VISION

Global leaders in education and research innovation with societal relevance and impact

MISSION

Building a better future through innovative and resilient solutions to societal problems
Equipping the future leaders of society with the skills to meet the demands of tomorrows problems

RESEARCH THEMES

Energy, water and resources
Monitoring, prediction and protection
Resilience, infrastructure and society
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1. **HIGHLIGHTS IN 2015**

**Awards and Achievements**

Congratulations to **Professor Xiao-Ling Zhao** on his appointment to the Research Evaluation Committee for the 2015 Excellence in Research for Australia (ERA) initiative. This appointment highlights his recognition by the Australian Research Council (ARC) as a leader and a significant contributor to his field.

**Dr David McCarthy** received a place in the Future Focus Group for the Committee for Melbourne. This is a two-year business leadership program for future leaders, developing the leadership skills and commitment of future corporate community leaders. David was also promoted to Associate Professor effective 1 January 2016.

Congratulations to **Dr Yu Bai** who was promoted to Associate Professor effective 1 January 2016.

**Dr Alexa Delbosc** won the Monash University Engineering Women’s Leadership Award and was a finalist in the Young Professional of the Year award by the Chartered Institute of Logistics and Transport, Australia.

**Dr Chris De Gruyter** won the Emerging Transport Professional of the Year award from the Institute of Transportation Engineers, Australia and New Zealand Section.

**Dr Gayani Chandrasena** won the 2015 MO BIO Laboratories Microbiome Award of $5000 funding for sample analysis. This award provides young, extraordinary scientists with funding and recognition to carry out scientific work in the field of Microbiome research.

**Dr Xiaoling Wu** won a Surveying & Spatial Sciences Institute (SSSI) 2015 Victorian Spatial Excellence Award, which celebrates the achievements of top spatial information enterprises and showcases the finest projects that the Victorian Spatial Industry has to offer. Projects and individuals attaining recognition at this premier event are deemed to be truly outstanding achievers and pre-eminent in their field. Congratulations Ling!

Dr Xiaoling Wu also received the Monash Engineering Women’s Leadership Award and the Postgraduate Student Award for Victoria.

Congratulations to **Ms Mahsa Mir Momeni** on receiving the Best Young Researcher Paper Award at the 3rd International Conference on Protective Structures, and also for achieving the runner up award in the “FameLab Competition Programme” which was hosted by the British Council at Melbourne Museum. FameLab has grown into one of the world’s leading science communication competitions since its birth at the Times Cheltenham Science Festival in 2005. The competition was among selective PhD students and early career researchers who received their PhD in recent years where they presented their research works in 3 minutes. Mahsa made a fantastic presentation on her research work titled “Structural Resilience Against Terrorist Destruction”. She went on to represent Victoria at
HIGHLIGHTS

the National Final where various state competed in Perth on 13th May 2015. Congratulations on the great performance!

Ms Mahsa Mir Momeni also won the 2015 Pearson Student Academic Achievement award in the field of Engineering and Mathematics. This award recognises those students who have demonstrated outstanding effort, dedication and academic achievement in their chosen field of study. Each year, only one student across Australia in each field receives this award. Well done Mahsa!

Ms Fatemeh Javidan won the 3MT (Three-Minute Thesis) competition at the University round. Fatemeh’s presentation title was “A workout for steel: the key to safe and sustainable construction”. Fatemeh also represented Monash University in the National 3MT round at Queensland University.

Congratulations to Ms Fatemeh Javidan on her win.

Dr Zhiyuan (Terry) Liu won the 1000 Talent Program entitlement from China central government.

Research Achievements

Congratulations to A/Prof Bre-Anne Sainsbury on receiving a 2015 Faculty of Arts and Faculty of Engineering interdisciplinary Research Seed Funding Scheme Grant of $20,000.

Congratulations to Dr Samintha Perera who won the Department Excellence in Research Award at our Annual Award Dinner.

The Department ranked as a 5-star department in the recent Excellence in Research Australia assessment by the Australian Research Council. Our collaborative research continues to be at the cutting edge, demonstrated in the re-positioning of our research into thematic areas according to our research strengths.

The Canadian Geotechnical Society 2015 R.M. Quigley Award honourable mention was given to the paper by Liu, Y, Gates, W.P., Bouazza, A. & Rowe, R.K. “Fluid loss as a quick method to evaluate hydraulic conductivity of geosynthetic clay
HIGHLIGHTS

liners under acidic conditions”, published in the Canadian Geotechnical Journal in 2014.

Professor Xiao-Ling Zhao had a highly cited paper (221 Times Cited from the Web of Science Core Collection) for his paper: Zhao, X.L. and Zhang, L. (2007), State of the art review on FRP strengthened steel structures, *Engineering Structures*, 29(8), pp. 1808-1823.


The Department was awarded 9 Australian Research Council (ARC) grants totalling over $3.5m.

We had 26 PhD completions in 2015.

Education Achievements

The winner of this year’s **Departmental Teaching Excellence Award** is the CIV4212 Civil Engineering Practice Teaching Team. Congratulations to Dr Ha Bui, Dr Colin Caprani, Dr Asadul Haque, Ms Joan Ko, Dr Tony Ladson, A/Prof. Majid Sarvi and A/Prof. Frank Collins.

The department initiated two Graduate Research Interdisciplinary Programs (GRIP); one in transport and the other in water. Each of these GRIPS have roughly 20 PhD students undertaking research on key questions in their area, with co-supervision across a range of our Faculties.

Departmental **Teaching Fellows** were acknowledged at the 2015 Annual Dinner for their contribution to our teaching program. Award recipients on the night included Joan Ko (top left), Tony Ladson (top right), Nawshad Haque (middle left), Keith Midson (middle right), Darren Paul (bottom left) and Joel Gniel (bottom right).
In June 2015, Professor Jeff Walker visited students who are completing our new Master of Transportation Systems program by coursework at Southeast University, Central South University (CSU), Tongji University, Hunan University, East China University of Science and Technology, Wuhan Institute of Technology and Beijing University of Technology in China. During this visit he also presented on the Faculty’s new Master of Advanced Engineering program based in Clayton.

In July 2015, the Department lead the inaugural “Year 8 ChallENGe” event, which is an activity to encourage junior secondary school students in the field of engineering. Six workshops were held over a 3-day period during the July school holidays, in Civil Engineering, Mining Engineering, Chemical & Environmental Engineering, Electrical & Computer Systems Engineering, Mechanical & Aerospace Engineering and Materials Science & Engineering. The Civil Engineering student challENGe was to design, build and test small-scale bridges (made from spaghetti and glue) to see who had the strongest & lightest design. A video of the event is at: http://eng.monash.edu.au/challenge/
The Mining Engineering student challenge was to work with remote control loaders and trucks to meet a production schedule.
HIGHLIGHTS

Industry & Community Engagement

Dr Mohan Yellishetty receiving a memento from the Honourable Minister of Science & Technology, Bangladesh, in appreciation of facilitation of training for Bangladesh Power Sector officials in August 2015.

Events

The 2015 Departmental Annual Award Dinner was held on 16th June. The dinner encompassed the appreciation of industry and guests who are supporting the department; the undergraduate and departmental awards; the alumnus of the year award; and also facilitated the reunion of our past alumni. Prof. CM Wang was awarded our Alumnus of the Year for 2015 and gave the after-dinner address.

Open Day 2015 was held in the engineering exam halls with a large number of students and parents in attendance. Thanks to all staff and students who volunteered their time to assist on a weekend.

This year’s Christmas Party was held on campus at the sports stadium, where we played some team building games and followed this with a spit roast lunch, at which time the heavens opened up and tried to dampen our spirits!
2. **OUR PEOPLE**

2.1 **Management Committee**

In 2015, the Management Committee of the Department consisted of:

- Prof Jeff Walker  
  Head of Department 
- Prof Jayantha Kodikara  
  Deputy Head of Department 
- Dr Asadul Haque  
  Director of Teaching 
- Prof Graham Currie  
  Director of Research 
- Dr Edoardo Daly/Prof Jian Zhao  
  Director of Research Training 
- Dr Yu (Barry) Bai  
  Director of International Affairs 
- Mr Christopher Powell  
  Director of Resources 
- Prof Jerry Tien  
  Head of Geomechanical Engineering 
- Dr Amin Heidarpour  
  Head of Structural Engineering 
- Dr Majid Sarvi/Prof Geoff Rose  
  Head of Transport Engineering 
- A/Prof Valentijn Pauwels  
  Head of Water Engineering

Meetings of the Management Committee were held monthly.

2.2 **Industry Advisory Committee**

The Industry Advisory Committee was created in 1999. Meetings of the Committee were held on 16th June and 25th November 2015 at the Clayton campus. The 2015 membership of the Committee was as follows:

**Industry members:**
- Dr Gamini Adikari  
  Technical Principal of Dams, SMEC 
- Mr John Bahoric  
  Associate Director, Bonacci Group 
- Dr Bruce Brown  
  Consultant (mining engineering) 
- Mr Chris Chesterfield  
  Consultant (water engineering) 
- Mr Murray Cullinan  
  Executive Director MPD, Dept Transport & Local Infrastructure 
- Ms Anita Curnow  
  Director of Network Strategy & Planning, VicRoads 
- Mr Dusha Dayananda  
  Associate Civil/Structural Engineer, Wood Group PSN 
- Dr David Flower  
  Commercial Transformation, Melbourne Water 
- Dr Chris Haberfield  
  Principal, Golder Associates 
- Ms Ann Kollmorgen  
  Project Hydrogeologist, Dept of Environment & Primary Industries 
- Dr Tony Ladson  
  Director, Moroka Pty Ltd 
- Dr Rony Nathan  
  Technical Director, Jacobs 
- Mr Jim Papadimitriou  
  Transport Services Leader, Aurecon 
- Mr Ian Pitcher  
  Operations Director, VicTas, AECOM 
- Dr Bronwyn Ridgway  
  Consultant (environmental engineering) 
- Dr Julian Seidel  
  Technical Director, Foundation Specialist Group 
- Mr John Sturdy  
  Director, Spencer Stirling 
- Mr Geoff Taplin  
  Consultant (structural engineering)

**Departmental members:**
- Prof. Jeff Walker  
  Head of Department 
- Dr Asadul Haque  
  Director of Teaching 
- Prof. Graham Currie  
  Director of Research 
- Dr Edoardo Daly/Prof. Jian Zhao  
  Director of Research Training 
- Dr Yu (Barry) Bai  
  Director of International Affairs 
- Mr Christopher Powell  
  Director of Resources
2.3 Occupational Health and Safety Committee

The Civil OHS Committee was created in 2008. Membership of the committee in 2015 was as follows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Jeff Walker</td>
<td>Chairperson</td>
</tr>
<tr>
<td>Mr Mike Leach</td>
<td>Deputy Chairperson and Safety Officer</td>
</tr>
<tr>
<td>Mr Chris Powell</td>
<td>Deputy Safety Officer</td>
</tr>
<tr>
<td>Mr Richard Williamson</td>
<td>OHS representative</td>
</tr>
<tr>
<td>Mr Mark Taylor</td>
<td>Deputy OHS representative</td>
</tr>
<tr>
<td>Ms Rebekah Henry</td>
<td>Biosafety Officer</td>
</tr>
<tr>
<td>Ms Christelle Schang</td>
<td>Deputy Biosafety Officer</td>
</tr>
<tr>
<td>A/Prof. WenHui Duan</td>
<td>T&amp;R staff representative</td>
</tr>
<tr>
<td>Dr Xiaoling Wu</td>
<td>Research staff representative</td>
</tr>
<tr>
<td>Mr Alastair MacLeod</td>
<td>Postgraduate representative</td>
</tr>
<tr>
<td>Mr Casey Slaughter</td>
<td>Postgraduate representative</td>
</tr>
<tr>
<td>Ms Margaret Rendell</td>
<td>Faculty OHS&amp;E Advisor</td>
</tr>
</tbody>
</table>

Meetings of the Civil OHS Committee were held bi-monthly.

2.4 Research Groups

In 2015 the department operated through the following five groups:

2.4.1 Geomechanical Engineering

Geomechanical Engineering was led by Prof. PG Ranjith and included Prof. Malek Bouazza, Prof. Jayantha Kodikara, Dr Asadul Haque, Dr Ha Bui, Dr Will Gates, Dr Samintha Perera, Dr Chi Nguyen, Dr Ben Shannon, Dr Ivan Zhang, Dr Derek Chan, Mr Mike Leach, Mr Phil Stevens.

**Research Strengths:** CO2 sequestration; environmental geotechnics; geo-infrastructure; geothermal energy; soil and rock stabilisation; unsaturated soils; modelling of geomaterials, shale gas recoveries.

2.4.2 Resources Engineering

Resources Engineering was led by Prof. Jerry Tien and included Prof. Jian Zhao, A/Prof. Bre-Anne Sainsbury, Dr Mohan Yellishetty and Dr Qianbing Zhang.

**Research Strengths:** Mine ventilation; methane and dust control; diesel particulate emission control measures; mine fires and firefighting; mine emergency planning; fundamental and applied mining rock mechanics and tunnelling technology; rock fracturing mechanisms, dynamic loading; deep rock geothermal energy and induced seismicity; mine reclamation; environmental impacts and management due to mining.

2.4.3 Structures Engineering

Structures Engineering was led by Dr Amin Heidarpour and included Prof. Xiao-Ling Zhao, A/Prof. Frank Collins, A/Prof. Bill Wong, Dr Yu (Barry) Bai, Dr Colin Caprani, A/Prof. Wenhui Duan, Dr Will Gates, Dr Ye Lu, Dr Lizi Sironic.

**Research Strengths:** Advanced thin-walled structures; FRP composites; non-Portland cement based sustainable concrete alternatives; timber structures; lifetime integrity of structures; structural health monitoring; engineering for extremes including impact and blast; fire; earthquake and tsunami.

2.4.4 Transport Engineering

Transport Engineering was led by A/Prof. Majid Sarvi and included Prof. Graham Currie, Prof. Geoff Rose, Prof. William Young, Dr Alexa Delbosc, Dr Zhiyuan (Terry) Liu, Dr Meead Saberi, Dr Marilyn Johnson, Mr John Clements, Mr Bill Kilpatrick and Ms Brenda O’Keefe.

**Research Strengths:** Multimodal urban transportation system planning; modelling and optimisation; transport system sustainability; resilience and human interface modelling and analysis.
2.4.5 Water Engineering

Water Engineering was led by A/Prof. Valentijn Pauwels and included Prof. Ana Deletic, Prof. Jeff Walker, Dr Edoardo Daly, Dr Peter Bach, Dr Gayani Chandrasena, Dr Gift Dumedah, Dr Stefania Grimaldi, Dr Belinda Hatt, Dr Rebekah Henry, Dr Yuan Li, Dr Chunhui Lu, Dr David McCarthy, Dr Sandra Monerris-Belda, Dr Gavin Mudd, Dr Emily Payne, Dr Chris Rüdiger, Dr Christopher Uriach, Dr Xiaoling Wu, Dr Nan Ye, Mr Tony Brosinsky, Mr Peter Kolotelo, Ms Christelle Schang, Mr Richard Williamson, Mr Frank Winston and Mrs Louise Krol.

Research Strengths: Modelling and monitoring of stormwater quality and treatment; water filtration and treatment technologies (including biofiltration); water sensitive urban design and integrated urban water management; stormwater harvesting; ecohydrology; groundwater modelling; life cycle assessment of water (mining, urban etc.); stochastic soil-moisture dynamics and water balance; soil-atmosphere interaction; constructed wetlands; environmental remote sensing; land surface modelling and data assimilation.

2.5 Staff List

Professors
Abdelmalek Bouazza CivEng Algiers PhD Glasgow FIEAust
Graham Currie BSc(Hons) Huddersfield MSc Cranfield PhD Monash MCIT
Ana Deletic BSc(Hons) MSc Belgrade PhD Aberdeen GradCertHighEd Monash MIWA MIAHR FIEAust FTSE
Jayantha Kodikara BSc(Hons) Peradeniya PhD Monash FIEAust CPEng
Ranjith Pathegama Gamage BSc(Eng)(Hons) Moratuwa PhD Wollong MASCE CHARMA FIEAust MISRMI
Julia Lamborn BE(Civil) SIT GradDip(ChemEng) SIT MEng SUT PhD SUT FIEAust CPEng EngExec NER APC Eng IntPE
Geoffrey Rose BE(Hons) Queensland IT MSc PhD Northwestern MIEAust MITE MAITPM
Jerry Tien PhD, MBA, PE
Jeff Walker BE(Hons) BSc(Hons) Newcastle PhD Newcastle FIEAust
Jian Zhao BSc London PhD DIC London FIEAust
Xiao-Ling Zhao BE ME Shanghai JT PhD DEng Syd EMBA NSW & Syd FIEAust FASCE FIIFC MSSRC

Associate Professors
Frank Collins BE MEngSc Syd PhD Monash MIEAust CPEng
WenHui Duan BE Tianjin MEng Tianjin PhD NUS
Valentijn Pauwels B AgrEng UGenT MACivEng Princeton PhD CivEng Princeton
Bre-Anne Sainsbury BE(Hons) RMIT ME PhD UNSW MIEAust MAusimm
Majid Sarvi BCivEng(Hons) Tehran MEng(Hons) IUST PhD Tokyo MJSCE MJSTETSC MCITE
Man Biu (Bill) Wong BSc(London) PhD UNSW MIEAust MICE FIEAust CPEng

Senior Lecturers
Yu (Barry) Bai BE(Struct) Tsinghua MEng(Struct) Tsinghua PhD EPFL
Eedoardo Daly BE ME Turin PhD Turin GradCertHighEd Monash
Asadul Haque BScEng KBIT MEng AIT PhD Wollong GradCertHE Monash MIEAust
Belinda Hatt BAppSci(Hons) RMIT PhD Monash
Amin Heidarpour BSc IUT MSc Sharif PhD UNSW
Victoria Lamb BEng (Envir, Chem) Monash
David McCarthy BSc BE(Hons) PhD Monash
Gavin Mudd BEng(Hons) RMIT PhD VUT MSSEE MAusimm MSEG MISIE
Christoph Rüdiger BE(Hons) PhD Melbourne
Elizabeth Sironic BE DIC MSc PhD Monash
Mohan Yellishetty BE Osmania M Tech IITBombay PGDEM Uni Hyd PhD Monash MAusimm (CP), ASAIMM

Lecturers
Ha Hong Bui BE(Hons) HCMUT MEng Rits PhD Rits
Colin Caprani PhD UCD BSc(Eng) TCD DipEng DIT CEng CPEng MIEAust MIEI MIABSE MASCE MStructE
Alexa Delbosc BA Lewis & Clark MA Harvard PhD Monash MUIGR AITPM
Inhi Kim BE Kongju MEng Kongju PhD QUT
Zhiyuan (Terry) Liu BTranspEng(Hons) SEU PhD NUS
Chunhui Lu BEng USTS MEng SJTU PhD Gatech
Ye Lu BE ME BUAA PhD Sydney
Phu Nguyen BE HUT MSc ULG PhD TUD
OUR PEOPLE

Mohsen Ramezani  BSc MSc UTehran Iran  PhD (Transportation) EPFL Switzerland
Meead Saberi  BE MSc (Transportation) PortlandSU  PhD (Transportation) Northwestern USA
Qianbing Zhang  BE SWJTU MSc SDU PhD EPFL

Senior Research Staff
Will Gates  BSc MSc NMSU PhD Illinois
Marilyn Johnson  BA(Hons) MAppSocRes PhD Monash
Bill Kilpatrick  GradCert Risk Monash MRiskM Monash MRMIA

Research Fellows
Kayvan Aghabayk  PhD Monash
Peter Bach  BE(Hons) Monash PhD Monash
Derek Chan  BEng(Civil) RMIT MEngSc Monash PhD Monash
Gayani Chandrasena  BSc(Eng) Ruhuna PhD Monash
Chris De Gruyter  BE Monash MTrans Monash PhD Monash
Gifty Dumehad  BSc(Hons) KNUST MSc SFU PhD Guelph
Ying Gao  BE Phd Monash
Stefania Grimaldi  ME CivEng PhD PUTurin
Rebekah Henry  BSc(Hons) Griffith PhD Monash
Jian Ji  BE Xi'an UST MSc Xi'an Jiaotong PhD Nanyang Tech
Yuan Li  BE BNU MSc BNU PhD Melb
Alessandra Monerris-Belda  BE Valencia PhD Catalunya
Emily Payne  BSc BE (Hons) Melbourne PhD Monash
Samintha Perera  BSc(Hons) Peradeniya MEng Saitama PhD Monash
Benjamin Shannon  BSc(Hons) BSc Monash PhD Monash
Amir Sobhani  BSc MSc FU Mashhad PhD Monash

Research Officers
John Clements  BCom(Hons) Dip Ed Melb MEc MAdmin Monash
Peter Kolotelo  BSc Deakin MSc
Peter Poelsma  BSc (Environmental) RMIT
Christelle Schang  BEng

Administrative Staff
Kylie Flitcroft – Executive Assistant to HOD
Tara Fry – Resources Officer
Louisa John-Krol – Personal Assistant to Ana Deletic, Administrative Officer for MW4L
Jenny Manson – Research & Postgraduate Manager
Brenda O'Keefe – Administration Manager ITS (Monash)
Chris Powell – Director of Resources
Irene Sgouras – Undergraduate Administration Manager

Technical Staff
Anthony Brosinski – Technical Officer
Zoltan Csaki – Technical Officer
Jeffrey Doddrell – Technical Officer
Peter Dunbar – Technical Officer
Geoff Fletcher – Technical Officer
Long Kim Goh – Laboratory Manager
Michael Leach – Technical Officer
Mark Taylor – Senior Technical Officer
Philip Warnes – Senior Testing Officer
Richard Williamson – Senior Technical Officer
Frank Winston  BE(Hons) MEngSc – Senior Technical Officer
Honorary Members of the Department

**Adjunct Professors**
- Riadh Al-Mahaidi  BSc(Civil Eng)(Hons) Baghdad MSc Cornell PhD Cornell FIEAust MASCE CPEng
- Tim Fletcher  BForSc(Hons) Melb, PhD Melb
- Masoud Motavalli  PhD ETH-Zurich
- Ronald Kerry Rowe, BE(Hons) Sydney, PhD Sydney, DEng Sydney, FEng, FRSC, FCAE, FEIC, FACE, FIEA, FCSE, PEng
- Ahmad Shayan  B AgrEng, Cert Hydrology & Groundwater Eng, Post-grad Dip(Soil Sc), PhD(Soil Sc)
- Chien M Wang  BE(Civil)(Hons) Monash MEngSc Monash PhD Monash
- Xiaoming Wang  PhD Xian Jiaotong China
- William Young  BE(Hons) NSW MSc PhD Monash GradDipMgt MBA Deakin FIEAust FITE FCIT MAITPM MPAA

**Adjunct Senior Lecturer**
- Richard Knight

**Adjunct Research Associates**
- Laurence Aldridge
- Xavier Choi  BE(Hons) PhD GradDip Computing
- Christopher Haberfield  BSc Sydney BE(Civil) Sydney PhD FIAust MAGS MISRM MISSMGE
- Robert Keller  BE(Hons) PhD Canterbury NZ MASCE MIEAust MIPENZ
- Anthony Ladson  BE(Hons) Melbourne MSc Minnesota PhD Melb GradCertHighEd
- Julian Seidel  BE(Hons) PhD MIEAust CPEng
- Geoffrey Taplin  BE(Hons) Tas. MEngSc PhD CPEng NPR MICE MStructE MIEAust

2.6 Staff changes in 2015

**New Staff Members**
- Prof Julia Lamborn
- Dr Inhi Kim
- Dr Qianbing Zhang
- Dr Chris DeGruyter
- Dr Kefeng Zhang
- Dr Ying Gao
- A/Prof Bre-Anne Sainsbury
- Dr Mohsen Ramezani
- Dr Wengui Li
- Dr Chi Nguyen
- Mr Geoff Fletcher
- Ms Kylie Flitcroft

**Promotions**
- Dr Yu Bai and Dr David McCarthy (from Senior Lecturer to Associate Professor, effective 1 January 2016)

**Resignations / Departures**
- A/Prof Frank Collins
- Dr Zhijuan (Terry) Liu
- Dr Lei He
- Dr Amir Sobhani
- Dr Chao Wu
- A/Prof Majid Sarvi
- Dr Chunhui Lu
- Mr Con Adam
- Mr Peter Poelsma
- Ms Kylie Flitcroft
OUR PEOPLE

2.7 Visitors to the Department

The following people visited the Department of Civil Engineering in 2015:

Visiting Academics

Prof Erik Schlangen from Delft University of Technology, Netherlands visited Dr Amin Heidarpour’s research group on 04/09/2015 and gave a talk to the Department.

Prof Scott Smith from Southern Cross University, NSW visited Dr Amin Heidarpour’s research group on 04/09/2015 and gave a talk to the Department.

Dr Lei He from Peking University visited Dr Amin Heidarpour’s research group on 22/12/2015 to 1/05/2016.

A/Prof Fang Liu from Wuhuan Textile University, China visited Dr Amin Heidarpour’s research group on 20/12/2015 to 19/12/2016.

Dr Qi from Nanjing Technology University is visiting Prof PG Ranjith from 9/11/2015 to 31/01/2017.

Prof Shengqi Yang from China University of Mining and Technology visited Prof PG Ranjith from 22/03 to 30/06/2015.

Dr Maik Boltes from Jülich Supercomputing Centre visited A/Prof Majid Sarvi from 2-5/03/2015.

Dr Sin-Zeon Park from Kookmin University, Korea visited Dr Yu Bai from 9/03 to 13/08/2015.

Dr Camila Svetodolova is visiting Dr Mohan Yellishetty from 17/03/2015 to 18/03/2016.

Dr Yao Chen from Chongqing Jiaotong University is visiting Prof. Ana Deletic and Dr Belinda Hatt from 15/01/2015 to 31/01/2017.

Prof Wenzhong Qu from Wuhan University is visiting Dr Yu Bai from 21/09/2015 to 14/03/2016.

Prof Peter Sweatman from University of Michigan Transportation Research Institute visited the Transport Group from 19-25/08/2015 and was the guest speaker at the Ogden Lecture on 24/08/2015.

Other visitor to Mining Group included Dr Jincheng Fan, Dr Xiaoxuan Kong and Dr Shengang Li.

Occupational Trainees:

Ms Parisa Shadan from Amirkabir University of Technology, Iran visited Amin Heidarpour’s research group from 16/02 to 18/11/2015.

Mr Xin Kang from Central South University is visiting Dr Colin Caprani and Dr Yu Bai for 2 years, from 26/06/2015 to 1/07/2017.

Mr Hui Jiao from University of Tasmania visited Prof Xiao-Lin Zhao from 17/12/2014 to 15/02/2015.

Mr Jorge Anibal Cardona-Urike visited Prof Jeff Walker from 3-30/09/2015.

Mr Ako Heidari from George Mason University (USA) visited Prof Jeff Walker from 3/09 to 6/10/2015.

Ms Lucie Fiene Schotman from Delft University of Technology is visiting A/Prof Majid Sarvi from 2/11/2015 to 31/03/2016.

Mr Zhongjun Wu from Transportation Planning and Management South East University (China) visited Prof Graham Currie from 1/11/2015 to 31/12/2016.

Mr Nan Jiang from Nanjing University of Science & Technology is visiting Prof PG Ranjith from 01/12/2015 to 21/01/2017.

Mr Qiao Lyu from Wuhan University of Technology is visiting Prof PG Ranjith from 9/11/2015 to 31/01/2017

Miss Wei Liu from China Coal Technology & Engineering Group Corporation is visiting Prof Jerry Tien from 1/12/2015 to 6/05/2016.

Other visitor to Mining Group included Lixiang Xie, Zenghui Liu, Tianshou Ma and Yang Zou.
3. **EDUCATION**

### 3.1 Course Offerings

The Department offers **undergraduate degrees** in the fields of Civil Engineering, Environmental Engineering and Mining Engineering. The Civil Engineering program is also combined with Arts, Law, Commerce, Science and Architecture disciplines to offer various **undergraduate double degree** options.

The Department offers **on-campus Master of Advanced Engineering degree** in the fields of Transport and Water, as well as **off-campus Master degree** in the fields of Transport, Traffic, and Infrastructure Engineering and Management.

The Department also has a joint graduate school with South Eastern University at Suzhou in China, and delivers the BEng(Civil) at the Monash Sunway campus in Malaysia.

The Department currently has 600 undergraduate and 150 higher degree research students.

### 3.2 Undergraduate scholarships and prizes

Congratulations to Mr Khuzair Rehan who won “Student of the Year” in the 2015 Pearson Stand Out from the Crowd awards.

**Scholarships (Faculty)**

- **Golder Associates Scholarship**
  - Winner: Supun Mendis

- **Traffix Group Scholarship:**
  - Level 2 (partly funded by Mirabito family)
  - Winner: Liesel De Silva

- **Traffix Group Scholarship:**
  - Winner: Jasim Quresh (no photo available)
EDUCATION

Level 3

Prizes (Faculty)

Civil Contractors Federation presents
The Ian Jacka Award

Winners: Lisa Davie, Jaclyn Rotman & Rianna Mollard
(no photo available)

GHD Civil Engineering Award Prize
(For top Level 4 graduate)

Winner: Chloe Green

Golder Associates Prize

Winner: Damian Png (no photo available)

The Geofabrics Pty Ltd Prize

Winner: Joshua Sly

Prizes (Departmental)

Level 1 Prizes

Top Level 1 student entering Civil Engineering
(For the student who enters Level 2 of the Civil Engineering degree at the end of the year, with the highest average across all units taken in Level 1 of the Bachelor of Engineering degree)

Winner: Xiang Yu (no photo available)
Top Level 1 double degree student entering Civil Engineering
(For the student who enters Level 2 of the Civil Engineering degree with the highest average across all units in the previous two semesters in any double degree in engineering)

**Winner:** Alice Barnett

**Level 2 Prizes**

Railand Prize for Water Engineering
(For best overall performance in the Level 2 water engineering unit CIV2263)

**Winner:** Desmond Manuelpillai

Coffey Geotechnics Prize for Geo Engineering
(For best overall performance in the Level 2 geomechanics unit CIV2242)

**Winner:** Harin Tennakoon

SRIA Prize for Concrete Structures
(For best overall performance in the Level 2 structures unit CIV2226)

**Winners:** John Baker & Lauren McCutcheon

**Level 3 Prizes**
Australian Steel Institute Prize
(For best overall performance in the Level 3 steel structures unit CIV3221)

Winner: Khuzair Rehan

Level 3 Prizes cont.

Douglas Partners Prize for Geomechanics
(For best overall performance in Level 3 geomechanics units CIV3247 & CIV3248)

Winners: Khuzair Rehan & Dulan Dantanarayana

Engineers Australia Structural Division prize
(For best overall performance in Level 3 bridge design and assessment unit CIV3222)

Winner: Khuzair Rehan

GHD Highway Design Prize
(For the group who submitted the best highway design project in Level 3 CIV3283)

Winners: Khuzair Rehan, Andrew Wegman, Thevasuthan Mohanakumar & Dulan Dantanarayana
Railand Prize for Water Engineering
(For best overall performance in the Level 3 water engineering unit CIV3264)

Winner: Khuzair Rehan
**Level 4 Prizes**

Foundation Industry Prize for Soil Engineering
(For best foundation design in Level 4 Soil Engineering unit CIV4249)

Winner: Matthew Cameron

Foundation Specialists Prize
(For the best final year Level 4 geomechanics project)

Winner: Carl Rossi

GHD Prize in Water Engineering
(For the greatest proficiency in both Level 4 water engineering units CIV4261 & CIV4268)

Winner: Sophie Scarlett-Stone

Richardson Prize in Transport
(For the greatest proficiency in Level 4 transport electives and final year transport project)

Winner: Chris Piperidis (no photo available)

Traffix Group Prize
(For the best overall performance in all transport units from Levels 2-4)

Winner: Jake Leopold
Level 4 Prizes cont.

Thiess Women in Engineering Awards  
(For the top female students)

Winners:
Jaclyn Rotman (Level 2)  
Rebecca Gibbs (Level 3)  
Eliza Gibbs (Level 4)

Top First Class Honours Graduate  
(For the student who graduated with the highest-ranking honours result of the year)

Winner: Chloe Green

Foundation Industry Prize for Soil Engineering  
(For best foundation design in Level 4 Soil Engineering unit CIV4249)

Winner: Matthew Cameron
3.3 Undergraduate students who completed in 2015

Bachelor of Engineering (Civil)
Duyi Feng
Mustafa Heras
Stanislav Moskalev
Jiawei Lu
Jay Naik
Sean Williams
Joon Seong An
Chanuka Koggala Marakkalage
Kwok To Caleb Wong
Di Wu
Qianqian Tan
Dulguun Bayasaikhan

Bachelor of Engineering (Civil) with Honours
Matthew Molloy
Wei Wang
Chengyu Qiu
Shida Yang
Yanling Xu
Yuxi Zhang
Nathan Davies
Guanzhong Xu
Jeremy Yuen
Zhi Wei Xu
Abbarnah Thayapharan
Ming Lou
Mark Oliver
Cheng Xi
Ayden Chongue
Yaoyuan Zhang
Hiruni Wickramaratne
Hesara Wellwitiya
Fan Guo
Kyle Mitchell
Samuel Weatheritt
Romaisa Haque
Jasim Qureshi
Troy Jones
Sarah Thomas
Desmond Ting
Hiu Tung Rosten Kwong
Muhammad Mumtaz
Yonkun Xu
Dong Guo
Joel Mattiske
Boon Hoe Tan
Jia Hong Lai
Dody Kurnianto
Zoe Anagnostakos
Christopher Keys
Jeannyfer Pangestu
Fulong Duan
Julio Bintoro
Kesheng Feng
Adam Jones
Bokso Necovski

David Manibod
David Zhong
Irresha Dissanayake

Bachelor of Engineering (Civil) with Honours cont.
Nawodya Jayasekera
Rowan Browning
Laura Prickett
Wilson Khoo
Lachlan Summers
Dong Yu Wu
Ben Hirt
Dylan Noronha
Junbiao Lin
Erdong Mao
Ruifen Nie
Hoi Tung Cheng
Jing Li
Ryan Wong
Rachel Wai Lam Tsang
Wang Yuen Wong
Ashoka Herath Mudiyanselage
Kean Yong Teo
Di Rong Alex Tan
Amir Hosseini
Toni Breeze
Shijia Zhang
David Lee
Lisa Davie
Tsai Chih Ong
Guofei Chen
Lachlan Bradford
William Liu
Balquees Momani
Truong Dao Vo
Le Zou
Glen Salter
Tingting Zhang
Samuel Qi Yi Chin
Zhao Lu
Jonathon Egan
Yin Yi Ser
Y Vu Phan
Farn-Ling Khung
Huu Thanh Nguyen
Hong Yuen Li
Shu Kai Yi
Quy Schutt
Steven Wei Ngo
Jie Bao
Qi Qi Xiong
Peng Zhang
Jia Guo
John Grgrurinovic
Daniel Mead
Liang Yang
Yu Ning Tan
Shuang Linda Han
Chiu Leung Mok
Zhiren Ding
Andrew Canasingham
Ihtisham Imam Wazeer
Toh Wai Lai
Cumaranath Deivendram

Bachelor of Arts and Bachelor of Engineering (Civil)
James Hudson

Bachelor of Arts and Bachelor of Engineering (Civil) with Honours
Sylvia Korlos
Megan O'Brien
Leon Holewa

Bachelor of Commerce and Bachelor of Engineering (Civil) with Honours
Joseph Wong
Andrew Wegman
Robert Dragwidge
Saul Block
Rhys van Rheenen
Timothy Short
Lawrence Wong
Matthew Cameron
Christopher Dafter
Jenny Lu
Faizal Mostofa
James Young
Eleanor Nguyen
Claire O'Reilly
Truong Minh Do
Granil-Andrea Guerra Marin
Alfred Chan
Nicholas Ou
Stephen Tofler
Mitchell Skene
Thomas Chuan Yuan Soon
Neelesh Patil
Vanessa Dallas
Adam Krhaim
Ben Thomas
Zac Charlton
Cameron Lowe
Matthew Bartalotta
Jasmine Kwon Lee
Ella Robey
Akilan Anthonipillai
Liam Harris
Jason Chun Hou
Clara Jessop
Hong Zhi Wu

Bachelor of Science and Bachelor of Engineering (Civil) with Honours
Ryan Swagemakers
Michael Mag
Timothy Kallady
Nicole Sabljak

Jovairia Arif
Thuy Ha Hai Pham
Thomas Ruddell
Minh Hoai Le
Alexander Armstrong
Kajanu Maheswaran
Alexis Souchon
Jake Leopold
Theodor Ioannidis

Bachelor of Engineering (Civil) and Bachelor of Laws with Honours
Justin Soh
James McNicol Smith

Bachelor of Environmental Engineering with Honours
Taarika Bangalore
Guanruizi Wang
Xuting Jiang
Lu Zhang
Zhuo Dai
Yuehua Wen
Oi Ling Wong
Xueli Ruan
Michael Clarke
Timothy Hoban
Sarini Dissanayake
Nguyen Que Chau Le

Bachelor of Environmental Engineering and Bachelor of Science with Honours
James Walsh
Daniel Guttmann
Elizabeth Scott
Jessica Bond
Carissa Liddle
Emily Plymin
Katherine Szabo
Joanna Ly
Madeline Richard
James Latimer
Rebecca Coulthard
Benjamin Mililli

Bachelor of Environmental Engineering and Bachelor of Commerce with Honours
Daniel McLean

Bachelor of Environmental Engineering & Bachelor of Arts with Honours
Laura Aston

Bachelor of Civil & Environmental Engineering
Srijoy Karmakar

Bachelor of Civil & Environmental Engineering with Honours
Shinyoung Won
Bachelor of Engineering (Civil) & Bachelor of Architectural Design (Honours)
Zhi Chong Lau

Bachelor of Biomedical Science and Bachelor of Engineering (Civil) with Honours
Mayer Melhem
Matthew Garnham

Bachelor of Mining Engineering with Honours
Peter Kontos
Riley Main

3.4 2+2 Program

In 2015, we received 17 2+2 students in total, including 12 students in Civil from Central South University (CSU) in Changsha (China) and 5 students in Environmental from Tongji University in Shanghai (China).
4. **RESEARCH**

4.1 **Research grants and income**

Research Funding for 2015 was as follows:

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Researchers</th>
<th>Planned Project Duration</th>
<th>Total Monash Project Budget</th>
<th>2015 Actual Income</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ARC Discovery Projects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DP130100109 Microplane material models for graphene-oxide-reinforced concretes</td>
<td>Duan, Wenhui; Sanjayan, Jay G; Bazant, Zdenek P; Wang, Chien M</td>
<td>2013-2015</td>
<td>$189,428</td>
<td>$68,143</td>
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<tr>
<td>DP130100181 Composite Tubular Construction Subject to Impact and Blast Loading</td>
<td>Zhao, Xiao L; Heidarpour Esfarjani, Amin; Wu, Chengqing; Packer, Jeffrey A</td>
<td>2013-2015</td>
<td>$360,000</td>
<td>$110,000</td>
</tr>
<tr>
<td>DP130100203 An experimentally-validated thermo-hygro-mechanical theory for waste containment lining systems</td>
<td>Bouazza, Abdelmalek; El-Zein, Abbas</td>
<td>2013-2015</td>
<td>$141,200</td>
<td>$38,000</td>
</tr>
<tr>
<td>DP140100572 MoistureMonitor: A multi-mission soil moisture monitoring system for a water limited future</td>
<td>Walker, Jeffrey; Rudiger, Christoph; De Jeu, Richard; Entekhabi, Dara; Jackson, Thomas J; Kim, Edward J; Merlin, Olivier; Renzullo, Luigi J</td>
<td>2014-2016</td>
<td>$554,181</td>
<td>$186,352</td>
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<tr>
<td>DP140103679 Forecasting drought impacts months ahead using satellite data</td>
<td>Pauwels, Valentijn RN; Tregoning, Paul; Van Dijk, Albert J JM; Dejeu, Richard; Sheffield, Justin; Wood, Eric</td>
<td>2014-2016</td>
<td>$30,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>DP150103557 Enhanced Prediction of Landfill Gas Emissions Through Geosynthetic Systems</td>
<td>Bouazza, Abdelmalek; Rowe, Ronald K</td>
<td>2015-2017</td>
<td>$235,100</td>
<td>$120,000</td>
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<tr>
<td>DP150100442 Behaviour of ultra-high strength double-skin composite tubular construction</td>
<td>Zhao, Xiaol L; Heidarpour Esfarjani, Amin; Al-Mahaidi, Riadh SH; Han, Lin-Hai</td>
<td>2015-2018</td>
<td>$205,500</td>
<td>$100,000</td>
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<tr>
<td><strong>Total ARC Discovery Projects</strong></td>
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<td></td>
<td></td>
<td><strong>$632,495</strong></td>
</tr>
<tr>
<td><strong>ARC Linkage Infrastructure, Equipment and Facilities (LIEF)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LE150100047 A multi-frequency microwave radiometer system for environmental research</td>
<td>Walker, Jeffrey; Karmakar, Nemai C; Rudiger, Christoph; Hacker, Jorg M; Lucas, Richard M</td>
<td>2015</td>
<td>$540,000</td>
<td>$540,000</td>
</tr>
<tr>
<td><strong>Total ARC LIEF Projects</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$1,100,000</strong></td>
</tr>
<tr>
<td><strong>ARC Linkage</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
## Project Title
- **LP120200361** Innovative tools to improve station design and management of crowds in emergency and panic conditions
  - Researchers: Sarvi, Majid; Currie, Graham; Shiwakoti, Nirajan; Bandini, Stefania; Wang, Fred Y
  - Planned Project Duration: 2012-2015
  - Total Monash Project Budget: $450,000
  - 2015 Actual Income: $35,000

- **LP120200613** Turning pile foundations into sources of renewable energy: addressing remaining geotechnical challenges
  - Researchers: Bouazza, Abdelmalek; Pathegama Gamage, Ranjith; Haberfield, Chris M; Laloui, Lyesse
  - Planned Project Duration: 2012-2015
  - Total Monash Project Budget: $380,000
  - 2015 Actual Income: $45,000

- **LP130100884** Development of advanced deterioration model for the design of stabilised pavement bases
  - Researchers: Kodikara, Jayantha K; Bui, Ha H; Jitsangiam, Peerapong; Diaz, Luis; Leung, Gordon LM; McInnes, Doug; Ramanujam, Jothi M
  - Planned Project Duration: 2013-2016
  - Total Monash Project Budget: $276,000
  - 2015 Actual Income: $92,000

- **LP140100747** Controlling alkali-silica reaction in concrete for road pavements and bridge using graphene oxide and dune sand
  - Researchers: Duan, Wenhui; Kitipornchai, Sritawat; O'Moore, Liza M; Yang, Jie; Zhang, Jian
  - Planned Project Duration: 2014-2017
  - Total Monash Project Budget: $312,500
  - 2015 Actual Income: $187,500

- **LP140100871** Catchment water balance and CO2 fluxes: a comparison between productive land uses
  - Researchers: Daly, Edoardo; Beringer, Jason; Rudiger, Christoph; Walker, Jeffrey; Webb, John A; Camporese, Matteo; Dresel, Evan P; Morse-Mcnabb, Elizabeth M
  - Planned Project Duration: 2014-2017
  - Total Monash Project Budget: $221,282
  - 2015 Actual Income: $88,107

- **LP140100369** Planning and managing road transport systems for extreme events through spatial enablement
  - Researchers: Sarvi, Majid; Seible, Frieder; Thompson, Russell G; Rajabifard, Abbas; Leighton, Alison; Miller-Hooks, Elise; Wall, Andrew R
  - Planned Project Duration: 2014-2017
  - Total Monash Project Budget: $515,193
  - 2015 Actual Income: $180,836

- **LP140100516** Waste Containment Lining Systems for Antarctica: Ensuring their Performance Under Extreme Conditions
  - Researchers: Bouazza, Abdelmalek; Gates, Will P; Hornsey, Warren; Rowe, Ronald K; Swiftie, Brendan
  - Planned Project Duration: 2014-2017
  - Total Monash Project Budget: $255,571
  - 2015 Actual Income: $111,759

- **LP150100543** Fatigue Strengthening of Metallic Bridges using Carbon Fibre Reinforced Polymer System
  - Researchers: Zhao, Xiao L; Al-Mahaidi, Riadh SH; Hueppi, Martin J; Motavalli, Masoud; Powers, Nigel
  - Planned Project Duration: 2014-2017
  - Total Monash Project Budget: $220,000
  - 2015 Actual Income: $70,000

- **LP150100103** Multi-functional nano-modified cementitious materials for well cementing
  - Researchers: Duan, Wenhui; Li, Dan; Lu, Ye; Pathegama Gamage, Ranjith; Kitipornchai, Sritawat
  - Planned Project Duration: 2015-2019
  - Total Monash Project Budget: $124,500
  - 2015 Actual Income: $45,000

- **LP150100832** Concrete Enriched with Carbon Nanotubes for Advanced Future Construction
  - Researchers: Collins, Francis G; Gates, Will P; Middleton, James M; Solomon, Gregory H
  - Planned Project Duration: 2015-2018
  - Total Monash Project Budget: $110,425
  - 2015 Actual Income: $42,326

**Total ARC Linkage Projects**: $971,634

### ARC Future Fellowships

- **FT120100067** Novel cement-graphene oxide composite: Understanding its composite structure via nano-mechanics based modelling and experimental tests
  - Researchers: Duan, Wenhui
  - Planned Project Duration: 2012-2017
  - Total Monash Project Budget: $703,809
  - 2015 Actual Income: $178,632
<table>
<thead>
<tr>
<th>Project Title</th>
<th>Researchers</th>
<th>Planned Project Duration</th>
<th>Total Monash Project Budget</th>
<th>2015 Actual Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT130100545 A novel and theoretically consistent method for correcting</td>
<td>Pauwels, Valentijn RN</td>
<td>2013-2017</td>
<td>$531,392</td>
<td>$149,830</td>
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<tr>
<td>systematic errors in earth observation data and earth system model results</td>
<td></td>
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</tr>
<tr>
<td>ARC DECRA</td>
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</tr>
<tr>
<td>DE130100124 Safe Long-term Storage of Carbon Dioxide in Coal Seams with</td>
<td>Perera, Mandadige SA</td>
<td>2013-2015</td>
<td>$374,905</td>
<td>$124,905</td>
</tr>
<tr>
<td>Enhanced Methane Recovery</td>
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<tr>
<td>DE140100524 Interactions between plants and faecal pathogens in urban water</td>
<td>McCarthy, David T</td>
<td>2014-2016</td>
<td>$395,220</td>
<td>$131,740</td>
</tr>
<tr>
<td>treatment: significance of soil microbes, plant debris, root exudates and</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>rhizosphere</td>
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<tr>
<td>DE140101555 Probing interaction between cement and nanoparticles at micro/nano</td>
<td>Zheng, Changxi</td>
<td>2014-2016</td>
<td>$395,220</td>
<td>$131,740</td>
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<tr>
<td>scale</td>
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<tr>
<td>DE150101751 Nanofiller reinforced concrete for high performance thermal energy</td>
<td>Li, Wengui</td>
<td>2015-2017</td>
<td>$234,000</td>
<td>$117,000</td>
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<tr>
<td>storage</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Contract Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Condition Assessment and Failure Prediction</td>
<td>Kodikara, Jayantha K; Chiu,</td>
<td>2011-2016</td>
<td>$4,501,515</td>
<td>$759,000</td>
</tr>
<tr>
<td>Technologies for Optimal Management of Critical Pipes (&quot;Critical Pipes&quot;)</td>
<td>Wing K; Haque, Asadul; Rajeev, Pathmanathan; Zhao, Xiao L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrating Capability for Stormwater Harvesting in Israeli Cities</td>
<td>Deletic, Ana; McCarthy, David T; Zinger, Yaron</td>
<td>2012-2015</td>
<td>$805,276</td>
<td>$250,276</td>
</tr>
<tr>
<td>Safety implications of eBikes</td>
<td>Johnson, Marilyn; Rose, Geoffrey</td>
<td>2014-2015</td>
<td>$48,560</td>
<td>$36,420</td>
</tr>
<tr>
<td>Learning to drive with bikes: identifying ways to increase safe driving</td>
<td>Johnson, Marilyn; Bonham, Jennifer</td>
<td>2014-2016</td>
<td>$42,400</td>
<td>$21,200</td>
</tr>
<tr>
<td>practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confidential Project: 2014002934</td>
<td>Bai, Yu</td>
<td>2015-2017</td>
<td>$110,000</td>
<td>$55,000</td>
</tr>
<tr>
<td>Confidential Project: 2015000182</td>
<td>Tien, Jerry</td>
<td>2015-2016</td>
<td>$114,881</td>
<td>$76,585</td>
</tr>
<tr>
<td>Pntrf Fund for allocating funds for the Chair of Public Transport salary</td>
<td>Currie, Graham</td>
<td>2015-2019</td>
<td>$1,000,000</td>
<td>$500,000</td>
</tr>
<tr>
<td>Confidential Project: 2015000239</td>
<td>McCarthy, David T</td>
<td>2015</td>
<td>$54,000</td>
<td>$54,000</td>
</tr>
<tr>
<td>Confidential Project: 2015000563</td>
<td>Sarvi, Majid</td>
<td>2015</td>
<td>$85,775</td>
<td>$85,775</td>
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<tr>
<td>Confidential Project: 2015001618</td>
<td>Johnson, Marilyn</td>
<td>2015</td>
<td>$26,950</td>
<td>$26,950</td>
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<tr>
<td>Confidential Project: 2015001776 Benchmarking public transport for</td>
<td>Caprani, Colin C</td>
<td>2015</td>
<td>$64,319</td>
<td>$64,319</td>
</tr>
<tr>
<td>international tourists in Queensland cities</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Confidential Project: 2015002089</td>
<td>Currie, Graham</td>
<td>2015</td>
<td>$81,756</td>
<td>$81,756</td>
</tr>
<tr>
<td>Confidential Project: 2013002741</td>
<td>McCarthy, David T</td>
<td>2014-2016</td>
<td>$257,192</td>
<td>$102,659</td>
</tr>
<tr>
<td>Research Grants</td>
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<td></td>
</tr>
<tr>
<td>Confidential Project: 2013002741</td>
<td>McCarthy, David T; Bach, Peter M; Chandrasena, Kira GGI; Deletic, Ana; Henry, Rebekah M</td>
<td>2014-2016</td>
<td>$325,000</td>
<td>$123,950</td>
</tr>
</tbody>
</table>

**Total ARC Future Fellowships** $328,462

**Total ARC DECRA** $505,385

**Total Contract Research** $2,113,940
## Research

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Researchers</th>
<th>Planned Project Duration</th>
<th>Total Monash Project Budget</th>
<th>2015 Actual Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative Integrated tool for cost-effective management of water pipe networks</td>
<td>Kodikara, Jayantha K; Bui, Ha H; Powell, Christopher D; Walker, Jeffrey; Zhu, Xuan</td>
<td>2013-2017</td>
<td>$611,193</td>
<td>$211,508</td>
</tr>
<tr>
<td>On-the-go soil moisture monitoring from GPS signals during routine farming operations</td>
<td>Monerris-Belda, Alessandra; Rudiger, Christoph; Walker, Jeffrey; Alonso-Aroyo, Alberto; Camps, Adriano</td>
<td>2014-2015</td>
<td>$150,079</td>
<td>$70,331</td>
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</table>

**Total Research Grants** $405,789

<table>
<thead>
<tr>
<th>CRC</th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B2.3 Urban Waterway Remediation in Developed Catchments</td>
<td>Breen, Peter</td>
<td>2013-2016</td>
<td>$633,790</td>
<td>$187,181</td>
</tr>
<tr>
<td>Socio-technical modelling tools to examine urban water management scenarios</td>
<td>Deletic, Ana; Brown, Rebekah R; McCarthy, David T; Rogers, Briony C</td>
<td>2013-2016</td>
<td>$813,763</td>
<td>$272,469</td>
</tr>
<tr>
<td>Integrated multi-functional urban water systems</td>
<td>Deletic, Ana; Cook, Perran; Hatt, Belinda E; McCarthy, David T</td>
<td>2014-2017</td>
<td>$685,201</td>
<td>$293,660</td>
</tr>
<tr>
<td>Fit-for-purpose water production</td>
<td>McCarthy, David T</td>
<td>2014-2016</td>
<td>$302,930</td>
<td>$151,465</td>
</tr>
<tr>
<td>Confidential Project: 2014001186</td>
<td>Pauwels, Valentijn</td>
<td>2014-2017</td>
<td>$592,179</td>
<td>$232,524</td>
</tr>
</tbody>
</table>

**Total CRC** $1,137,299

**Total income 2015** $7,195,004

### 4.2 Research activity in Centres

**ITS (Institute of Transport Studies)**

The research activities of ITS (Monash) continued to grow in 2015, as evidenced by more than 65 tier-one international journal and conference papers being published during the year and the awarding of over $1.5m in research funds.

The primary objective of ITS is to undertake graduate teaching, executive programs, grant and contract research and development in the fields of transport, logistics, and supply chain management studies.

In 2015 the Institute of Transport Studies at Monash University (ITS-Monash) continued to deliver transport units in the Bachelor of Engineering program. In addition to two core units (with over 200 students enrolled), it also offers two final year electives (approx. 100 students enrolled).

At the Institute of Transport and Logistics Studies at the University of Sydney (ITLS-Sydney) the first undergraduate offering was trialled in 2015, a unit of study in Innovation in Food Supply Chains (AGEN2003), offered under the Bachelor of Food and Agribusiness, the unit had 25 enrolments in Semester 2, 2015. ITLS-Sydney plans to further develop undergraduate offerings over the next five years, primarily focusing on the Bachelor of Commerce and a new Bachelor of Engineering Honours (Transport) program.

The Master of Transport and Master of Traffic degrees offered off-campus by ITS-Monash began a major program of renewal in 2015, involving changes in course structure and unit offerings, which will take effect in 2016. Recorded lectures were introduced in 2015 as a key learning resource for students. The Master of Transport Systems degree offered by ITS-Monash in conjunction with South East University in Suzhou (China) had 27 students admitted in 2015. Following the introduction of on-campus classes as part of the Master of Advanced Engineering, students in the Master of Transport Systems (Suzhou) have the option to complete Semester 1 in Melbourne. This option was available for the first time in 2015 and four students from Suzhou completed their first semester of full time study in Melbourne. Through the Faculty of Engineering, ITS-Monash launched a new transport stream in 2015 as part of the Master of Advanced Engineering.
ITS has the largest higher degrees by research program in the transport and/or logistics field in Australia. In 2015, seven students graduated from our doctoral programs, with 34 continuing research enrolments.

Further details about the Institute can be found at its website: http://www.eng.monash.edu.au/civil/research/centres/its/
Monash Water for Liveability (formerly the Centre for Water Sensitive Cities)

The Monash Water for Liveability centre was established to transform communities to live harmoniously and resiliently with the natural water environment. Following the CRC for Water Sensitive Cities Commonwealth grant ($30 million cash + $30 million in-kind), the Centre became Monash Water for Liveability. It delivered on Cities as Water Supply Catchments programs, contributed to government reports, presented a Winter School and MOOC (Massive Online Open Course), facilitated CRC Research / Industry Partner workshops, advanced collaborations with Southeast University in China, and presented at conferences, such as the 13th International Conference on Urban Drainage (ICUD) in Sarawak, Borneo, Malaysia, involving 14 authors from Civil Engineering and several presenters led by Ana Deletic.

Prof Ana Deletic's representation included chairing the Technical Review Committee of Best Practice Environmental Management Guidelines (BPEM) with the EPA, Office of Living Vic and Melbourne Water. Ana also became Deputy Chair of the Water Forum in the Australian Academy of Technological Sciences and Engineering.

Monash Water for Liveability received funding for a Graduate Research Interdisciplinary Research (GRIP) programme, providing 13 PhDs to undertake research into sustainable urban water management in developing Asian cities, with Prof Ana Deletic leading the Civil Engineering component.

International engagement included funding/collaboration with the Australia-Indonesia Centre (AIC), further developing DAnCE4Water model $260k + in-kind; establishing Israel's Centre for Water Sensitive Cities with the Jewish National Fund; collaboration with The Flood Resilience Group from the Netherlands; Pennine Water Group, UK; and visiting - and/or welcoming delegates from - several nations including Hong Kong, China, Germany, Austria, The Netherlands, Israel, USA, Malaysia and Indonesia.

Further details can be found at these websites:

4.3 Research seminars

Research seminars by visitors to the Department

<table>
<thead>
<tr>
<th>Presenter</th>
<th>Seminar Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof Warren Walker (Delft Univ of Technology, The Netherlands)</td>
<td>Dynamic adaptive policymaking: An approach to planning under deep uncertainty</td>
</tr>
<tr>
<td>Prof Jeff Packer (Univ. of Toronto)</td>
<td>Current infrastructure research at University of Toronto: Steel, glass, composites and dynamic loading</td>
</tr>
<tr>
<td>Prof Andrew Whittaker (Univ of Buffalo), USA</td>
<td>Seismic isolation of structures, components and systems in safety-related nuclear facilities</td>
</tr>
<tr>
<td>A/Prof Elle Bou-Zeid (Princeton Univ USA)</td>
<td>Cities in the 21st century: the nexus of the climate, water and energy challenges</td>
</tr>
<tr>
<td>Dr Susilawati (Monash Malaysia)</td>
<td>Generalized additive model for mixture travel time distribution</td>
</tr>
<tr>
<td>Mr Colin Moorehead (Miners, Newcrest Mining Ltd)</td>
<td>Discovery to recovery</td>
</tr>
<tr>
<td>Prof Antoinette Tordesillas (Univ. of Melbourne)</td>
<td>Multiscale characterisation of granular material failure through complex systems</td>
</tr>
<tr>
<td>Demonstration of data products by Airbus Defense and Space Geo</td>
<td>Connectivity in river deltas</td>
</tr>
<tr>
<td>Prof Paola Passalacqua (Univ of Texas)</td>
<td>Open pit mining in the Pilbara</td>
</tr>
<tr>
<td>Dr David Sainsbury (Mining One Consultants)</td>
<td>Lane Cove tunnel collapse</td>
</tr>
<tr>
<td>Mr Warren Peck (AMC Consultants)</td>
<td>Development and validation of multi-axis substructure testing (MAST) system</td>
</tr>
<tr>
<td>Dr Javad Hashemi (Swinburne Univ. of Tech)</td>
<td>Convection in porous media and a few other fluids problems</td>
</tr>
<tr>
<td>Dr Anja Slim (Monash Univ)</td>
<td>Improving access for high performance freight vehicles in Victoria</td>
</tr>
<tr>
<td>Mr Andy Ng (VicRoads)</td>
<td>Structural response to blast vibration</td>
</tr>
<tr>
<td>Mr Adrian Moore (Terrock Consulting Engineers)</td>
<td>Farm paddock to stream: How do the nutrients escape and impact our environment</td>
</tr>
<tr>
<td>Prof Andrew Western (Univ of Melbourne)</td>
<td>Mine rehabilitation from the Czech perspective</td>
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</table>
## Research

<table>
<thead>
<tr>
<th>Presenter</th>
<th>Seminar Topic</th>
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</thead>
<tbody>
<tr>
<td>Dr Ahmad A Mousa (Monash Malaysia)</td>
<td>Industry-inspired research and teaching philosophy: A personal perspective</td>
</tr>
<tr>
<td>Prof Tim Fletcher (Univ of Melbourne)</td>
<td>Lessons from Little Stringybark Creek; can WSUD really improve a degraded stream? (Spoiler alert: early suggest that Obama might be right: “Yes we can”</td>
</tr>
<tr>
<td>Prof Stephen Foster (UNSW)</td>
<td>Steel fibre reinforced: From research to practice and capacity reserves in RC framed structures due to membrane action</td>
</tr>
<tr>
<td>A/Prof Julia Lamborn (Swinburne Univ of Tech.)</td>
<td>Outcomes based engineering education and blended learning: and a short introduction into landfill gas modelling</td>
</tr>
<tr>
<td>Ms Pippa Connolly (Monash Univ)</td>
<td>Museum of New Zealand Te Papa Tongarewa – Te Papa</td>
</tr>
<tr>
<td>Prof Scott Smith (Southern Cross Univ Qld)</td>
<td>Exploring innovative applications of FRP composites in construction</td>
</tr>
<tr>
<td>Prof Erik Schlangen (Delft University of Tech, The Netherlands)</td>
<td>Self-healing concrete and asphalt, durability, repair, strain-hardening, environmental friendly</td>
</tr>
<tr>
<td>Dr Alan Guest (Former Head of Rock Mechanic’s De Beers)</td>
<td>30 years of learnings in Africa</td>
</tr>
<tr>
<td>Dr Russell Keays (Consulting Engineer)</td>
<td>King Street bridge collapse – half a century on</td>
</tr>
<tr>
<td>Dr Mahesh Prakash (CSIRO)</td>
<td>C-FAST: A tool to evaluate current and future flood adaptation solutions</td>
</tr>
<tr>
<td>Dr Barbara Black and Dr Luca Ciacci (Yale Univ USA)</td>
<td>Industrial ecology, circular economies and sustainable futures – Yale excellence and material and the contemporary use of elements</td>
</tr>
<tr>
<td>Prof Tongxi Xu (Hong Kong Univ of Sci &amp; Tech)</td>
<td>Collision and rebounding of moving structural components on solid targets</td>
</tr>
<tr>
<td>Dr Farhad Farokhi (Univ of Melbourne)</td>
<td>Effects of information asymmetries and limitations in heavy-duty vehicle platooning</td>
</tr>
<tr>
<td>Dr Phu Nguyen (Adelaide Univ)</td>
<td>Multiscale failure modelling of materials and structures</td>
</tr>
</tbody>
</table>

### Research seminars by staff and postgraduate students

<table>
<thead>
<tr>
<th>Presenter</th>
<th>Seminar Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babak Amani Jordehi</td>
<td>Understanding novice riders' travel behaviour in Victoria, Australia</td>
</tr>
<tr>
<td>Nguyen Phuoc Quy Duy</td>
<td>Improving approaches to estimating public transport congestion relief</td>
</tr>
<tr>
<td>Wentao Jing</td>
<td>Modelling and design of transport networks with electric vehicles</td>
</tr>
<tr>
<td>Ashley Wright</td>
<td>A holistic approach to rainfall estimation for operational water management</td>
</tr>
<tr>
<td>Zhehan Wang</td>
<td>A comprehensive life cycle impact assessment (LCIA) of rare earth element (REE) mining, processing and consumption</td>
</tr>
<tr>
<td>Veljko Prodanovic</td>
<td>Green walls for greywater reuse</td>
</tr>
<tr>
<td>Darshana Weerasinghe</td>
<td>A study of influence of reactive soil behaviour on water pipe failures</td>
</tr>
<tr>
<td>Samuel Chuah</td>
<td>Fabrication, characterisation and modelling of graphene oxide cement composites</td>
</tr>
<tr>
<td>Milad Hagheni</td>
<td>Understanding pedestrian crowd decision making at tactical level during evacuations</td>
</tr>
<tr>
<td>Feng Lin</td>
<td>Numerical simulation and guided wave propagation for damage monitoring in multi-wire cable structures</td>
</tr>
<tr>
<td>Daniel Borrie</td>
<td>Bond durability of carbon fibre reinforced polymer (CFRP) and steel systems exposed to extreme environments</td>
</tr>
<tr>
<td>Tharaka Rathnaweera</td>
<td>Geological sequestration of carbon dioxide in deep saline aquifers</td>
</tr>
<tr>
<td>Han Fang</td>
<td>Composite structure of steel and shape memory alloy for fire resistance design</td>
</tr>
<tr>
<td>Mahsa Mirmomeni</td>
<td>Mechanical properties of high-strain rate induced partially damaged steel &amp; concrete at elevated temperatures</td>
</tr>
<tr>
<td>Fatemeh Azari</td>
<td>Mechanical properties of ultra-high strength (Grade 1200) steel tubes under cooling phase of a fire</td>
</tr>
<tr>
<td>Daniel King</td>
<td>Load transfer platform behaviour in a geosynthetic reinforced piled embankment</td>
</tr>
<tr>
<td>Andras Fehervari</td>
<td>Glycerol carbonate modified bentonites for enhanced containment of hypersaline leachates</td>
</tr>
<tr>
<td>A/Prof Bill Wong</td>
<td>Sustainability: My Outside Study Program</td>
</tr>
<tr>
<td>Dua Klaas</td>
<td>Conferring the size and sustainability of groundwater resources in a tropical karstic island (Rote Island Indonesia)</td>
</tr>
<tr>
<td>Xue Le</td>
<td>Strength and mineralogical developments in MgO-GGBS stabilized biochar-sequestered ASS</td>
</tr>
<tr>
<td>Casey Slaughter</td>
<td>Impact of mine fires on escape and techniques for improvement through mine fire simulation and training</td>
</tr>
<tr>
<td>Asheque Al Mahbub</td>
<td>Modelling the microstructure and compression behaviour of treated ASS using 3-D x-ray CT imaging</td>
</tr>
<tr>
<td>Arooran Sounthararajah</td>
<td>A study of fatigue damage of cement stabilised granular materials for pavement design</td>
</tr>
<tr>
<td>Mojtaba Farhari</td>
<td>Performance of innovative concrete filled double skin tubular (CFDST) construction consisting of corrugated plates and corner tubes</td>
</tr>
<tr>
<td>Presenter</td>
<td>Seminar Topic</td>
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<tr>
<td>Aamir Mahawish</td>
<td>Microbial induced calcite precipitation to improve engineering behaviour of granular piles</td>
</tr>
<tr>
<td>Dilanth De Silva</td>
<td>Geological sequestration of carbon dioxide in deep saline aquifers: Chemico-hydrological considerations</td>
</tr>
<tr>
<td>Farhana Naznin</td>
<td>Exploring the road safety impacts of tram priority treatments</td>
</tr>
<tr>
<td>Long Truong</td>
<td>Understanding combination effects of public transport priority measures</td>
</tr>
<tr>
<td>Ngu Nguyen</td>
<td>Micromechanical investigation of fatigue cracking behaviour of cemented pavement materials</td>
</tr>
<tr>
<td>Anna Lintern</td>
<td>Using sediment cores to create historical pollution records: Digging up the Yarra’s dirty past</td>
</tr>
<tr>
<td>Mohammed Al-Ameri</td>
<td>The long term retention of heavy metals in biofiltration systems</td>
</tr>
<tr>
<td>Casey Slaughter</td>
<td>Mine ventilation model building and novel applications</td>
</tr>
<tr>
<td>Ze Meng</td>
<td>Pathogen removal efficiency of stormwater constructed wetlands</td>
</tr>
<tr>
<td>Decheng Zhang</td>
<td>Shale gas exploration based on hydraulic fracturing</td>
</tr>
<tr>
<td>Alastair MacLeod</td>
<td>X-ray computed microtomography of Portland cement-carbon nanotube composites</td>
</tr>
<tr>
<td>Nomeritae Nasir</td>
<td>SPH Modelling of transient flow in pipes</td>
</tr>
<tr>
<td>Yingjiazi Cao</td>
<td>Occupational diseases in China with the emphasis on its occurrence in Chinese coal mine workers</td>
</tr>
<tr>
<td>Mohammad Nassimia</td>
<td>Mechanical behaviour of innovative fabricated corrugated columns</td>
</tr>
<tr>
<td>Nima Sadeghi</td>
<td>Beam to fabricated columns connections under static loading</td>
</tr>
<tr>
<td>Shahi Islam</td>
<td>Park-and-Ride (P&amp;R) network design in a multi-modal transportation system</td>
</tr>
<tr>
<td>Tracey Pham</td>
<td>Understanding the effect of vegetation on infiltration rate and nutrient removal in stormwater filters</td>
</tr>
<tr>
<td>Ehsan Amadi</td>
<td>Random vibration modelling of human-structure interaction</td>
</tr>
<tr>
<td>Juri Jung</td>
<td>Developing an antimicrobial media in passive filtration system for greywater reuse employing recycled waste materials</td>
</tr>
<tr>
<td>Fatemeh Javidan</td>
<td>Monotonic and cyclic behaviour of innovative members consisting of mild, high and ultra-high strength steel tubes</td>
</tr>
<tr>
<td>Sajjad Hosseini</td>
<td>Effect of strain ageing on the mechanical properties of steel and concrete materials under extreme loading</td>
</tr>
<tr>
<td>Mustafar Rahaman</td>
<td>Exploring passenger personal safety perceptions at stations and links to crime, anti-social behaviour and design quality</td>
</tr>
<tr>
<td>Maozhu Tang</td>
<td>Modelling saltwater upconing in a coastal aquifer with complex conditions</td>
</tr>
<tr>
<td>Tushar Guptar</td>
<td>Optimization of ash quantity in overburden dumps: a numerical approach</td>
</tr>
<tr>
<td>Nikhil Sirdesai</td>
<td>Numerical and experimental study of strata behaviour and land subsidence in an underground coal gasification project</td>
</tr>
<tr>
<td>Stephen Northey</td>
<td>The development of water footprint methods to assess mining, mineral and metal production</td>
</tr>
<tr>
<td>Hayder Al-Taweel</td>
<td>Investigation of the collision of two motor vehicles</td>
</tr>
<tr>
<td>Lei Xie</td>
<td>Pultruded fibre reinforced polymer composites for column and wall applications in buildings</td>
</tr>
<tr>
<td>Ashani Ranathunga</td>
<td>Investigation of long-term safe storage of CO2 in deep coal seams with enhanced methane recovery</td>
</tr>
<tr>
<td>Alex Holmes</td>
<td>Improving fire risk estimation through investigating fire intensity, moisture and temperature anomalies</td>
</tr>
<tr>
<td>Saeed Bagloee</td>
<td>Application of optimisation in civil engineering practices</td>
</tr>
<tr>
<td>Katerina Pavkova</td>
<td>Exploring urban transport distribution using Lorenz curve</td>
</tr>
<tr>
<td>Lu Zhang</td>
<td>Geomembranes behaviour in extreme conditions</td>
</tr>
<tr>
<td>Dr Colin Caprani</td>
<td>Crowd modelling and human-structure interaction for vibration serviceability of footbridges</td>
</tr>
<tr>
<td>Dr Xavier Choi</td>
<td>Scientific and industrial research: From research to industrial field application with some examples</td>
</tr>
<tr>
<td>Dr Gayani Chandrasena</td>
<td>Improving stormwater biofilter design for pathogen removal potential</td>
</tr>
<tr>
<td>Dr Chris De Gruyter</td>
<td>All aboard: Impacts of road-rod carnage</td>
</tr>
<tr>
<td>A/Prof Valentijn Pauwels</td>
<td>Use of remote sensing data for surface water management</td>
</tr>
<tr>
<td>Dr Chris Rüdiger</td>
<td>Mapping environmental risk and resources</td>
</tr>
<tr>
<td>Dr Alexa Delbosc</td>
<td>Peak car, peak licensing and the changing travel of millennials</td>
</tr>
<tr>
<td>Dr Mohsen Ramezani</td>
<td>Large-scale traffic modelling, monitoring and control in urban networks</td>
</tr>
<tr>
<td>Dr David McCarthy</td>
<td>Urban water management models and microbes</td>
</tr>
<tr>
<td>Prof Jeff Walker</td>
<td>My Fourth Child</td>
</tr>
<tr>
<td>Dr Rebekah Henry</td>
<td>Microbiology and the modern civil engineer</td>
</tr>
</tbody>
</table>
4.4 Publications

2015 Summary of Publications

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
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<tbody>
<tr>
<td>Book / Book Chapter</td>
<td>12</td>
</tr>
<tr>
<td>Journal Article</td>
<td>217</td>
</tr>
<tr>
<td>Conference Publication</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>289</td>
</tr>
</tbody>
</table>

Books / Book Chapters

Bonham, J & Johnson, M 2015, Cycling Futures. University of Adelaide Press, Adelaide SA AUS.

Bonham, J & Johnson, M 2015, Cycling: Bringing the future into the present. in J Bonham & M Johnson (eds), Cycling Futures. University of Adelaide Press, Adelaide SA Australia, pp. 3-23.


Ukwattage, NL & Pathegama Gamage, R 2015, Effect of brine saturation on carbonation of coal fly ash for mineral sequestration of CO2. in G Lollino, A Manconi, J Clague, W Shan & M Chiarle (eds), Engineering Geology for Society and Territory - Volume 1: Climate Change and Engineering Geology. Springer, Switzerland, pp. 479-482. DOI: 10.1007/978-3-319-09300-0_91


**Journal Articles – Peer-reviewed**


Ahmadi, S, Forouzideh, N, Alizadeh, S & Papageorgiou, EI 2015, 'Learning fuzzy cognitive maps using imperialist competitive algorithm' Neural Computing & Applications, vol 26, no. 6, pp. 1333-1354. DOI: 10.1007/s00521-014-1797-4


Al-Shawaf, AA-A 2015, 'Influence of fibres' stiffness on wet lay-up CFRP/steel joints' behaviour under subzero exposures' Composites Part B: Engineering, vol 73, pp. 61-71. DOI: 10.1016/j.compositesb.2014.02.013


Arblaster, M & Hooper, P 2015, 'Light handed regulation: can it play a role in the developing world?' Transport Policy, vol 43, pp. 32-41. DOI: 10.1016/j.tranpol.2015.05.014


Azhari, F, Heidarpour, A, Zhao, XL & Hutchinson, C 2015, 'Mechanical properties of ultra-high-strength (Grade 1200) steel tubes under cooling phase of a fire: An experimental investigation' Construction and Building Materials, vol 93, pp. 841-850. DOI: 10.1016/j.conbuildmat.2015.05.082


Bach, PM, McCarthy, DT & Delelic, A 2015, 'Can we model the implementation of water sensitive urban design in evolving cities?' Water Science and Technology, vol 71, no. 1, pp. 149-156. DOI: 10.2166/wst.2014.464

Bach, PM, Staalesen, SS, McCarthy, DT & Delelic, A 2015, 'Revisiting land use classification and spatial aggregation for modelling integrated urban water systems' Landscape and Urban Planning, vol 143, pp. 43-55. DOI: 10.1016/j.landurbplan.2015.05.012


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Bie, Y & Liu, Z 2015, 'Evaluation of a signalized intersection with hook turns under traffic actuated control circumstance' Journal of Transportation Engineering, vol 141, no. 5, pp. 1-10. DOI: 10.1061/(ASCE)TE.1943-5436.0000763

Biegler, P & Johnson, M 2015, 'In defence of mandatory bicycle helmet legislation: response to Hooper and Spicer' Journal of Medical Ethics, vol 41, no. 8, pp. 713-717. DOI: 10.1136/medethics-2013-101476

Borrie, D, Liu, H, Zhao, XL, Singh, RRK & Bai, Y 2015, 'Bond durability of fatigued CFRP-steel double-lap joints pre-exposed to marine environment' Composite Structures, vol 131, pp. 799-809. DOI: 10.1016/j.compstruct.2015.06.021, 10.1016/j.compstruct.2015.06.021p


Camporese, M, Daly, E & Paniconi, C 2015, 'Catchment-scale Richards equation-based modeling of evapotranspiration via boundary condition switching and root water uptake schemes' Water Resources Research, vol 51, no. 7, pp. 5756-5771. DOI: 10.1002/2015WR017139


Chen, S, Duan, W, Li, ZJ & Sui, T 2015, 'New approach for characterisation of mechanical properties of cement paste at micrometre scale' Materials and Design, vol 87, pp. 992-995. DOI: 10.1016/j.matdes.2015.08.101


Chen, Z, Gong, W, Ma, G, Wang, J, He, L, Xing, Y & Xing, J 2015, 'Comparisons between centrifuge and numerical modeling results for slope toppling failure' Science China Technological Sciences, vol 58, no. 9, pp. 1497-1508. DOI: 10.1007/s11431-015-5889-x

Cheng, B, Qian, Q & Zhao, XL 2015, 'Numerical investigation on stress concentration factors of square bird-beak SHS T-joints subject to axial forces' Thin-Walled Structures, vol 94, pp. 435-445. DOI: 10.1016/j.tws.2015.05.003

Cheng, B, Qian, Q & Zhao, XL 2015, 'Stress concentration factors and fatigue behavior of square bird-beak SHS T-joints under out-of-plane bending' Engineering Structures, vol 99, pp. 677-684. DOI: 10.1016/j.engstruct.2015.05.033
RESEARCH


Delbosc, AR & Currie, G 2015, ‘Does information and communication technology complement or replace social travel among young adults?’ Transportation Research Record-Series, vol 2531, pp. 76-82. DOI: 10.3141/2531-09


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Feng, K, Ruan, D, Pan, Z, Collins, FG, Bai, Y, Wang, CM & Duan, W 2015, 'Mechanical behavior of geopolymer concrete subjected to high strain rate compressive loadings' Materials and Structures/Materiaux et Constructions, vol 48, no. 3, pp. 671-681. DOI: 10.1617/s11527-014-0322-7


Grimaldi, S, Orellana, FA & Daly, E 2015, 'Modelling the effects of soil type and root distribution on shallow groundwater resources' Hydrological Processes, vol 29, no. 20, pp. 4457-4469. DOI: 10.1002/hyp.10503


Habibnejad Korayem, A, Li, C, Zhang, Q, Zhao, XL & Duan, W 2015, 'Effect of carbon nanotube modified epoxy adhesive on CFRP-to-steel interface' Composites Part B: Engineering, vol 79, pp. 95-104. DOI: 10.1016/j.compositesb.2015.03.063

Haghani, M, Sarvi, M, Ehtemai, O, Burd, MC & Sobhani, A 2015, 'Modeling pedestrian crowd exit choice through combining sources of stated preference data' Transportation Research Record-Series, vol 2490, pp. 84-93. DOI: 10.3141/2490-10


Hamel, P, Daly, E & Fletcher, TD 2015, 'Which baseflow metrics should be used in assessing flow regimes of urban streams?' Hydrological Processes, vol 29, no. 20, pp. 4367-4378. DOI: 10.1002/hyp.10475

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Hassanpour, J, Rostami, J, Zhao, J & Azali, ST 2015, 'TBM performance and disc cutter wear prediction based on ten years experience of TBM tunnelling in Iran' Geomechanik und Tunnelbau, vol 8, no. 3, pp. 239-247. DOI: 10.1002/geot.201500005


Hamel, P, Daly, E & Fletcher, TD 2015, 'Which baseflow metrics should be used in assessing flow regimes of urban streams?' Hydrological Processes, vol 29, no. 20, pp. 4367-4378. DOI: 10.1002/hyp.10475

Hassanpour, J, Rostami, J, Zhao, J & Azali, ST 2015, 'TBM performance and disc cutter wear prediction based on ten years experience of TBM tunnelling in Iran' Geomechanik und Tunnelbau, vol 8, no. 3, pp. 239-247. DOI: 10.1002/geot.201500005


He, B, Han, P, L, C & Bai, X 2015, 'Effect of particle size on the electrochemical corrosion behavior of X70 pipeline steel' Materialwissenschaft und Werkstofftechnik, vol 46, no. 11, pp. 1077-1087. DOI: 10.1002/mawe.201500407

He, B, Han, P, L, C & Bai, X 2015, 'Effect of soil particle size on the corrosion behavior of natural gas pipeline' Engineering Failure Analysis, vol 58, no. P1, pp. 19-30. DOI: 10.1016/j.engfailanal.2015.08.027

He, L & Zhang, Q 2015, 'Numerical investigation of arching mechanism to underground excavation in jointed rock mass' Tunnelling and Underground Space Technology, vol 50, pp. 54-67. DOI: 10.1016/j.tust.2015.06.007


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Hou, C, Han, L-H & Zhao, XL 2015, 'Behaviour of circular concrete filled double skin tubes subjected to local bearing force' Thin-Walled Structures, vol 93, pp. 36-53. DOI: 10.1016/j.tws.2015.03.004


Khoshnoudian, F & Ahmadi, E 2015, 'Effects of inertial soil-structure interaction on inelastic displacement ratios of SDOF oscillators subjected to pulselike ground motions' Bulletin of Earthquake Engineering, vol 13, no. 6, pp. 1809-1833. DOI: 10.1007/s10518-014-9693-y


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4.5 Postgraduate research projects

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<td>Ehsan Ahmadi</td>
<td>Random vibration modelling of human-structure interaction</td>
<td>Dr Colin Caprani</td>
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<td>Farhana Ahmed</td>
<td>Impact of weather on commuter cycling behaviour and possible effects of climate change</td>
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<tr>
<td>Mohammed Al-Ameri</td>
<td>Fate of heavy metals in stormwater biofilters</td>
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<tr>
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<tr>
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<tr>
<td>Hayder Al-Taweel</td>
<td>Understanding the relation between Drivers’ Reactions, Delta-v and injury severity</td>
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<td>Macroscopic: Safety modelling with spatial autocorrelation and unobserved heterogeneity</td>
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<tr>
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<tr>
<td>Fatemeh Azhari</td>
<td>Non-linear analysis of composite structures subjected to fire using a mesh-free method</td>
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<tr>
<td>Mohammad Azmi</td>
<td>Application of high resolution data sources via data fusion processes in deriving a comprehensive drought index</td>
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<td>Belai Bakheet</td>
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<td>Building artificial soils from industrial waste products for mine rehabilitation</td>
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<td>Daniel Borrie</td>
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<tr>
<td>Jeddah Breman</td>
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<td>Dr David McCarthy</td>
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<tr>
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<tr>
<td>Jun Wei Ngan</td>
<td>The dynamic behaviour of fibre reinforced polymer composite sandwich floor system</td>
<td>Dr Colin Caprani</td>
</tr>
<tr>
<td>Mohammad Noor</td>
<td>Development of a model for soil salinity and its interaction with vegetation</td>
<td>Dr Edoardo Daly</td>
</tr>
<tr>
<td>Stephen Northey</td>
<td>Development of a methodology for identification and prioritisation of environmental impact reduction</td>
<td>Dr Gavin Mudd</td>
</tr>
<tr>
<td>Ya Ou</td>
<td>Mechanical performance of connections in steel modular buildings</td>
<td>Dr Yu (Barry) Bai</td>
</tr>
<tr>
<td>Dinesh Panneerselvam (IITB)</td>
<td>Numerical investigation of the integrity of the caprock behaviour of saline aquifers: CO2 sequestration</td>
<td>Prof Ranjith PG</td>
</tr>
<tr>
<td>Milind Satish Patil</td>
<td>Tunneling in soft soil under both static and seismic events</td>
<td>Prof Jian Zhao, Prof Choudry</td>
</tr>
<tr>
<td>Katerina Pavkova</td>
<td>Exploring the distribution of urban transport operational performance using Lorenz and concentration curves</td>
<td>Prof Graham Currie</td>
</tr>
<tr>
<td>Jessica Pizzaro Loza</td>
<td>Adaptation strategies to climate change along the mining value chain</td>
<td>A/Prof Bre-Anne Sainsbury</td>
</tr>
<tr>
<td>Mustafizur Rahaman</td>
<td>Exclusive bus lane with signal prioritization</td>
<td>Prof Graham Currie</td>
</tr>
<tr>
<td>Sriramadasu Rajeshwar Chary</td>
<td>Integrity evaluation of reinforced concrete structures using ultrasonic guided waves</td>
<td>Dr Ye Lu/A/Prof S Banerjee (IITB)</td>
</tr>
<tr>
<td>Ashani Ranathunga</td>
<td>Investigation of long term safe storage of carbon dioxide in deep coal seams with enhanced methane recovery</td>
<td>Prof Ranjith PG</td>
</tr>
<tr>
<td>Student Name</td>
<td>Project Title</td>
<td>Supervisor/s</td>
</tr>
<tr>
<td>----------------------------</td>
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</tr>
<tr>
<td>Suranji Rathnayaka</td>
<td>A study of water pressure influence on failure of large diameter water pipelines</td>
<td>Prof Jayantha Kodikara</td>
</tr>
<tr>
<td>Tharaka Rathnaweera</td>
<td>Geological sequestration of carbon dioxide in deep saline aquifers: coupled flow-mechanical considerations</td>
<td>Prof Ranjith PG</td>
</tr>
<tr>
<td>Md Abdur Rouf</td>
<td>Unsaturated behaviour and gas transport through geosynthetic clay liners (GCLs) and geomembrane (GMB)/GCL composite liners</td>
<td>Prof Malek Bouazza</td>
</tr>
<tr>
<td>Debanjan Roy</td>
<td>Modelling of fracture formation in sedimentary rocks due to fluid pressure</td>
<td>Prof Jayantha Kodikara/Prof T N Singh (IITB)</td>
</tr>
<tr>
<td>Saba Sabaghy</td>
<td>Combination of active/passive microwave observations for soil moisture retrieval</td>
<td>Prof Jeff Walker</td>
</tr>
<tr>
<td>Nima Sadeghi</td>
<td>Behaviour of steel and concrete structures subjected to sequential loading</td>
<td>Dr Amin Heidarpour</td>
</tr>
<tr>
<td>Kuman Satasivam (IITB)</td>
<td>Modelling glacier stored volume in Eastern Himalayas using remote sensing datasets</td>
<td>Prof Jeff Walker/Dr R Ramsankaran</td>
</tr>
<tr>
<td>Zahra Shahhoseini</td>
<td>Modular FRP sandwich structures for building floor construction</td>
<td>Dr Yu (Barry) Bai</td>
</tr>
<tr>
<td>Mahshid Shahrban</td>
<td>On the importance of soil moisture for streamflow forecasting</td>
<td>Prof Jeff Walker</td>
</tr>
<tr>
<td>Biliangadi Shashbushan</td>
<td>Building artificial soils from industrial waste products for mine rehabilitation</td>
<td>Dr Mohan Yellishetty/Dr A Dikshit (IITB)</td>
</tr>
<tr>
<td>Penfei Shen</td>
<td>Sustainable urban water management in developing Asian cities</td>
<td>Dr David McCarthy</td>
</tr>
<tr>
<td>Leifeng Shi</td>
<td>Self-sensing properties of the engineered cementitious composites</td>
<td>Dr Yu (Barry) Bai</td>
</tr>
<tr>
<td>Maryam Shirdashtadeh</td>
<td>Interactions between plants and faecal microorganisms in urban stormwater biofilters: significance of plant debris and root exudates</td>
<td>Dr David McCarthy</td>
</tr>
<tr>
<td>Askhan Shokri</td>
<td>Temporal and spatial multiscale hydrological data assimilation</td>
<td>A/Prof Valentijn Pauwels</td>
</tr>
<tr>
<td>Kanjana Siampukdee</td>
<td>Development of 3-D predictive ageing simulations of reinforced concrete port structures</td>
<td>A/Prof Frank Collins</td>
</tr>
<tr>
<td>Mahbubul Siddique</td>
<td>Sources, sinks and processes of faecal contamination in the lower Yarra River Estuary</td>
<td>Dr David McCarthy</td>
</tr>
<tr>
<td>Sinna Sinaie</td>
<td>Mechanical properties of steel and concrete under the sequential action of cyclic loading and elevated temperatures</td>
<td>Dr Amin Heidarpour</td>
</tr>
<tr>
<td>Banambar Singh (IITB)</td>
<td>An experimental study of creation of optimal fracture networks for heat extraction from engineered geothermal reservoirs</td>
<td>Prof Ranjith PG</td>
</tr>
<tr>
<td>Nikhil Sirdesai</td>
<td>Numerical and experimental study of rocks under very high temperature conditions: underground coal gasification</td>
<td>Prof Ranjith PG/Prof T N Singh</td>
</tr>
<tr>
<td>Casey Slaughter</td>
<td>Impact of underground mine fires on escape and techniques for improvement through mine fire simulation and training</td>
<td>Prof Jerry Tien</td>
</tr>
<tr>
<td>Qian-Yi Song</td>
<td>Behaviour of steel I-beam to box column connections under post-earthquake fire</td>
<td>Prof Xiao-Ling Zhao</td>
</tr>
<tr>
<td>Arooran Sounthararajah</td>
<td>A study of fatigue damage of cement stabilised granular materials for pavement design</td>
<td>Prof Jayantha Kodikara</td>
</tr>
<tr>
<td>Maozhu Tang</td>
<td>Saline-water upconing in heterogeneous aquifers</td>
<td>Dr Edoardo Daly</td>
</tr>
<tr>
<td>Yunlong Tang</td>
<td>Influence of proppant behaviour on hydraulic fracturing conductivity in deep reservoirs</td>
<td>Prof Ranjith PG</td>
</tr>
<tr>
<td>Bertrand Teodosio</td>
<td>Impacts of land use in carbon dioxide flux in South-Western Victoria</td>
<td>Dr Edoardo Daly</td>
</tr>
<tr>
<td>Mayu Tincopa</td>
<td>An experimentally-validated thermos-hydro-mechanical theory for waste containment lining systems</td>
<td>Prof Malek Bouazza</td>
</tr>
<tr>
<td>Hieu Tran</td>
<td>Experimental and theoretical study of soil cracking behaviour for environment and energy conservation purpose</td>
<td>Dr Ha Bui</td>
</tr>
<tr>
<td>Long Truong</td>
<td>Combination effects of public transport priority measures</td>
<td>A/Prof Majid Sarvi</td>
</tr>
<tr>
<td>Uma Chaduvula</td>
<td>Studies on the response of synthetic fibre reinforced expansive soils</td>
<td>Prof Jayantha Kodikara</td>
</tr>
<tr>
<td>Pabasara Wanniarchchige</td>
<td>Stimulation of heat extraction from the hot dry rocks-geothermal energy</td>
<td>Prof Ranjith PG</td>
</tr>
<tr>
<td>Michael Von’t Steen</td>
<td>Determination of design stiffness for soft rock and hard soil based on small strain stiffness</td>
<td>Prof Malek Bouazza</td>
</tr>
<tr>
<td>Yikuan Wang</td>
<td>Monitoring of crack propagation in fibre-reinforced-polymer (FRP) strengthened steel plates using guided waves</td>
<td>Dr Ye Lu</td>
</tr>
<tr>
<td>Yingnan Wang</td>
<td>Modelling of dynamic rock fractures using the SPH method with embedded cohesive crack model</td>
<td>Dr Ha Bui</td>
</tr>
</tbody>
</table>
### Theses accepted for Higher Degree in 2015

<table>
<thead>
<tr>
<th>Candidate Name</th>
<th>Thesis Topic</th>
<th>Supervisor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shujian Chen</td>
<td>Improving mechanical properties of ordinary Portland cement pastes utilising carbon nanotubes: fabrication, characterization and modelling</td>
<td>A/Prof W Duan, A/Prof F Collins, Dr M Majumder</td>
</tr>
<tr>
<td>Christopher De Gruyter</td>
<td>Travel plans for new residential developments: Insights from theory and practice</td>
<td>Prof G Rose, Prof G Currie</td>
</tr>
<tr>
<td>Charitha Dias</td>
<td>Crowd dynamics at turning phenomena: experiments and modelling</td>
<td>A/Prof M Sarvi, A/Prof M Burd</td>
</tr>
<tr>
<td>Andras Fehervari</td>
<td>Enhanced containment of hypersalaine leachates with cyclic organic carbonate modified bentonite</td>
<td>Prof A Bouazza, Dr W Gates, A/Prof A Patti</td>
</tr>
<tr>
<td>Tanvirul Islam</td>
<td>A study of volumetric behaviour of compacted clayey soils in the void ratio</td>
<td>Prof J Kodikara, Dr A Haque</td>
</tr>
<tr>
<td>Yali Li</td>
<td>Antimicrobial media for passive removal of pathogen by stormwater biofilters</td>
<td>Prof A Deletic, Dr D McCarthy</td>
</tr>
<tr>
<td>Michael Moffatt</td>
<td>Improved consideration of multiple-axle loads in the structural design of flexible pavements</td>
<td>Prof W Young</td>
</tr>
<tr>
<td>Michael Poustie</td>
<td>Enabling socio-technical transitions to sustainable urban water management in the south west pacific region</td>
<td>Prof A Deletic, Prof R Brown, Dr G Mudd</td>
</tr>
<tr>
<td>Sindu Satasivam</td>
<td>Modular FRP sandwich structures for building floor construction</td>
<td>Dr Y Bai, Prof ZXL Zhao</td>
</tr>
<tr>
<td>Lorelei Schmitt</td>
<td>Exploring unfamiliar public transport travel</td>
<td>Prof G Currie, Dr A Delbosc</td>
</tr>
<tr>
<td>Shi Shi Shao</td>
<td>Coupled thermo-hydro-mechanical (THM) behaviour of rock relevant to the geothermal industry</td>
<td>Prof Ranjith PG, Dr B Chen, Prof A Bouazza</td>
</tr>
</tbody>
</table>
RESEARCH

<table>
<thead>
<tr>
<th>Name</th>
<th>Research Topic</th>
<th>Supervisors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kanjana Siamphukdee</td>
<td>Development of 3-D predictive ageing simulations of reinforced concrete port structures</td>
<td>A/Prof F collins, Dr A Heidarpour</td>
</tr>
<tr>
<td>Qianyi Song</td>
<td>Behaviour of steel I-beam to box column connections under post-earthquake fire</td>
<td>Dr A Heidarpour, Prof ZXL Zhao</td>
</tr>
<tr>
<td>Nadeesha Ukwattage</td>
<td>Study of the accelerated carbonation of coal fly ash for carbon dioxide sequestration and soil amendment</td>
<td>Prof Ranjith PG Dr A Haque, Prof A Bouazza</td>
</tr>
<tr>
<td>Xiaoling Wu</td>
<td>Towards medium-resolution soil moisture retrieval from active and passive microwave observations</td>
<td>Prof J Walker, Dr C Rüdiger, Dr R Panciera</td>
</tr>
<tr>
<td>Kefeng Zhang</td>
<td>Framework for the validation of micropollutant removal in passive stormwater treatment systems</td>
<td>Prof A Deletic, Dr D McCarthy, Dr D Warwick</td>
</tr>
</tbody>
</table>

2015 Monash graduates who were awarded the degree of Doctor of Philosophy at the October graduation ceremony included (left to right): Prof PG Ranjith, Prof Bill Young, Dr Xiaoling Wu, Dr Nan Ye, Dr Alexa Delbosc, Dr Shi Shi Shao, Prof Geoff Rose, Dr Christopher De Gruyter, Dr Qianyi Song, Prof Jeff Walker (Head), Prof. Graham Currie and Dr Kefang Zhang.
### 4.7 Postgraduate Student Awards

**Mahsa Mirmomeni** won the 2015 Pearson Student Academic Achievement award in the field of Engineering and Mathematics. This award recognises those students who have demonstrated outstanding effort, dedication and academic achievement in their chosen field of study. Each year, only one student across Australia in each field receives this award.

Congratulations also to **Mahsa Mirmomeni** for receiving the Best Young Researcher Paper Award, awarded at the 3rd International Conference on Protective Structures, and for also achieving the runner up award in the “FameLab Competition Programme” which was hosted by the British Council at Melbourne Museum. The competition was among selective PhD students and early career researchers who received their PhD in recent years where they presented their research works in 3 minutes. Mahsa made a fantastic presentation on her research work titled “Structural Resilience against Terrorist Destruction”. She will represent Victoria at the National Final in which winners from various states will compete in Perth on 13th May 2015.

**Sina Sinaie** received the Postgraduate Publication Award from the Faculty of Engineering. Sina was also awarded a Civil Engineering Research/Training Fellowship for 2016.

**Asghar Korayem** was awarded an ARC DECRA Fellowship in Nov 2015.

**Fujia Luo** won the Faculty of Engineering 2015 Vice-Chancellor’s Commendation for Thesis Excellence (MEngSc) (Research).

Congratulations to **Peter Bach** who won the Eric Laurenson Medal in 2015.

Congratulations to **Xiaoling Wu** on winning the inaugural Surveying & Spatial Sciences Institute (SSSI) award.

**Saeed Bagloee** won the ARRB-Monash Prize for Excellence in Postgraduate Research in Transport, awarded at the Ogden Lecture in August 2015.

The 2015 Department **Best PhD Thesis Award** went to Wasantha Liyanage for his project titled “On the coupled hydro-mechanical behaviour of jointed rock masses: an application to mine slope stability”.

The Department **Best MEng (Research) Thesis Award** for 2015 was given to Kenan Feng for his project titled “Damping and strain rate effect of geopolymer”.

**Department Best Postgraduate Publication Awards:**
- Tharaka Rathnaweera (Geo Group)
- Samuel Chuah (Structures Group)
- Farhana Naznin (Transport Group)
- Mei Sun Yee (Water Group)

**Department Three Minute Thesis (3MT) competition:**
- 1st Prize: Fatemeh Javidan
- 2nd Prize: Mohammad Nassirinia
- 3rd Prize: Katerina Pavkova

Fatemeh also won the University round of the 3MT and competed in the national round at UQ in October.
4.8 Postgraduate Coursework Students who graduated in 2015

Graduate Diploma in Infrastructure Engineering and Management
Peter Gow
Courtney Jane Pratt

Graduate Diploma in Transport & Traffic
Martin Thomas Anderson
Udi Horowitz

Master of Engineering Science (Research)
David Barry Macaulay

Master of Infrastructure Engineering and Management
Jose Pablo Elizondo Barquero
Cassandra Louise Blazely
Md Khalequezzaman Choudhury
Paul Ian Edwards
Jeremy Tong Shin Goh
Deana Karen Halfpenny
Mohammedsani Abdelkader Jehar
Subash Ravindra Abhayaratna Kodituwakku
Emmanuel Shachoongo Kanguma
Andrew Bromley Livermore
Lee Luo
Amarpal Pannu
Luky Saputra
Andrew James Sheehan
Mohammad Shamsuddin Sikder

Master of Traffic
Brayden John Heetel Capper
Ben Mitchell
Mark Benjamin Petrusma
Hai Feng Xie

Master of Advanced Engineering (Water)
Xiaoxin Li
Li Liu

Master of Transport
Jennifer Joy Alton
Zuraidei Bin Mohamed Saifollah
Mathew Peter Brooks
Nelson Kwame Dzadey
Trent Jonathan Ekanayake
Jude Dominic Hart
Suzanne Hendren
Graham Alan Horner
Fei Li
Campbell Robert Marsden
Spencer William Milburn
Benjamin Mountcastle
Hannah Jane Elizabeth Ruprecht
Deborah Ann Sketchley

Master of Transport Systems, Southeast University, China
Xupeng Dong
Xuming Gao
Bo Jiang
Shufen Liu
Yulong Liu
Yiwei Pan
Chenchen Qin
Xin Sun
Bin Wang
Leyu Wang
Rong Wu
Lei Yu
Haokun Yu
Chun Zhang
Yi Zhang
Kairong Zheng
You Zhou
5. **SERVICE**

### 5.1 Contribution to Professional Organisations

**Bouazza, Malek (Prof)**  
Fellow, Institute of Engineers Australia  
Chair, ISSMGE TC215 Environmental Geotechnics  
President, ACIGS  
Honorary Chair, Asian Regional Committee of International Geosynthetics Society  
Member, ASTM Committee on Geosynthetics  
Member, Australian Standard C20 on Geosynthetics  
Member, Victorian Chapter of Australian Geomechanics Society

**Bui, Ha (Dr)**  
Organiser of Mini-Symposium "Advances in Computational Geomechanics" at 6th International Conference on Computational Methods (ICCM2015), Auckland, New Zealand, 14-16th July 2015.

**Caprani, Colin (Dr)**  
Member, Council of the Institution of Structural Engineers  
Member, Applications and Professional Review Panel, Institution of Structural Engineers  
Member, Institution of Structural Engineers, Victoria Branch Committee  
Secretary, Australian National Group of International Association for Bridge Maintenance and Safety  
Member, fib Task group (TG) 5.14: Life Cycle Cost (LCC) - Design life and/or replacement cycle  
Management Committee member, COST Action TU 1406, Quality specifications for roadway bridges, standardisation at a European level (BridgeSpec)  
Mini-symposium organiser, MS3 Bridge Loading – Measurement and Modelling at Eight International Conference on Bridge Maintenance, Safety, and Management, Fog d'Igazu, Brazil.  
Organising Committee, Australian Network for Structural Health Monitoring, 7th Annual Workshop, Monash University, Melbourne

**Clements, John (Prof)**  
Fellow, Chartered Institute of Logistics and Transport, Australia  
Member, Passenger Transport Group Committee, Chartered Institute of Logistic and Transportation

**Currie, Graham (Prof)**  
Vice chair, US Transportation Research Board committee AP075 Light Rail Transit Systems  
Chair, US Transportation Research Board sub-committee AP075 (3) International LRT Developments  
Member, US Transportation Research Board committee AP025 Public Transportation Planning and Development

**Delbosc, Alexa (Dr)**  
Member, US Transportation Research Board committees on Social and Economic Factors of Transportation, and Traveller Behaviour and Values

**Deletic, Ana (Prof)**  
Director, Monash Water for Liveability (MW4L)  
Member, Victorian Division Committee, Australian Academy of Technological Sciences and Engineering (ATSE)  
Leading Presenter for ATSE Water Forum, Senate Enquiry into stormwater resource in Australia, Environment and Communications Reference Committee  
Deputy Chair, Water Forum, Australian Academy of Technological Sciences and Engineering (ATSE)  
Member, Resource Recovery Steering Committee, ATSE  
Session 8, Commonwealth Review, CRCWSC, Monash Conference Centre  
Co-Facilitator, Monash Infrastructure Institute Planning Workshop  
Co-hosted inaugural lecture and dinner on “Case Studies in Modelling Collective Cell Motion in Biology” with Prof Philip Maini from University of Oxford, England
Duan, WenHui (A/Prof)
Member of organising committee for Concrete 2015 Melbourne

Heidarpour, Amin (Dr)
Chair of session, 15th International Symposium on Tubular Structures, Rio, 27-29 May 2015

Johnson, Marilyn (Dr)
Member, Amy Gillett Foundation Research and Policy Committee
Member, National Executive Committee, Australasian College of Road Safety
Member, Australasian College of Road Safety, Victorian Chapter

Kodikara, Jayantha (Prof)
ASTM Committee on rock fracturing for energy applications

Lamborn, Julia (Prof)
Fellow, Engineers Australia (FIEAust)
Chartered Professional Engineer (CPEng)
Engineers Executive, Engineers Australia
National Engineers Register
APEC Engineer Experienced
International Professional Engineer

Liu, Terry (Dr)
Member, Monash Institute of Graduate Research (MIGR), Monash University

Lu, Ye (Dr)
Member, Australian Network of Structural Health Monitoring
Member of Local Organising Committee of the 6th Asia-Pacific Workshop on Structural Health Monitoring, 7-9 December 2016, Hobart

Mudd, Gavin (Dr)
Member, Alligator Rivers Region Technical Committee (ARRTC) Darwin

Pauwels, Valentijn (A/Prof.)
Co-organiser, Radar Workshop 2015, Monash University, November 19-20, 2015

Rose, Geoff (Prof)
Member, US Transportation Research Board Committee ABE50 Transportation Demand Management
Member, US Transportation Research Board Joint Subcommittee on Emergency Vehicles and Personal Transportation
Fellow, Institute of Engineers, Australia
Australasian Transport Research Forum National Steering Committee

Rüdiger, Christoph (Dr)
Member, AGU Technical Committee on Large Scale Field Experimentation and Networks
Member, Global Earth Observation System of Systems (GEOSS)
Member, Integrated Global Water Cycle Observations (IGWCO)
Session Organiser, “Observing hydrology at different scales: needs and opportunities”, 2nd OzEWEX workshop, Broadbeach, Australia, 29 November to 4 December 2015

Sabeeri, Meead (Dr)
Member, US Transportation Research Board Committee on Traffic Flow Theory

Sarvi, Majid (Dr)
Member, US Transportation Research Board Committee AHB45 Traffic flow theory & characteristics
Member, US Transportation Research Board Committee ADB30 Transportation network modelling
Member, US Transportation Research Board Committee AHB45 Vehicle user characteristics AND10
Chair, US Transportation Research Board sub-committee on Crowd dynamic modelling and simulation
Scientific Committee, International Symposium on Traffic and Transport Theory

**Tien, Jerry (Prof)**
Co-Chair, 2015 Australian Mine Ventilation Conference, AusIMM, Sydney, 31 August to 2 September 2015
Organiser and Chair of discussion panel on diesel particulate matter emission and control at the Australian Mine Ventilation Conference (AusIMM2015)

**Walker, Jeff (Prof)**
Senior Member, Institution of Electrical and Electronic Engineers
Fellow, Institution Engineers Australia
American Geophysical Union, Member
GCOM-W Science Team Member
SMOS Calibration Validation Team Member
Session Organiser, “Land surface monitoring and prediction using remote sensing”, MODSIM 2015, Broadbeach, Australia, 29 November to 4 December 2015
Session Organiser, “Fusion of remote sensing and model data for operational land and water management”, MODSIM 2015, Broadbeach, Australia, 29 November to 4 December 2015

**Wong, Man-Bui Bill (A/Prof)**
Member, Victorian Structural Branch, Structural College, Engineers Australia
Program Committee, 4th annual international conference on Architecture and Civil Engineering (ACE 2016), 25-26 April 2016, Singapore

**Ye, Nan (Dr)**
Session Organiser, “Land surface monitoring and prediction using remote sensing”, MODSIM 2015, Broadbeach, Australia, 29 November to 4 December 2015

**Zhao, Xiao-Ling (Prof)**
Member, International Scientific Committee, 68th IIW Annual Assembly & International Conference, 28 June - 3 July 2015, Helsinki, Finland
Member, International Scientific Committee, Eighth International Conference on Advances in Steel Structures, July 22-24, 2015, Lisbon, Portugal
Member, ERA (Excellence in Research for Australia) Research Evaluation Committee for Engineering and Environmental Sciences Cluster, 2015

**Zhao, Jian (Prof)**
Fellow, International Society of Rock Mechanics

### 5.2 Editorial Services

**Bouazza, Malek (Prof)**
Editorial Board Member, Geosynthetics International
Editorial Board Member, Journal of Lowland Technology
Editorial Board Member, Journal of Geotechnical and Geological Engineering
Editorial Board Member, Geosynthetics
Associate Editor, Journal of Geotechnical and Geoenvironmental Engineering, ASCE
Advisory Board Member, Environmental Geotechnics
SERVICE

Editorial Board Member, Geotextiles and Geomembranes

Bui, Ha (Dr)
Editorial Board Assistant, Asia-Pacific Journal of Computational Engineering (APJCE)
Ha Bui was recognised by Elsevier as an "Outstanding Reviewer" for Applied Mathematical Modelling

Heidarpour, Amin (Dr)
Member, Editorial Board, International Journal of Advanced Structural Engineering

Pauwels, Valentijn (A/Prof)
Associate Editor, Water Resources Research
Review Editor, Frontiers in Hydrosphere

Perera, Samintha (Dr)
Associate Editor, Natural Gas Engineering Journal

Ranjith, PG (Prof)
Editor in Chief, Geomechanics and Geophysics for GeoEnergy and GeoResources Energy Journal
Assistant Editor, Journal of Unconventional oil and gas resources

Rüdiger, Christoph (Dr)
Review Editor, Frontiers in Hydrosphere

Zhao, Jian (Prof)
Editor-in-Chief, Tunneling and Underground Space Technology
Editor-in-Chief, Geomechanics and Geophysics for Geo-Energy Resources

Zhao, Xiao-Ling (Prof)
Member, Editorial Board, Thin-Walled Structures
Member, Editorial Board, Advances in Structural Engineering – An International Journal
Member, Editorial Board, International Journal of Structural Stability and Dynamics
Member, Editorial Board, International Journal of Advanced Steel Construction
Member, Editorial Board, Industrial Construction
Member, Editorial Board, Engineering Mechanics

5.3 Services to Expert Bodies, Expert Advice & Media Interviews

Caprani, Colin (Dr)
West Gate Bridge Bolts Project, with MADA and VicRoads
‘Creswick's bridge worthy of a great man’, The Courier, 31 January 2015

De Gruyter, Christopher (Dr)
‘Car parking provisions at new residential developments in Melbourne’, SYN 90.7FM, 27 Nov 2015

Delbosc, Alexa (Dr)
‘Why are young Australians turning their back on the car?’, The Conversation, 5 Jan 2015
‘More young Canberrans take to the road in car capital’, Canberra Times, 24 Jan 2015
2SER Radio interview, 5 Feb 2015
‘Public transport is always greener on the other side’, The Conversation, 10 Aug 2015
‘Public transport is always greener on the other side’ article published in Transit Australia Magazine, 1 Oct 2015

Deletic, Ana (Prof)
International Expert Advisor, QUICS conference (EU FP7 funded Marie Curie Initial Training Network) held in Luxembourg
Filming for Massive Open Online Course (MOOC) material with Monash Water for Liveability / FutureLearn, Caulfield, 16-17 September 2015
**SERVICE**

**Ranjith, PG (Prof)**  
Grant Reviewer for ARC, UK, Russian Federation and Poland Scientific

**Rüdiger, Christoph (Dr)**  
“The SMAP mission and soil moisture”, Triple R Einstein a go-go, 29 March 2015
5.4 External Seminars, Workshops and Special Presentations

Bui, Ha (Dr)
Invited presentation, 3rd International Workshops on Advances in Computational Mechanics (IWACM-III) 12-15th October 2015, Tokyo, Japan
Keynote lecture, North Eastern University
Workshop organiser, Computational Failure Mechanics and Material Modelling, 5th May 2015, Department of Civil Engineering, Monash University

Caprani, Colin (Dr)
Australian Network for Structural Health Monitoring, 6th Workshop, Perth

Deletic, Ana (Prof)
Invited speaker, “Planning water infrastructure for cities of the future”, Synthesis Workshop on Dynamics of Structure and Functions of Complex Networks, Korea University, Seoul, South Korea, 2015
Invited keynote, Transdisciplinary Research - communicating across disciplines, ATSE Science Pathways, Effective Science Communication for EMCRs, ATSE, University of Adelaide, South Australia, 2015
Invited presentation, Tranche 2 Project Development workshop, Melbourne, Victoria
Invited presentation, Program A & C presentations at CRC Researchers Workshop, Brisbane, Queensland and Swan Valley, Western Australia
Invited presentation, Workshop on Sustainable urban water management, Jakarta, Indonesia, with Australia-Indonesia Centre (AIC), Akademi Ilmu Pengetahuan Indonesia (AIPI), Australian Academy of Technological Sciences and Engineering (ATSE) and Monash Water for Liveability (MW4L)
Invited presentation, Key Principles and practices of sustainable urban water management for Indonesian towns and cities, Sustainable Urban Water Management in Indonesia Workshop 2015, with the Akademi Ilmu Pengetahuan Indonesia (AIPI), Australia-Indonesia Centre (AIC), Australian Academy of Technological Sciences & Engineering (ATSE) & Monash Water for Liveability (MW4L) Universitas Indonesia (Depok), Jakarta, Indonesia, 2015

Heidarpour, Amin (Dr)
Invited presentation, Blast and other Extreme Events Modelling Forum, Canberra, 14 May 2015
Invited presentation, International Association of Protective Structures Workshop, Sydney, 7 Dec 2015
International Association of Protective Structures Workshop, Newcastle, Australia, 7 Dec 2015

Pauwels, Valentijn (A/Prof)
Invited presentation, Multiscale assimilation of remote sensing data into land surface models, Australian Energy and Water Exchange Research Initiative Second National Workshop, Broadbeach, 2nd December 2015

Ranjith, PG (Prof)
Organising Committee, Workshop on Shale Gas: Melbourne Uni, Federation Uni, University of Technology Petronas, Malaysia, 2015

Walker, Jeff (Prof)

Zhao, Xiao-Ling (Prof)
5.5 Conference Attendance

Bach, Peter (Dr)

Bui, Ha (Dr)
2nd Australian Conference on Computational Mechanics (ACCM2015), 30 Nov – 1 Dec 2015, Brisbane

Caprani, Colin (Dr)
Invited Lecture, VicRoads Structures Conference, April 2015
International Conference on Applications of Statistics and Probability in Civil Engineering, Vancouver

Deletic, Ana (Prof)
Invited keynote, “Hybrid Coupled Networks”, 3rd International Symposium on Water, Feedbacks and Complexity, Korea University, Seoul, South Korea, 2015
Invited keynote, “Stakeholder Perspectives of the role of the Technology Transfer Organisation”, Raising the Bar 2015 Annual Conference, Knowledge Commercialisation (KCA), St Kilda, Melbourne, 2015

Heidarpour, Amin (Dr)
International Conference on Protective Structures, Newcastle, Australia, 4-6 Feb 2015
Invited Keynote, International Conference on Steel Structures, Tehran, Iran, 25-26 Feb 2015
Invited presentation, Workshop on Structures under Extreme Events, International Conference on Steel Structures, Iran, 25-26 Feb 2015
15th International Symposium on Tubular Structures, Rio de Janeiro, Brazil, 27-29 May 2015

Monerris-Belda, Alessandra (Dr)
36th Hydrology and Water Resources Symposium, Hobart, Tasmania, 7-10 Dec 2015

Pauwels, Valentijn (A/Prof)
2nd OzEWEX workshop, Broadbeach, Queensland, 2 December 2015
21st International Congress on Modelling and Simulation (MODSIM2015), Broadbeach, 29 Nov-4 Dec 2015

Rüdiger, Christoph (Dr)
18th Symposium on Precision Agriculture in Australasia, Wagga Wagga, NSW, 8 September 2015
2nd OzEWEX workshop, Broadbeach, Queensland, 2 December 2015
36th Hydrology and Water Resources Symposium, Hobart, Tasmania, 7-10 Dec 2015

Walker, Jeff (Prof)
2nd OzEWEX workshop, Broadbeach, Queensland, 2 December 2015
21st International Congress on Modelling and Simulation (MODSIM2015), Broadbeach, 29 Nov-4 Dec 2015

Wong, Man Bui (Bill) (A/Prof)
Invited presentation for Professional Course on Structural Design according to Eurocodes 1, 2, 3 and 8 “Fire, Impact and Earthquakes”. Jointly organised by Department of Civil Engineering & Centre for Asian Tall Buildings and Urban Habitat (CATBUH), The University of Hong Kong, 3 & 4 December 2015.

Wu, Xiaoling (Dr)
2nd OzEWEX workshop, Broadbeach, Queensland, 2 December 2015
21st International Congress on Modelling and Simulation (MODSIM2015), Broadbeach, 29 Nov-4 Dec 2015

Ye, Nan (Dr)
2nd OzEWEX workshop, Broadbeach, Queensland, 2 December 2015
21st International Congress on Modelling and Simulation (MODSIM2015), Broadbeach, 29 Nov-4 Dec 2015

Zhao, Xiao-Ling (Prof)
5.6 Administration

Departmental

Bai, Y., Director of International Affairs, Research Committee
Bouazza, M., Final Year Representative
Bui, H., Deputy Head of Geomechanics Engineering, Education Committee, Timetable officer
Caprani, C., Deputy Director of Teaching, Education Committee, Open Day Committee, Year 8 ChallENGe Civil Eng Coordinator, Coordinated and prepared the Invited Open Day for selected High School Students, Master of Advanced Engineering Programme Developer and Coordinator for Infrastructure Systems stream
Collins, F., Head of Structures Engineering, Deputy Level 2 representative, Education Committee
Currie, G., Deputy Head of Transport Engineering, Deputy Director ITS, Director of Research
Daly, E., Director of Research Training (Sem1), Research Training Committee
Delbosc, A., Open Day Coordinator
Deletic, A., Deputy Head of Water Engineering, Director of Monash Water for Liveability
Duan, W.H., Research Committee, OHS Committee, Library representative
Haque, A., Director of Teaching (Sem1), Program Leader Infrastructure Engineering & Management and Master of Engineering
Hatt, B., Combined Degree representative (Clayton)
Heidarpour, A., Head of Structures Engineering, Level 2 representative, Deputy Level 4 representative
Kodikara, J., Deputy Head of Department, Publications Officer, Deputy Level 3 representative, Research Committee
Lu, Y., Level 3 Representative, website editor
McCarthy, D., Education Committee, Deputy Level 1 Representative
Mudd, G.M., Education Committee, Program Leader of Environmental Engineering Course
Pauwels, V., Head of Water Engineering, Theme coordinator, Research Committee
PG Ranjith, Head of Geomechanics Engineering, Research Training Committee
Rose, G., Director of Institute of Transport, Head of Transport Engineering, Education Committee, Program Leader Transport and Traffic course
Rüdiger, C., Deputy Director Research Training; Theme co-ordinator; Workload Officer
Sabeeri, M., Research Committee
Sainsbury, B., Deputy Head of Mining Engineering
Sarvi, M., Director of Institute of Transport, Head of Transport Engineering, Deputy Director of Research, Tien, J., Head of Mining Engineering, Program Leader of Mining Engineering course
Walker, J., Head of Department, Management Committee Chair, OHS Committee Chair, Industry Advisory Committee, Final Year Projects
Wong, M.B., Level 1 Representative, Exam Officer, Engineering Committee Representative
Yellishetty, M., Deputy Head of Mining Engineering, Education Committee
Zhang, Q., International Coordinator
Zhao, J., Director of Research Training (Sem2), Research Training Committee
Zhao, X.L., BE/BArch representative, IEAust liaison

Faculty

Bouazza, M., Academic Discipline Panel
Caprani, C., Represented Monash at Wheeler’s Bridge fundraising event for Sir John Monash Statue, Coordinator of Eng-IT Affinity Workshop
Daly, E., Engineering Research Training Committee
Deletic, A., Engineering Research Committee Chair, Academic Promotions Committee, Faculty Research Committee, Faculty Executive Committee, External Relations Committee
Kodikara, J., Senior Lecturer Promotions Committee
Lu, C., Academic Progress Committee
McCarthy, D., 1st year review committee
Mudd, G M, Academic Progress Committee
Pauwels, V., Academic Progress Committee
Rüdiger, C., Academic Progress Committee, Academic Discipline Committee member
SERVICE

Walker, J., Faculty Executive Committee, Faculty Probation Committee
Zhao, X.L., OSP Committee, Faculty of Art, Design & Architecture Board
SERVICE

University

Bouazza, M., Academic Board
Deletic, A., Director of Monash Water for Liveability
Mudd, G.M., Environmental Sustainability Stakeholder Reference Committee
Rüdiger, C., Academic Board
Walker, J., Academic Board, Associate Professor Promotion Committee
6. TRAINING & DEVELOPMENT

Caprani, Colin (Dr)
Nailing Grants, Papers, Prizes and Awards: How to write yourself to success, 14 August 2015
MIGR Level 2 Masterclass 10, 16 Oct 2015
OH&S for Managers and Supervisors, 30 Oct 2015
Australian Concrete Institute - AS5100 Bridge Design Talk, 17 Nov 2015

Deletic, Ana (Prof)
Professional Ethics and Conduct, July 2015

Heidarpour, Amin (Dr)
OHS for Managers and Supervisors, 28 Oct 2015
Risk Management, 28 Oct 2015

Monerris-Belda, Alessandra (Dr)
First Aid Level 2, June 2015
Risk Management, October 2015
Essential OHS, October 2015

Pauwels, Valentijn (A/Prof)
First Aid, July 2015

Rüdiger, Christoph (Dr)
Future Research Leaders Program, completed in September 2015
Mental Health Awareness Program, April 2015

Wu, Xiaoling (Dr)
Emergency Floor Warden Building 60, October 2015