Workshops and Conferences

Al-Mahaidi, Khaled (Dr)
Organiser and Presenter, one-day short course on FRP Composites to Retrofit Concrete Structures, at Monash University, November
Organiser, One-Day Symposium on “Increasing the capacity of the oil industry of Iraq” attended by Iraq’s Minister for Oil, the Iraq Ambassador to Australia, DFAT Deputy Secretary, Monash DVC (Research), DVC International, Deans of Engineering and Science, Heads of Civil, Materials and Mechanical Engineering departments, high level executives from Woodside Petroleum, BHP Billiton and Santos, October
Organiser, Three-day visit of a high level delegation from Iraq’s Ministry of Higher Education, October

Bouzouza, Malek (Assoc Prof)
Three-day seminar held in Perth in collaboration with the Australian Geomechanics Centre
Training course on PLAXIS

Currie, Graham (Prof)
Short course on “Public Transport Planning” 1st, October
Seminar on “Trans Planning – Lessons from Toronto”, streetcar planning and traffic micro-simulation for trams, November
Seminar on “Choking the City: Household social status, urban location and oil vulnerability in the Australian metropole”’, Transport and Social Inclusion Committee, Vic Government, October

Deletic, Ana (Dr)
One-Day Workshop on Integrated Urban Water Management Modelling, Melbourne, April

Fletcher, Tim (Dr)
MUSIC Users Forum, February [Fletcher, Mitchell]
One-Day Workshop on IUWM Modelling, April [Fletcher, Mitchell, Deletic]

Grove, James (Dr)
3-Day workshop on flood estimation for floodplain managers, July

Kodikara, Jayantha (Dr)
Invited Speaker at the Australian Geomechanics Society Workshop, South Australian Chapter, Adelaide, November – Topic: Innovative technologies for pavements and earthworks.

Ladson, Tony (Dr)
ROB5 workshops held at Monash University on 30th November and 1st December
Three-day workshop on flood estimation for floodplain managers, July

Mein, Russell (Prof)
ROB5 Workshops, Monash University, Clayton campus, November-December
ROB5 Workshops, Perth, Western Australia, February
3-Day workshop on flood estimation for floodplain managers, July

Mitchell, Grace (Dr)
MUSIC software Users Forum, February
Workshop on integrated urban water management modelling: Challenges and Developments, Melbourne, April

Rose, Geoff (Assoc Prof)
Austroads workshop on Capability Analysis 2006 – 2016 for the roads industry in Australia and New Zealand, February
Francesque Seminar on Research Cooperation in Intelligent Transport Systems and E-Safety: Lyon and Paris, France, October
Facilitator, Workshops on Travel Demand Management

Weinmann, Erwin (Mr)
ROB5 Workshops, Monash University, Clayton Campus, November/December
3-Day workshop on flood estimation for floodplain managers, July
Presentation, Australian Rainfall and Runoff Update workshop, Sydney NSW, November

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Wong, Bill (Dr)
Short course on "Steel structures design to AS4100", Darwin, February

6.7. Special presentations

Currie, Graham (Prof)
Presentation to the Department of Industrial Design students regarding farm service design issues as part of the Atalot Light Rail 2020 design competition.

Deletic, Ana (Dr)
Presentation to UK House of Lords Select Committee on Science and Technology, Sub-Committee on Water who visited the department on 31st January 2006.

Fletcher, Tim (Dr)
Presentation to the UK House of Lords Select Committee on Science and Technology Sub-Committee on Water who visited the Department in January.

Kodikara, Jayantha (Dr)

Mitchell, Grace (Dr)
Presentation to UK House of Lords Select Committee on Science and Technology (subcommittee on Water), January Invited keynote presentation on "Sustainability of Water in the Urban Environment, Sunshine Coast, June
Presentation at the Victorian AIWA Water Recycling Seminar, August
Presentation at the ISAV Annual Seminar, November
Presentation at the Faculties of Engineering and Science Deans’ Lecture Series (The University of Melbourne), December

Mudd, Gavin (Dr)
Invited Speaker, Public Forum on Nuclear Power, Sydney NSW, October
Presentation on the Great Artesian Basin to the local branch of the International Association of Hydrogeologists (IAH), December

Wong, Bill (Dr)
Presentation during the Vice Chancellor’s Showcase in Teaching Excellence 2006.

Young, William (Prof)
International Transport Workshop, IIT Mumbai, India, 29 Nov-2 Dec 2006

6.8. Consulting and Contract Research

Bouazza, Malek (Assoc Prof)
CNG: Air Grows Tower, United Arab Emirates

Currie, Graham (Prof)
Adviser, Siemens Trans Light Rail 2020 competition, Monash Faculty of Arts and Design student award

Deletic, Ana (Dr)
Adviser, Siemens Trans Light Rail 2020 competition, Monash Faculty of Arts and Design student award

Fletcher, Tim (Dr)
Adviser, Siemens Trans Light Rail 2020 competition, Monash Faculty of Arts and Design student award

6.9. Professional Development

Bambach, Michael (Dr)
Research Supervisor Training Program, Monash University

Currie, Graham (Prof)
Industry Contribution Award by Bus Association Victoria

Deletic, Ana (Dr)
Completion of the Graduate Certificate in Higher Education

Fletcher, Tim (Dr)
Participation in the "Science Writers' Club"
Diploma of French Language Level A1 and A2 at Alliance Française

Grove, James (Dr)
Geomorphic investigation of the Little Stringybark Creek for Melbourne Water and Earth Tech Engineering Pty Ltd
Developing a river condition assessment method for Tasmania for the Nature Resource Navigators of Australia and Earth Tech Engineering Pty Ltd
Developing and pilot testing a catchment-scale river geomorphic/habitat assessment method for the Murray Darling Basin that is inclusive of floodplains for Water Technology Pty Ltd and the Murray Darling Basin Commission

Grzebieta, Raphael (Assoc Prof)
Bus frame rollover testing, December

Keller, Robert (Dr)
Physical model study of Litter Trap for Clevedon Pty Ltd
On-going model study of 2km stretch of Lower Snowy River as part of major studies to restore health to the Lower Snowy River

Ladson, Tony (Dr)
Geomorphic investigation of the Little Stringybark Creek for Melbourne Water and Earth Tech Engineering Pty Ltd
Beal management practices to reduce nutrient loads to the Gippsland Lakes
Developing a river condition assessment method for Tasmania
Review of surface water information in the Lake Eyre Basin

Mitchell, Grace (Dr)
Desktop evaluation of technologies for treatment of intermittent sewage overflows for CRC Water Quality and Treatment DEH Scoping study to investigate measures for improving the water efficiency of buildings for GHD

Mudd, Gavin (Dr)
Advisor, Gundjeihmi Aboriginal Corporation on environmental management of tailings at Ranger uranium mine.
Advisor on mining issues (Mineral Policy Institute, local communities).

Weinmann, Erwin (Mr)
Advisor to GHD on ‘Monte Carlo special project’.

Young, William (Prof)
Advisor, Review Committees for Central City Access Model, Victorian Government, Department of Infrastructure, Melbourne, Victoria, Jan-Dec
Advisor, Land Use Transport Models, Victorian Government, Department of Infrastructure, Melbourne Victoria

Bambach, Michael (Dr)
Research Supervisor Training Program, Monash University

Currie, Graham (Prof)
Industry Contribution Award by Bus Association Victoria

Deletic, Ana (Dr)
Completion of the Graduate Certificate in Higher Education

Fletcher, Tim (Dr)
Participation in the "Science Writers' Club"
Diploma of French Language Level A1 and A2 at Alliance Française

Ladson, Tony (Dr)
Graduate Certificate in Higher Education
PROFESSIONAL ACTIVITIES

Mudd, Gavin (Dr)
Graduate Certificate in Higher Education

Sanjayan, Jay (Assoc Prof)
Concrete Microscopy course at Technical University, Delft, the Netherlands, May

Sarvi, Majid (Dr)
Fellowship, Australian Academy of Science-Japan Society for the Promotion of Science Bilateral Exchange Program, 1st December 2005-29th January 2006
Research visits

Shen, Luming (Dr)
An Introduction to explosion effects, design for blast and design of anti-ram barriers – workshop, University of Melbourne, August-September

Sun, Guangzhi (Dr)
Equivalence of Graduate Certificate in Higher Education recognised
Research supervisor training program completed

Young, William (Prof)
Leadership Conference, Monash University, March
Municipal Association of Victoria Conference on Transport 2003, Melbourne Victoria, March
Faculty Engineering Planning Workshop, May
Conference of Academic Heads, Monash University, July
Develop Faculty business (discussions with key researchers) at IIT Mumbai, India, Nov-Dec

Zhao, Xiao-Ling (Prof)
Senior Staff Orientation Program, Monash University, February
Master of Business Administration study program