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 tomorrow’s problems

RESEARCH THEMES

Energy, water and resources
Monitoring, prediction and protection
Resilience, infrastructure and society
1. **HIGHLIGHTS IN 2014**

**Staff Awards and Achievements**

Congratulations to **Professor Bill Young** on receiving the Life Time Achievement Award from the Australian Road Research Board (ARRB) for his contributions to their annual conference. Well done Bill!

Congratulations to **Professor Jeff Walker** for winning the SSSI Educational Development Award (provided by Surveying and Spatial Sciences Institute). This award is conferred on practicing teachers, facilitators or academics who have substantially contributed to empowering students in the use of technologies, and also supported other teachers to acquire knowledge and/or promote excellence for practicing academics in the fields of surveying and spatial science.

Congratulations to **Professor Malek Bouazza** on achieving the prestigious honour of receiving the 2014 Australian Geomechanics Society E.H. Davis Memorial Award. The award is for distinguished recent contributions to the theory and practice of geomechanics in Australia and is the highest honour in Australian Geomechanics Society. Malek has also been invited to deliver the 15th Zeng Guo-Xi Lecture at Zhejiang University in Hangzhou (China) in October 2014, which is one of the most prestigious lectures on geotechnics within China. Malek has also been appointed as the Chair of the Environmental Geotechnics Technical Committee TC215 of the International Society of Soil Mechanics & Geotechnical Engineering (ISSMGE).

Congratulations to **Professor PG Ranjith** for being awarded both the Vice-Chancellor’s and Dean’s Awards for Excellence in Postgraduate Supervision. As part of the Deep Earth Energy research focus, Ranjith is also co-editor of a brand new journal titled “Geomechanics for Energy and the Environment”.

Congratulations to **Dr David McCarthy** on winning an Australian Institute of Policy and Science Young Tall Poppy Science Award, celebrating the best and brightest young achievers in science. David was also awarded a Victoria Fellowship at Parliament House. This will allow David to travel to the USA to acquire knowledge on recreational health risks and apply this knowledge to better understand the risks to users of the Yarra River system. Well done David!

Congratulations to **Dr Meead Saberi** for being one of the recipients of the Vice Chancellor’s Award for Social Inclusion.

Congratulations to **Dr Wasantha Liyanage** on receiving the very prestigious Humboldt Research Fellowship from Alexander von Humboldt Foundation, Germany. Wasantha also received the Vice Chancellors Best PhD Thesis Award (Mollie Holman Doctoral Medal) for his thesis titled “On the Coupled Hydro-mechanical Behaviour of Jointed Rock Masses: An Application to Mine Slope Stability”. Wasantha also

Congratulations to **technical staff member Mr Jeff Doddrell** who won the Department Professional Staff Member Award at the Annual Dinner in June.
HIGHLIGHTS IN 2014

won the Kenneth Hunt Award for the Best PhD thesis within the Faculty of Engineering.

Congratulations also to Dr Will Gates on receiving the 2014 CMS Jackson Award which recognises a mid-career scientist for excellence in the contribution of new knowledge to clay minerals science through original and scholarly research.

Congratulations to Dr Belinda Hatt on her promotion to Senior Lecturer effective 1 January 2015.

Congratulations to Dr Marilyn Johnson on her promotion to Senior Research Fellow as of 1 January 2015.

Congratulations to Professor Geoff Rose on receiving his formal promotion to Level E as an Education Focused Professor effective 1 January 2015.

Congratulations also to Dr Wenhui Duan and Dr Valentijn Pauwels who were promoted to Associate Professor effective 1 January 2015.

Research Achievements

Congratulations to Dr Alexa Delbosc on receiving the 2014 Advancing Women’s Research award.

Congratulations to Dr David McCarthy on receiving the Departmental Award for Excellence in Research at our Annual Dinner in June 2014.

Congratulations to Dr Yu Bai and team on securing a $1.2m grant from industry and state government for the development of Modular Construction Codes Board (MCCB). This initiative of Barry's, has been funded under the Manufacturing Productivity Networks (MPN) program of the Victorian Department of State Development, Business and Innovation (DSDBI).

The department received 2 ARC Discovery grants, 5 ARC Linkage Grants and 2 ARC LIEF grants in 2014.

We had 12 PhD completions in 2014.

Education Achievements

Professor Frank Collins was presented with the Departmental Award for Excellence in Teaching at our Annual Dinner in June 2014.

Departmental Teaching Fellows for 2014 were acknowledged at the Annual Dinner for their contribution to our teaching program.

Dr Asadul Haque presents awards to Margaret Arblaster (top left), Keith Midson (top right), Tony Ladson (middle left), Darren Paul (middle right), and Ewan Ramsay (bottom left)
Professor Jeff Walker visited the following China Universities in May 2014 to promote our new Masters of Advanced Engineering: Central South University (CSU), Tongji University, Hunan University, East China University of Science and Technology, Wuhan Institute of Technology and Beijing University of Technology.

Industry Engagement

Mr Andrew Michelmore, CEO of MMG Limited (and on the Monash Industry Council of Advisers) addressed the Mining undergrad students during a visit to Rosebery Mine in April 2014.

Mining Engineering students attended the Australasian Institute of Mining and Metallurgy (AusIMM) Dinner in August 2014. With them in the photo is the AusIMM CEO, Mr Michael Catchpole.

Events

The 2014 Departmental Annual 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. Mr Stephen Durkin, CEO of Engineers Australia, was awarded our Alumnus of the Year for 2014 and gave an after-dinner address.

Mr Stephen Durkin & Prof Jeff Walker

The Mining Group hosted a farewell party for Professor Gary Codner’s retirement in October 2014. Gary worked with Professor Jerry Tien and Dr Mohan Yellishetty to set-up the mining program within the Department of Civil Engineering in 2013. We wish Gary all the very best in retirement!

Professor Bill Young retired in October 2014, with a function held in his honour at the newly refurbished Monash Club.

Between the photos in the PowerPoint presentation and the song (written by Professor Graham Currie) performed by Graham and transport group staff and students, it was a very enjoyable afternoon and a farewell to remember. We wish you all the very best Bill in your future endeavours, and no doubt we’ll still see you around Monash!
The Department hosted the inaugural **International Workshop on Engineering for Extremes (IWEE)** in November 2014, which was primarily organised by Dr Amin Heidarpour with assistance from structures group staff and students.

IWEE 2014 provide a platform for eminent research and industry expertise from around the world to collaboratively exchange innovative ideas and set a research agenda in engineering for extremes.

The aim of the workshop was to develop models to predict the outcomes of extreme events, such that solutions can be developed to both warn society in advance, and/or protect society through the engineering of more appropriate infrastructure.

Examples include:

- the design of buildings against extreme loading such as impact and blast, fire, earthquake and tsunami;
- performance of travel demand management during mega events and evacuation planning during panic situations; and
HIGHLIGHTS IN 2014

- improved flood forecast prediction and mitigation, fire spread prediction, and utilisation of geosynthetics to mitigate natural disaster impacts.

The 8th Inter-University Invitational Civil Engineering Bridge Competition was hosted by the Department from 6–10 July. There were 15 universities participating in the competition, including five from Australia. Of the five prizes available, Monash won first runner-up. The overall winner was Shanghai Jiao Tong University in China.

Traditionally, the competition focuses on the structural design of a model using balsa wood as the only construction material. Monash decided to expand the scope of the design skills by including all major civil engineering disciplines: structures, water, geotechnical and transport.

Essentially, the task was to design and build a model bridge structure to support a roadway with a travelling vehicle, under the effects of soil settlement at one column and flowing water at the other column of the bridge.

All teams, comprising mainly senior undergraduate students, had the opportunity to showcase their technical and communication skills and teamwork.

Professor Jeff Walker, along with fellow Heads of Departments and the Dean of Engineering, Professor Frieder Seible, attended the 2014 Tri-University Research Workshop on Advanced Engineering, which was held in December 2014. Now in its 10th year, this workshop aimed to provide a platform for Monash University, Central South University (CSU) and Wuhan University of Technology (WUT) to exchange engineering research discoveries, explore innovative topics, and consolidate international partnerships in joint research and engineering education.

This year’s Christmas Party was held at the Clayton AMF 10 pin bowling centre. Professor Jeff Walker exploited his vulnerability by writing and performing a rap song, with support from students Katerina Pavkova and Veljko Prodanovic.
HIGHLIGHTS IN 2014

The 10 pin bowling was followed by M9 Laser Skirmish.
2. **OUR PEOPLE**

2.1 **Management Committee**

In 2014, 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 - Director of Research Training
- Dr Yu (Barry) Bai - Director of International Affairs
- Mr Christopher Powell - Director of Resources
- Prof PG Ranjith - Head of Geomechanical Engineering
- Prof Jerry Tien - Head of Mining Engineering
- A/Prof Frank Collins - Head of Structural Engineering
- Dr Majid Sarvi - Head of Transport Engineering
- Dr Valentijn Pauwels - Head of Water Engineering

Meetings of the Management Committee were held monthly.

Note that the Executive Committee terminated in 2014 and the Heads of Sections Committee merged with the above Management Committee.

2.2 **Industry Advisory Committee**

The Industry Advisory Committee was established in 1999. Meetings of the Committee were held on 16th June and 26th November 2014 at the Clayton campus. The 2014 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 Rory Nathan - General Manager, Business Processes, 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 - 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 established in 2008. Membership of the committee in 2014 was as follows:

- **Prof Jeff Walker** Chairperson
- **Mr Mike Leach** Deputy Chairperson and Safety Officer
- **Mr Chris Powell** Deputy Safety Officer
- **Mr Richard Williamson** OHS Representative
- **Mr Mark Taylor** Deputy OHS Representative
- **Ms Rebekah Henry** Biosafety Officer
- **Ms Christelle Schang** Deputy Biosafety Officer
- **Dr WenHui Duan** Academic Staff Representative
- **Dr Rao (Martand) Singh** Postdoctoral Staff Representative
- **Mr Alastair MacLeod** Postgraduate Representative
- **Mr Casey Slaughter** Postgraduate Representative
- **Ms Margaret Rendell** Faculty OHS&E Advisor

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

2.4 **Research Groups**

In 2014 the department operated through the following five groups:

2.4.1 **Geomechanical Engineering**

The geomechanics group was led by Prof Ranjith PG 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 **Mining Engineering**

The mining group has grown to an academic staff of five during 2014, with two new staff due to commence in early 2015. The group is led by Prof Jerry Tien and includes Prof Jian Zhao and Dr Mohan Yellishetty.

**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 **Structural Engineering**

The structures group is 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, Dr Wenhui Duan, Dr Will Gates, Dr Ye Lu and 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**

The transport group 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 Nirajan Shiwakoti, Dr Marilyn Johnson, Mr John Clements, Mr Omid Ejtemai, Mr Bill Kilpatrick, 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

The water group was led by Dr 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 Christian Urich, 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
Abdemalek 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 MSc PhD Monash FIEAust CPEng
Ranjith Pathegama Gamage  BSc(Eng)(Hons) Moratuwa PhD Wollong MASCE CHARMA FIEAust MISMRM
Geoffrey Rose  BE(Hons) Queensland IT MSc PhD Northwestern MIWA MIEAust MITE MAITPM
Jerry Tien  PhD, MBA, PE
Jeff Walker  BE(Hons) BSurv(Hons) Newcastle PhD Newcastle FIEAust
William Young  BE(Hons) NSW MSc PhD Monash GradDipMgt MBA Deakin FIEAust FITE FCIT MAITPM MPAA
Jian Zhao  BSc Leeds PhD DIC London FIEAust FISRM
Xiao-Ling Zhao  BE ME Shanghai Jiao-Tong PhD DEng Syd EMBA NSW & Syd FIEAust FASCE FIIFC MSSRC

Associate Professors
Frank Collins  BE MEngSc Syd PhD Monash MIEAust CPEng
Majid Sarvi  BCivEng(Hons) Tehran MEng(Hons) IUST PhD Tokyo MJSCE MJSTETTSC MCITE
Man Biu (Bill) Wong  BSc(Eng) London PhD UNSW CEng MICE FIEAust CPEng

Senior Lecturers
Yu (Barry) Bai  BE(Struct) Tsinghua MEng(Struct) Tsinghua PhD EPFL
Edoardo Daly  BE ME Turin PhD Turin GradCertHighEd Monash
WenHui Duan  BE Tianjin MEng Tianjin PhD NUS
Asadul Haque  BScEng KBIT MEng AIT PhD Wollong GradCertHE Monash MIEAust
Amin Heidarpour  BSc IUT MSc Sharif PhD UNSW
Victoria Lamb  BEng (Envir, Chem) Monash
David McCarthy  BSc BE(Hons) PhD Monash
Gavin Mudd  BEcEng(Hons) RMIT PhD VUT MSSEE MAusIMM MSEG MISIE
Valentijn Pauwels  B AgrEng UGent MACivEng Princeton PhD CivEng Princeton
Christoph Rüdiger  BE(Hons) PhD Melbourne
Elizabeth Sironic  BE DIC MSc PhD Monash
Russell Thompson  BAppSc RMIT, MEngSc Monash, PhD Melb
Mohan Yellishetty  BE Osmania MTech 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 MStrucE
Alexa Delbosc  BA Lewis & Clark MA Harvard PhD Monash MUIGR AITPM
Belinda Hatt  BAppSci(Hons) RMIT PhD Monash
OUR PEOPLE

Zhiyuan (Terry) Liu  BTranspEng(Hons) SEU PhD NUS  
Chunhui Lu  BEng USTS MEng SJTU PhD Gatech  
Ye Lu  BE ME BUAA PhD Sydney  
Meead Saberi  BE MSc (Transp) PortlandSU PhD (Transp) Northwestern USA  
Nirajan Shiwakoti  BCivEng Tribhuvan MEng(Hons) Hokkaido PhD Monash

Senior Research Staff

Constantine Adam  BEngSc MEngSc Monash PhD AIWS  
Peter Breen  BSci (Hons), MApp Sci, PhD Monash  
Will Gates  BSc MSU MSc NMSU PhD Illinois  
Bill Kilpatrick  GradCert Risk Monash MRiskM Monash MRMIA

Research Fellows

Kayvan Aghabayk  PhD Monash  
Peter Bach  BE(Hons) Monash PhD Monash  
Matteo Camporese  MEng UNIPD PhD UNIPD  
Derek Chan  BEng(Civil) RMIT MEngSc Monash PhD Monash  
Gayani Chandrasena  BSc(Eng) Ruhuna PhD Monash  
Gift Dumedah  BSc(Hons) KNUST MSc SFU PhD Guelph  
Stefania Grimaldi  ME CivEng PhD PUTurin  
Lei He  BEng ME, PhD Nanyang Technological Singapore  
Rebekah Henry  BSci (Hons) Griffith PhD Monash  
Jian Ji  BE Xi'an UST MSc Xi'an Jiaotong PhD Nanyang Tech  
Marilyn Johnson  BA(Hons) MAppSocRes PhD Monash  
Yuan Li  BSc 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  BE(Hons) BSc Monash PhD Monash  
Rao Martand Singh  BE(Civil) Vyas Jodhpur MTeach Geotech IIT Delhi PhD Cardiff  
Amir Sobhani  BSc MSc FU Mashhad PhD Monash  
Christian Urich  DipEng Innsbruck  
Chao Wu  BE Tongji PhD Monash MIIFC MIAIMAS  
Xiaoling Wu  BE Zhejiang PhD Monash  
Nan Ye  BE Tsinghua PhD Monash  
Chunsun (Ivan) Zhang  BE HUT MSc HUT PhD USyd  
Changxi Zheng  BMatPhy Lanzhou Gansu MMatSciEng Sun Yat-Sen Guangdong PhD Monash

Research Officers

John Clements  BCom(Hons) Dip Ed Melb MEC MAdmin Monash  
Cintia Dotto  BE PhD Monash  
Omid Ejtemai  DiplIT Darmstadt  
Yilin Gui  BE CSU AusIMM  
Peter Kolotelo  BSc Masters  
Peter Poelsma  BSc (Environmental) RMIT  
Christelle Schang  BEng

Administrative Staff

Narelle Ayson – 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 Studies Administration Manager

Technical Staff

Anthony Brosinski – Technical Officer  
Zoltan Csaki – Technical Officer  
Jeffrey Doddrell – Technical Officer
OUR PEOPLE

Peter Dunbar – 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*  FREng, FRSC, FCAE, FEIC, FACE, FIEA, FCSE, PEng
- Ahmad Shayan  BAgrEng, Cert Hydrology & Groundwater Eng, Post-grad Dip(Soil Sc), PhD(Soil Sc)
- Chien M Wang  BE(Civil)(Hons)  *Monash*  MEngSc  *Monash*  PhD *Monash*
- Xiaming Wang  PhD  Xian Jiaotong China

**Adjunct Research Associates**

- 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
- Tony 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 MIStrucE MIEAust

**Adjunct Senior Lecturer**

Richard Knight

### 2.6  Staff changes in 2014

#### New Staff Members

- Dr Kayvan Aghabayk  Dr Peter Bach
- Dr Gayani Chandrasena  Dr Jian Ji
- Dr Yuan Li  Dr Emily Payne
- Dr Meead Saberi  Dr Chunhui Lu
- Dr Lei He  Mr Philip Warnes
- Dr Nan Ye  Dr Ivan Zhang

#### Promotions

- Professor Geoff Rose (formally promoted to Education Focused Professor)
- Dr Wenhui Duan and Dr Valentijn Pauwels (from Senior Lecturer to Associate Professor, effective 1 January 2015)
- Dr Belinda Hatt (from Lecturer to Senior Lecturer, effective 1 January 2015)
- Dr Marilyn Johnson (from Research Fellow to Senior Research Fellow, effective 1 January 2015)

#### Resignations / Departures

- Dr Peter Breen
- Dr Cintia Dotto
- Mr Omid Ejtema
- Dr Yilin Gui
- Dr Nirajan Shiwakoti
- Dr Rao (Martand) Singh
- Dr Russell Thompson

#### Retirement

Professor William Young
2.7 Visitors to the Department

The following visitors came to Civil Engineering at Monash University in 2014:

**Visiting Academics**

- **Prof Robert Bertini**, from Portland State University, USA, visited in August. Visit hosted by A/Prof Majid Sarvi.
- **Dr Yiming Bie**, from Harbin Institute of Technology, China, visited for one year commencing January. Visit hosted by Dr Zhiyuan Liu.
- **Dr Matteo Camporese**, from University of Padova Italy, visited February – August. Visit hosted by Dr Edoardo Daly.
- **A/Prof Gianluca Cusatis**, from Northwestern University Illinois, USA, in May. Visit hosted by A/Prof Wenhui Duan.
- **A/Prof Neil Evans**, from University of Warwick visited in April. Visit hosted by Dr Colin Caprani.
- **Prof Mario Fontana**, from ETH Zurich Switzerland visited November. Visit hosted by Dr Amin Heidarpour.
- **Dr Jean B Filippi**, from Universita di Corisica visited in November. Visit hosted by Dr Amin Heidarpour.
- **Prof Costas Fytas**, from Dept of Mining, Metallurgical & Materials Engineering, Laval University Canada, visited February-March. Visit hosted by Dr Mohan Yellishetty.
- **Dr S K Gautam**, from The Energy Resources Institute (TERI), India, visited during March-September. Visit hosted by Dr Mohan Yellishetty.
- **Dr Estela Garcez**, from Universidade Federal de Pelotas, Brazil, visited February – December. Visit hosted by Associate Professor Frank Collins.
- **A/Prof Jon Hathaway**, from University of Tennessee, visited 4-8th August. Visit hosted by Dr David McCarthy.
- **Prof Hao Zhang**, from University of Sydney visited 13-17 January. Visit hosted by A/Prof Wenhui Duan.
- **Dr Hui Jiao**, from University of Tasmania commenced his visit in December 2014. Visit hosted by Prof Xiao-Ling Zhao.
- **A/Prof Fang Liu**, from Wuhuan Textile University, China commenced a year long visit in June. Visit hosted by Dr Ye Lu.
- **Prof Elise Miller-Hooks**, from University of Maryland visited 17-20 November. Visit hosted by A/Prof Majid Sarvi.
- **Prof Yiu-Wing Mai**, from University of Sydney visited May. Visit hosted by A/Prof Wenhui Duan.
- **Prof Balasingam Muhunthan**, from Washington State University visited April. Visit hosted by Dr Asadul Haque.
- **Dr David Nethercot**, from Imperial College, London, visited November. Visit hosted by Dr Amin Heidarpour.
- **Prof Enrique Romero**, from Barcelona Spain, visited July. Visit hosted by Prof Malek Bouazza.
- **Prof Wolfgang Rauch**, from University Innsbruck, Austria, visited February-March. Visit hosted by Prof Ana Deletic.
- **Dr Lauren Stewart**, from Georgia Institute of Technology, USA, visited November. Visit hosted by Dr Amin Heidarpour.
- **Dr Sharma Ashish**, from University of New South Wales. Visited November. Visit hosted by Dr Amin Heidarpour.
- **Prof Tongbo Sui**, from Sinoma Research Institute, Beijing, China. Visited October. Visit hosted by A/Prof Wenhui Duan.
- **Dr Chenghua Shi**, from Central South University, China, commenced a 1 year long visit in January. Visit hosted by Prof Jian Zhao.
- **Prof Chien Min Wang**, from National University of Singapore visited June and December. Visit hosted by A/Prof Wenhui Duan.
- **Dr Zhijian Wang**, from North China University of Technology, commenced a 6 month visit in December. Visit hosted by Dr Zhiyuan Liu.
- **Dr Wei Wu**, from Stanford University, USA, visited October-November. Visit hosted by Prof Jian Zhao.
- **Prof Englin (Mark) Wong**, from Stanford University, USA, visited August. Visit hosted by Prof Jeff Walker.
- **Prof Shengqi Yang**, from China University of Mining and Technology commenced a 6 month long visit in February. Visit hosted by Prof Ranjith PG.
- **Dr Qinglei Yu**, from China University of Mining and Technology commenced a 6 month visit in February. Visit hosted by Prof Ranjith PG.
- **Dr Hao Zhang**, from University of Sydney, visited January. Visit hosted by A/Prof Wenhui Duan.
- **Lina Zhang**, from Hong Kong University of Science and Technology, visited May. Visit hosted by A/Prof Wenhui Duan.
**Occupational Trainees:**

Sophie Ann-Kristin Ahrengart, from Lulea University of Technology, commenced a 7-month long visit in September. Visit hosted by Dr Mohan Yellishetty.

Aleksandar Bauranov, from Serbia Montenegro, VISITED June – August. Visit hosted by A/Prof Majid Sarvi.

Michael Baur, from Technical University of Munich, commenced a 2 month visit in October. Visit hosted by Dr Colin Caprani.

Jingxu Chen, from Southeast University China, commenced a year long visit in September. Visit hosted by Professor Graham Currie.

Xin Chen, from Chinese Academy of Sciences, commenced an 8-month long visit in June. Visit hosted by Prof Jian Zhao.

Dorine Duives, from Delft University of Technology, The Netherlands visited February – April. Visit hosted by A/Prof Majid Sarvi

Christian Forster, from Technical University of Dresden, Germany commenced a 7 month visit in August. Visit hosted by Prof Ana Deletic.

Elyas Ghafoori, from Swiss Federal Laboratories for Materials Science and Technology, visited for 4 months commencing October. Visit hosted by Professor Xiao-Ling Zhao.

Sebastian Gebler, from Forschungszentrum Juelich GmbH, Germany, visited September – December. Visit hosted by A/ Prof Valentijn Pauwels.

Bin He, from Taiyuan University of Technology, China, commenced a 12 month visit in September. Visit hosted by Dr Chunhui Lu.

Xin Kang, from Central South University, China, commenced his visit in November. Visit hosted by Dr Colin Caprani.

Peng Liu, from China University of Mining and Technology, commenced his visit 18th December. Visit hosted by Prof Ranjith PG.

Yi Li, from China University of Geosciences, commenced a 10 month visit in October. Visit hosted by Prof Ranjith PG.

Romain Lechevin, from EICESI, France visited June – October. Visit hosted by Prof Ranjith PG.

Xiaogang Lu, from Tsinghua University, visited February – April. Visit hosted by Dr Yu Bai.

Zeyu Lu, from Hong Kong University of Science and Technology, visited May. Visit hosted by Dr Wenhui Duan.

Hiroki Makimoto, from Ritsumeikan University, visited August-September. Visit hosted by Dr Ha Bui.

Andrew Mehring, from University of California, visited January – April. Visit hosted by Dr Belinda Hatt.

Lyu Qiao, from Wuhan University visited August-October. Visit hosted by Prof Ranjith PG.

Junan Qu, from Central South University, China, commenced a 6 month visit in November. Visit hosted by Dr Colin Caprani.

MengXia Sun, from Ritsumeikan University, Japan visited August-September. Visit hosted by Dr Ha Bui.

Parish Shadan, of Amirkabir University of Technology, Iran, commenced a 7 month visit in November. Visit hosted by Dr Amin Heidarpour.

Valentijn Valognes, from INSA, France, visited April – September. Visit hosted by Dr David McCarthy.

Pengshing Wang, from China University of Mining and Technology commenced a 11-month long visit in September. Visit hosted by Prof Ranjith PG.

Brandon Winfrey, from University of California, visited July – December. Visit hosted by Dr Belinda Hatt.

Yuan Xu, from Northeastern University, China, commenced a year long visit in February. Visit hosted by Ranjith PG.

Zongqing Zhou, from Shandong University, China, commenced a 2-year visit in November. Visit hosted by Prof Ranjith PG.
3. **EDUCATION**

### 3.1 Course Offerings

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

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

### 3.2 Undergraduate prizes

Congratulations to Monash University Bachelor of Laws and Bachelor of Civil Engineering (Honours) student, **Mr Ian Lieblich**, who was selected as a Global Voices delegate. Global Voices is a non-profit private company that selects, funds, prepares and coordinates delegations of Australia’s future leaders to a variety of major international events. As one of 16 young Australian Global Voices delegates, Ian will attend the UN Framework Convention on Climate Change Conference of Parties in Lima in November.

**Prizes**

- **Top Level 1 student entering Civil Engineering**
  - Winner: Daniel Kim

- **Top Level 1 double degree student entering Civil Engineering**
  - Winner: John Baker

- **Railand Prize for Water Engineering**
  (For best overall performance in the level 2 water engineering unit CIV2263)
  - Winner: Dulan Dantanarayana (no photo available)
Coffey Geotechnics Prize for Geo-engineering
(For best overall performance in the level geomechanics unit CIV2242)

Winners: Supun Mendis

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

Winners: Jeremy Yuen & Kevin Sylvester (no photo available)

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

Winner: Wasim Kalam (no photo available)

Engineers Australia Structural Division Award
(For greatest proficiency in CIV3222)

Winner: Matthew Cameron

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

Winners: Sam Hughes, Melissa Adikari & Jackson Guo
Douglas Partners Prize for Geomechanics
(For best overall performance in level 3 geomechanics units CIV3247 & CIV3248)

Winners: Ruiqi Guan & Leifeng Shi

Railand Prize for Water Engineering
(For best overall performance in the Level 3 water engineering unit CIV3264)

Winners: Yanming Liu & Mengshu Li (no photo available)

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

Winners: Mitchell Hawthorn & Xue Le

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

Winner: Carla Rossimel
EDUCATION

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

Winner: John Mathios

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

Winner: Kristopher Saw

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

Winner: Kristopher Saw

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

Winners: Hannah Bragge, Xue Le & Jaclyn Rotman (no photo available)
The Thiess Prize for Civil Engineering Practice Prize

Winners: Amanda Cohen, Jonathon Hampshire, Melissa Adikari & Sam Verghese

Civil Engineering Vacation Work Prize

Winner: Will Davis (no photo available)

3.3 Undergraduate students who completed in 2014

Bachelor of Engineering (Civil)
Bernadette Sargeant
Achala Athukorala
Jun Jie Hew
Joon Wah Chang
Andrew Golds
David Gogoasa
Bereket Demissie
Ken Chun Ang
William Howden
John Farag
Tian Li Zhang
Cheng Yu
Rui Zhao
Chen Cheng
Yian-Shieng Mooi
Edward Lumentut

Bachelor of Engineering (Civil) with Honours
Mengshu Li
Larissa Aguiar
Wen Fang
Adam Knoweiss
Yau Hao Che
Dunxiao Wang
Alex Khoshaba
Selvin Sebastian
Adrian Weber
Lu Cai
Samuel Parkinson
Ryan Beddoes
Ahmad Ayubi
Kieran Slat
Dylan Burke
Ben Lockwood
Le Song
Jason Cheng-Yi Sim
Pin Chavalparit
Gunya Jayakody

Bachelor of Engineering (Civil) Honours cont.
Ming John Chai
Sultan Albakhiet
Junnan Huang
Daniel Schorer
Kelvin Page
Ahmad Enayat
Zacchary Ledin
Kin Ming Tang
Andrew Harmer
Justin Sprigg
Bumeke Jayasinghe
Hugh Brown
Lee Kapkyu
Jenny Chea
Nirosha Kariyawasam
Jaishen Li
Damian Xiang Png
Ruiqi Guan
Jarrod Sharrock
Yanming Liu
Shaohan Zhao
Shixiong Chen
Yingnan Wang
Maozhu Tang
Jun Wei Ngan
Leifeng Shi
Yunlong Tang
Shaohua Zhang
Shejuti Hossain
Sophie-Scarlet Stone
Choon Hong Loh
Sahana Ganesh
Carl Rossi
Kern Kapoor
Andrew Yeo
Ting Liu
Baoshi Liu
Brandon Keo
Andrew Vaelioja
Yuan Tian
Cameron Rathbone
Hamish McDonald
Bachelor of Engineering (Civil) Honours cont.
Thahn Nguyen
Akshita Mathew
Jiatian Xu
Riana Mollard
Andy Sheo
Xi Zhao
Tayla Hubbard
Valentin Meyer
Daniel Chapneviss
Li Liu
Shaful Haque
William Stansen
Eveline Sulistio
Peter Le
Tianqi Wang
Joshua Wei Ren Tan
Chao Sun
Abimanju Rao
Jun Qin Lee
Gary Labas
Aaron On
Pramono Wirjadi
Xinhang Xu
Dionysios Hionis
Mike Liang
Toron Pong
Andrew Komala
Matthew Skelt
Patrick Long
Swann Wynn Htet

Bachelor of Arts and Bachelor of Engineering (Civil) with Honours
Rachel Pereira
Meg Panozzo
Matthew Jurkovsky
Paul Smith
Timothy Craig
Vigi Selvan

Bachelor of Commerce and Bachelor of Engineering (Civil)
Hamish Murphy

Bachelor of Commerce and Bachelor of Engineering (Civil) with Honours
Sean Cook
Christopher Marshall
Chau Quynh Do
Wasim Kalam
Johnathon Dunne
Christopher Piperidis
Dilshan de Silva
Jaclyn Rotman
William Darling

Lawrence Ho
Stewart Gresham
Lachlan Fuda
Jonathon Hampshire
Tung-Han Lin
Joshua Sly
Sedron Hooper
Bachelor of Commerce and Bachelor of Engineering (Civil) with Honours cont.
Tse Lean Jeremy Chong
Jaymes Bonacci
Xiao You Zhou
Joel Diamond
James Le
Rohan Sequeira
Anthony Ung
Denis Botvenev
Asiri Rajapakse
Darryl Raja
Bachelor of Science and Bachelor of Engineering (Civil) with Honours
Jackson Guo
Andrew Cox
David Stretton
Barry Bingyi Yan
Jake Leopold
Theodor Ioannidis
Daniel How
Adrian Papamiltiades
Rebecca Saber
Quang Ngoc Phan
Callum Young
Bachelor of Engineering (Civil) and Bachelor of Laws with Honours
Chloe Green
Ian Lieblich
Karan Chandra
Bachelor of Environmental Engineering
Chin Thye U
Mei Po Lo
Li-Shan Wong
Bachelor of Environmental Engineering with Honours
Emerald Cuthbertson
Eleanor Parry
Rebecca Welsford
Ishan Ramdenee
Daniel Osmers
Peter Gleadhill
Ngoc Thuy Trang Truong
Luke van Rheenen
Vanessa Wai-Bing Wong
Jiajun Sun
Daniela Tartaglia
Kaixin Yao
Dharshi Hasthanayake
Yang Li
EDUCATION
Sarah Harvey
Zhen Qing Huang
Vanessa Macaulay
Ke Xu
Xiaojun Liu
Thomas Frederick
Matthew Howse
Qing Qu
Bachelor of Environmental Engineering and Bachelor of Science with Honours
Kelly Yuan Ying He
Amanda Cohen
Alexander Nguyen
Kimberley Parker
Bachelor of Arts & Bachelor of Environmental Engineering
Benjamin Yang
Bachelor of Arts & Bachelor of Environmental Engineering with Honours
Kara Brussen
Michelle Doolan
Andrew Lightfoot
Bachelor of Civil & Environmental Engineering
Matthew Sloyan
Bin Xia
Billy Wight
Jack Stipcevich
Ricky Johnson
Jonathon Burt
Bachelor of Civil & Environmental Engineering with Honours
Matthew Cook
Steven Kearns
Emily Rickwood
Lucy Spooner
William Killeen
Stace Puts
Josie Kleinitz
Bachelor of Biomedical Science and Bachelor of Engineering (Civil) with Honours
Wen Fang
Kim Kun Wha
Joson Joy
Bachelor of Technology (Infrastructure – Design, Construction and Management)
Ashoka Herath Mudiyanselage
Bachelor of Mining Engineering with Honours
Nak-Bom Kim
Inwoo Cho
Dan Mo
2014 undergraduate students
EDUCATION

3.4 2+2 Program

In 2014, we received 26 2+2 students in total, including 17 students in Civil from Central South University (CSU) in Changsha (China) and 9 students in Environment from Tongji University in Shanghai (China).
4. RESEARCH

4.1 Research grants and income

Research Funding for 2014 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>2014 Actual Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC Discovery Projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DP1096456 Development of Leakage Resistant Well-Cements for Geo-Sequestration of Carbon Dioxide Application using Alkali Activated Slag and Geopolymer Cements</td>
<td>Sanjayan, Jay G; Pathegama Gamage, Ranjith; Narsilio, Guillermo A</td>
<td>2010-2014</td>
<td>$89,863</td>
<td>0</td>
</tr>
<tr>
<td>DP110104808 Advancement of cohesive crack approach to model shrinkage and load induced cracking in multi-phase soils</td>
<td>Kodikara, Jayantha K</td>
<td>2011-2014</td>
<td>$170,000</td>
<td>0</td>
</tr>
<tr>
<td>DP110104078 Improved predictions of greenhouse gas transfers in landfill composite liner covers containing geomembrane defects.</td>
<td>Bouazza, Abdelmalek</td>
<td>2011-2015</td>
<td>$122,000</td>
<td>0</td>
</tr>
<tr>
<td>DP120101708 Durability of Carbon Fibre Reinforced Polymer (CFRP) Strengthened Steel Structures against Environment-Assisted Degradation</td>
<td>Zhao, Xiao L; Bai, Yu; Singh, Raman RK; Bandyopadhyay, Sri; Rizkalla, Sami H</td>
<td>2012-2014</td>
<td>$289,000</td>
<td>$60,000</td>
</tr>
<tr>
<td>DP120102203 Cementitious Gel: The Missing Link in Understanding the Ageing of Built Infrastructure</td>
<td>Collins, Francis G; Gates, Will P; Aldridge, Laurence P; Fernando, Kapila; Pickard, Daniel S</td>
<td>2012-2014</td>
<td>$320,000</td>
<td>$100,000</td>
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<tr>
<td>DP120102392 Innovative urban traffic congestion solutions: Optimising Roadspace Using Networks of Multi-Class Priority Lanes</td>
<td>Sarvi, Majid; Currie, Graham; Wallace, Mark</td>
<td>2012-2014</td>
<td>$285,000</td>
<td>$95,000</td>
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<tr>
<td>DP120103003 Geological sequestration of carbon dioxide in deep saline aquifers: coupled flow-mechanical considerations</td>
<td>Pathegama Gamage, Ranjith; Haque, Asadul; Viete, Daniel R; Airey, David W; Choi, Xavier</td>
<td>2011-2014</td>
<td>$66,000</td>
<td>$22,000</td>
</tr>
<tr>
<td>DP1096454 Unified analysis of steel and composite structures subjected to static, thermal, earthquake and blast loading</td>
<td>Heidarpour Esfarjani, Amin; Ranzi, Gianluca; Bradford, Mark A</td>
<td>2010-2014</td>
<td>$87,781</td>
<td>0</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>
</tr>
<tr>
<td>Project Title</td>
<td>Researchers</td>
<td>Planned Project Duration</td>
<td>Total Monash Project Budget</td>
<td>2014 Actual Income</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
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</tr>
<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>$140,000</td>
</tr>
<tr>
<td>DP130100203 An experimentally-validated thermo-hydro-mechanical theory for waste containment lining systems</td>
<td>Bouazza, Abdelmalek; El-Zein, Abbas</td>
<td>2013-2015</td>
<td>$141,200</td>
<td>$30,000</td>
</tr>
<tr>
<td>DP140100572 Moisture Monitor: 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>$245,470</td>
</tr>
<tr>
<td>DP140103679 Forecasting drought impacts months ahead using satellite data</td>
<td>Pauwels, Valentijn RN; Tregoning, Paul; Van Dijk, Albert JMJ; Dejeu, Richard; Sheffield, Justin; Wood, Eric</td>
<td>2014-2016</td>
<td>$30,000</td>
<td>$10,000</td>
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</tbody>
</table>

Total ARC Discovery Projects $770,613

**ARC Linkage Infrastructure, Equipment and Facilities (LIEF)**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Researchers</th>
<th>Planned Project Duration</th>
<th>Total LIEF Project Budget</th>
<th>2014 Actual Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE150100058 Three dimensionally compressed and monitored Hopkinson bar</td>
<td>Zhao, Jian; Pathegama Gamage, Ranjith; Perera, Mandadige SA; Dyskin, Arcade V; Einav, Itai; Karakus, Murat; Khalili, Nasser; Leo, Chin J; Liyanapathirana, Samanthika; Ma, Guowei; Pasternak, Elena; Sanjayan, Jay G; Scheuermann, Alexander; Shen, Luming; Williams, David J; Wu, Chengqing; Xu, Chaoshui; Zhao, Gaofeng</td>
<td>2014-2015</td>
<td>$560,000</td>
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Total ARC LIEF Projects 0

**ARC Linkage**

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<tr>
<th>Project Title</th>
<th>Researchers</th>
<th>Planned Project Duration</th>
<th>Total Project Budget</th>
<th>2014 Actual Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP120100718 Sources, sinks and processes of faecal contamination in urban estuaries; a case study of the lower Yarra River Estuary</td>
<td>McCarthy, David T; Deletic, Ana; Osborne, Catherine; Grant, Stanley B</td>
<td>2012-2014</td>
<td>$881,900</td>
<td>$55,000</td>
</tr>
<tr>
<td>LP130100884 Development of advanced deterioration model for the design of stabilised pavement bases</td>
<td>Kodikara, Jayantha K; Bui, Ha H; Jitsangiam, Peerapong; Diaz, Luis; Leung, Gordon LM; McNes, Doug; Ramanujam, Jothi M</td>
<td>2013-2016</td>
<td>$276,000</td>
<td>$92,000</td>
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<tr>
<td>LP140100871 Catchment water balance and CO2 fluxes: a comparison between productive land uses</td>
<td>Daly, Edoardo; Beringer, Jason; Rudiger, Christoph; Walker, Jeffrey; Webb, John A; Camporese, Matteo; Dresel, Evan P; Morse-McNabb, Elizabeth M</td>
<td>2014-2017</td>
<td>$221,282</td>
<td>$62,788</td>
</tr>
<tr>
<td>LP120200361 Innovative tools to improve station design and management of crowds in emergency and panic conditions</td>
<td>Sarvi, Majid; Currie, Graham; Shiwakoti, Nirajan; Bandini, Stefania; Wang, Fred Y</td>
<td>2012-2015</td>
<td>$450,000</td>
<td>$150,000</td>
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<tr>
<td>Project Title</td>
<td>Researchers</td>
<td>Planned Project Duration</td>
<td>Total Monash Project Budget</td>
<td>2014 Actual Income</td>
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<td>------------------------------------------------------------------------------</td>
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<tr>
<td>Turning pile foundations into sources of renewable energy: addressing remaining geotechnical challenges</td>
<td>Bouazzia, Abdelmalek; Pathegama Gamage, Ranjith; Haberfield, Chris M; Laloui, Lyesse</td>
<td>2012-2015</td>
<td>$380,000</td>
<td>$123,000</td>
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<tr>
<td>Controlling alkali-silica reaction in concrete for road pavements and bridge using graphene oxide and dune sand</td>
<td>Duan, Wenhui; Kitipornchai, Sritawat; O'Moore, Liza M; Yang, Jie; Zhang, Jian</td>
<td>2014-2017</td>
<td>$312,500</td>
<td>$50,000</td>
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<tr>
<td>Planning and managing road transport systems for extreme events through spatial enablement</td>
<td>Sarvi, Majid; Seible, Frieder; Thompson, Russell G; Rajabifard, Abbas; Leighton, Alison; Miller-Hooks, Elise; Wall, Andrew R</td>
<td>2014-2017</td>
<td>$515,193</td>
<td>$146,398</td>
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<tr>
<td>Fatigue Strengthening of Metallic Bridges using Carbon Fibre Reinforced Polymer System</td>
<td>Zhao, Xiao L; Al-Mahaidi, Riadh SH; Hueppi, Martin J; Motavalli, Masoud; Powers, Nigel</td>
<td>2014-2017</td>
<td>$255,571</td>
<td>$40,000</td>
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<tr>
<td><strong>Total ARC Linkage Projects</strong></td>
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<td></td>
<td>$768,036</td>
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<tr>
<td>ARC Future Fellowships</td>
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<td></td>
<td>$335,370</td>
<td></td>
</tr>
<tr>
<td>A novel and theoretically consistent method for correcting systematic errors in earth observation data and earth system model results</td>
<td>Pauwels, Valentijn RN</td>
<td>2013-2017</td>
<td>$531,392</td>
<td>$156,738</td>
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<tr>
<td><strong>Total ARC Future Fellowships</strong></td>
<td></td>
<td></td>
<td>$335,370</td>
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<tr>
<td>ARC DECRA</td>
<td></td>
<td></td>
<td>$335,370</td>
<td></td>
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<tr>
<td>Free-Forming and Function-Integrated Composite Structures for Future Green Building Construction</td>
<td>Bai, Yu</td>
<td>2012-2014</td>
<td>$375,000</td>
<td>$125,000</td>
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<tr>
<td>Safe Long-term Storage of Carbon Dioxide in Coal Seams with Enhanced Methane Recovery</td>
<td>Perera, Mandadige SA</td>
<td>2013-2015</td>
<td>$374,905</td>
<td>$125,000</td>
</tr>
<tr>
<td>Interactions between plants and faecal pathogens in urban water treatment: significance of soil microbes, plant debris, root exudates and rhizosphere</td>
<td>McCarthy, David T</td>
<td>2014-2016</td>
<td>$395,220</td>
<td>$131,740</td>
</tr>
</tbody>
</table>
## Projects Table

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Researchers</th>
<th>Planned Project Duration</th>
<th>Total Monash Project Budget</th>
<th>2014 Actual Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROBING INTERACTION BETWEEN CEMENT AND NANOPARTICLES AT MICRO/ NANO SCALE</td>
<td>Zheng, Changxi</td>
<td>2014-2016</td>
<td>$395,220</td>
<td>$131,740</td>
</tr>
<tr>
<td><strong>Total ARC DECRAs</strong></td>
<td></td>
<td></td>
<td></td>
<td>$513,480</td>
</tr>
<tr>
<td>DE140101555</td>
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</tr>
<tr>
<td>Probing interaction between cement and nanoparticles at micro/nano scale</td>
<td>Zheng, Changxi</td>
<td>2014-2016</td>
<td>$395,220</td>
<td>$131,740</td>
</tr>
<tr>
<td><strong>Total ARC DECRAs</strong></td>
<td></td>
<td></td>
<td></td>
<td>$513,480</td>
</tr>
<tr>
<td>PROJECT TITLE</td>
<td>RESEARCH</td>
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<tr>
<td><strong>Project Title</strong></td>
<td><strong>Researchers</strong></td>
<td><strong>Planned Project Duration</strong></td>
<td><strong>Total Monash Project Budget</strong></td>
<td><strong>2014 Actual Income</strong></td>
</tr>
<tr>
<td><strong>DE140101555</strong></td>
<td><strong>Zheng, Changxi</strong></td>
<td><strong>2014-2016</strong></td>
<td><strong>$395,220</strong></td>
<td><strong>$131,740</strong></td>
</tr>
<tr>
<td><strong>Total ARC DECRAs</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$513,480</strong></td>
</tr>
<tr>
<td><strong>Project Title</strong></td>
<td><strong>Researchers</strong></td>
<td><strong>Planned Project Duration</strong></td>
<td><strong>Total Monash Project Budget</strong></td>
<td><strong>2014 Actual Income</strong></td>
</tr>
<tr>
<td><strong>Contract Research</strong></td>
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<td></td>
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</tr>
<tr>
<td><strong>Cities As Water Supply Catchments Program: Demonstration and Integration</strong></td>
<td>Deletic, Ana; Brown, Rebekah R; McCarthy, David T; Wong, Tony HF</td>
<td>2010-2014</td>
<td>$220,060</td>
<td>$17,495</td>
</tr>
<tr>
<td><strong>Cities As Water Supply Catchments Program: Sustainable Technologies</strong></td>
<td>Deletic, Ana; Brown, Rebekah R; McCarthy, David T; Wong, Tony HF</td>
<td>2010-2014</td>
<td>$484,990</td>
<td>$36,902</td>
</tr>
<tr>
<td><strong>Cities As Water Supply Catchments Program: Stream Ecology</strong></td>
<td>Fletcher, Timothy; Brown, Rebekah R; Deletic, Ana; Hatt, Belinda E; Wong, Tony HF</td>
<td>2010-2014</td>
<td>$233,462</td>
<td>$18,455</td>
</tr>
<tr>
<td><strong>Advanced Condition Assessment and Failure Prediction Technologies for</strong></td>
<td>Kodikara, Jayantha K; Chiu, Wing K; Haque, Asadul; Rajeev, Pathmanathan; Zhao, Xiao L</td>
<td>2011-2016</td>
<td>$4,501,515</td>
<td>$984,000</td>
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<tr>
<td><strong>Optimal Management of Critical Pipes (&quot;Critical Pipes&quot;)</strong></td>
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<tr>
<td><strong>Enhancing Melbourne Public Transport Markets</strong></td>
<td>Currie, Graham; Schmitt, Lorelei A</td>
<td>2011-2014</td>
<td>$70,000</td>
<td>$14,000</td>
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<tr>
<td><strong>Demonstrating Capability for Stormwater Harvesting in Israeli Cities</strong></td>
<td>Deletic, Ana; McCarthy, David T; Zinger, Yaron</td>
<td>2012-2015</td>
<td>$805,276</td>
<td>$335,000</td>
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<tr>
<td><strong>Soil moisture ocean salinity (SMOS) and hydrology study</strong></td>
<td>Walker, Jeffrey</td>
<td>2012-2014</td>
<td>$31,654</td>
<td>$17,410</td>
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<tr>
<td><strong>Impact of Sewer Overflows on Elster Creek</strong></td>
<td>McCarthy, David T</td>
<td>2013-2014</td>
<td>$41,400</td>
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<td><strong>Assessment of suitability of geosynthetic clay liners containing metal</strong></td>
<td>Bouazza, Abdelmalek</td>
<td>2013-2014</td>
<td>$14,000</td>
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<tr>
<td><strong>contaminated material under freeze thaw and freezing conditions in</strong></td>
<td></td>
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<tr>
<td><strong>Antarctica</strong></td>
<td></td>
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<td></td>
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<tr>
<td><strong>Improved management and reporting of unplanned rail disruptions</strong></td>
<td>Currie, Graham</td>
<td>2013-2014</td>
<td>$64,300</td>
<td>$16,300</td>
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<tr>
<td><strong>Confidential Project: 2013002650</strong></td>
<td>Pauwels, Valentijn RN</td>
<td>2013-2014</td>
<td>$36,132</td>
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<td><strong>Confidential Project: 2014001630</strong></td>
<td>Currie, Graham</td>
<td>2014</td>
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<td><strong>Clogging Potential of Alternative Filter Media in Water Sensitive</strong></td>
<td>Hatt, Belinda E</td>
<td>2014</td>
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<td><strong>Urban Design Systems</strong></td>
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<td><strong>Confidential Project: 2014002127</strong></td>
<td>Bouazza, Abdelmalek</td>
<td>2013-2014</td>
<td>$18,600</td>
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<td>Project Title</td>
<td>Researchers</td>
<td>Planned Project Duration</td>
<td>Total Monash Project Budget</td>
<td>2014 Actual Income</td>
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<tr>
<td>---------------</td>
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<tr>
<td>Safety implications of eBikes</td>
<td>Johnson, Marilyn; Rose, Geoffrey</td>
<td>2014-2015</td>
<td>$48,560</td>
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<tr>
<td>Learning to drive with bikes: identifying ways to increase safe driving practices</td>
<td>Johnson, Marilyn; Bonham, Jennifer</td>
<td>2014-2016</td>
<td>$42,400</td>
<td>$10,600</td>
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<td>Total Contract Research</td>
<td></td>
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<td>$1,703,762</td>
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<tr>
<td>Towards global water and energy balance monitoring using G-COM-W1 in the Australian Murray Darling Basin</td>
<td>Walker, Jeffrey; Beringer, Jason; Daly, Edoardo; Rudiger, Christoph</td>
<td>2012-2014</td>
<td>$255,652</td>
<td>$84,563</td>
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<tr>
<td>Space-age Hydrology: Using the &quot;Global Change Observation Mission for Water&quot; satellite</td>
<td>Walker, Jeffrey</td>
<td>2014</td>
<td>$5,900</td>
<td>$5,900</td>
</tr>
<tr>
<td>Confidential Project: 2013002741 Implementation of travel plans at new residential developments: theory, practice and prospects</td>
<td>De Gruyter, Christopher L; Rose, Geoffrey</td>
<td>2014-2016</td>
<td>$325,000</td>
<td>$121,200</td>
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<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>$163,479</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-Arroyo, Alberto; Camps, Adriano</td>
<td>2014-2015</td>
<td>$150,079</td>
<td>$79,748</td>
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<tr>
<td>Digging up the Yarra's dirty past: High resolution sediment core analysis using the ITRAX micro-XRF core scanner for identifying the water quality of historical floods in the Yarra catchment</td>
<td>Lintern, Anna</td>
<td>2014</td>
<td>$11,667</td>
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<tr>
<td>National Facility for Cyclic Testing of High-speed Rail (FCTHSR)</td>
<td>Kodikara, Jayantha K; Bouazza, Abdelmalek; Williams, David J; Arulrajah, Arul; Carter, John P; Cassidy, Mark J; Dhanasekar; Manicka; Fourie, Andries B; Gaudin, Christophe; H. Carraro, J. A; Indraratna, Buddhima N; Khabbaz, Hadi; Khalili, Nasser; Krabbenhoft, Kristian; Kwok, Kenny CS; Leo, Chin J; Meehan, Paul A; Mendis, Priyan; Nimbalkar, Sanjay S; Remennikov, Alex; Rujikiatkamjorn, Cholachat; Russell, Adrian R; Shahin, Mohamed A; Sheng, Daichao; Sloan, Scott W; Tieu, Kiet A; Uy, Brian; Wilson, John L; Grady, Norm</td>
<td>2014</td>
<td>$25,000</td>
<td>$25,000</td>
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<tr>
<td>On-line Murrumbidgee Catchment Soil Moisture Content Data to Aid Local Farmers</td>
<td>Pauwels, Valentin RN; Walker, Jeffrey</td>
<td>2014</td>
<td>$5,000</td>
<td>$5,000</td>
</tr>
</tbody>
</table>
4.2 Research activity in Centres

Institute of Transport Studies (ITS)

The research activities of ITS (Monash) continued to grow in 2014, as evidenced by more than 65 tier-one international journal and conference papers being published during the year and the attraction of over $750,000 in research funds.

ITS (Monash) has increased its role in multi-disciplinary and sustainability-related research. It has been involved in research covering areas of multimodal transport network modelling and optimisation, sustainable transport, public transport use, freeway operations and safety, pedestrian and crowd modelling, motorbike travel and bicycle travel. Reflecting the growth in the research activities, ITS (Monash) has continued to attract a large number of students to its research program (19 PhD students were conducting research in 2014).

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.


### 4.3 Research seminars

<table>
<thead>
<tr>
<th>Presenter</th>
<th>Seminar Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof Yang (National Taiwan University)</td>
<td>Vehicle-bridge interaction dynamics and applications</td>
</tr>
<tr>
<td>Emeritus Professor Herbert Huppert (Cambridge University UK)</td>
<td>Expert elicitation</td>
</tr>
<tr>
<td>Dr Sumit K Gautam (The Energy &amp; Resources Institute, Bangalore)</td>
<td>Remediation of recalcitrant compounds: Biological and chemical approaches</td>
</tr>
<tr>
<td>A/Prof Mark Diesendorf (UNSW)</td>
<td>Sustainable energy solutions for climate change</td>
</tr>
<tr>
<td>Prof Barbara Minsker (University of Illinois)</td>
<td>Sustainable and resilient urban stormwater management: Novel “Big Data” approaches to improving human and ecosystem wellbeing</td>
</tr>
<tr>
<td>Mr Samuel Rivera (University of Illinois)</td>
<td>Advancing sustainability indicators through text mining: a feasibility demonstration</td>
</tr>
<tr>
<td>Dr Stana Zivanovic (The University of Warwick)</td>
<td>Vibration serviceability assessment of footbridges</td>
</tr>
<tr>
<td>Prof Chun Hui Wang (RMIT University)</td>
<td>Nanocomposites with improved functional and structural properties</td>
</tr>
<tr>
<td>A/Prof Gianluca Cusatis (Northwestern University USA)</td>
<td>Multiscale computational models for the simulation of concrete materials and structures</td>
</tr>
<tr>
<td>Dr Xiaoming Wang (CSIRO)</td>
<td>Integrating climate adaptation into engineering solutions in response to climate changes</td>
</tr>
<tr>
<td>Mr Dai Yamashita (Arup)</td>
<td>Design and construction of the Melbourne Star</td>
</tr>
<tr>
<td>Dr Edward J Kim (NASA Goddard Space Flight Center USA)</td>
<td>An evolving approach to estimating global snow water</td>
</tr>
<tr>
<td>Mr Lian He (Peking University China)</td>
<td>Soil moisture retrieval over agricultural areas using radar remote sensing</td>
</tr>
<tr>
<td>Prof Shaliza Ibrahim (University of Malaya)</td>
<td>Highlights of research at the University of Malaya</td>
</tr>
<tr>
<td>Prof Elise Miller-Hooks (University of Maryland USA)</td>
<td>Multi-hazard resilience quantification tools for civil infrastructure systems</td>
</tr>
<tr>
<td>Prof Abid Khan (Monash University)</td>
<td>An update on Monash international strategy and approaches to working globally</td>
</tr>
<tr>
<td>Dr Wei Wu (Stanford University)</td>
<td>An experimental platform for wave propagation and its application in rock dynamics</td>
</tr>
<tr>
<td>Presenter</td>
<td>Seminar Topic</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Mr Elyas Ghafoori (Swiss Federal Institute of Technology Zurich)</td>
<td>Fatigue strengthening of metallic girders in a 120 year old railway bridge using prestressed CFRP laminates</td>
</tr>
<tr>
<td>Prof Chun’an Tang (Dalian University of Technology China)</td>
<td>Rock failure process analysis</td>
</tr>
<tr>
<td>Mr Sebastian Gebler</td>
<td>Actual evapotranspiration and precipitation measured by lysimeters: a comparison with eddy covariance and tipping bucket</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>Mr Rowan Drinkwater</td>
<td>Investigating the environmental impacts of coal seam gas in Australia</td>
</tr>
<tr>
<td>Mr Fujia Luo</td>
<td>Joining pultruded GFRP tubular components into space latticed shell structure</td>
</tr>
<tr>
<td>Prof William Young</td>
<td>Simulation of safety: a review of the state-of-the-art in road safety simulation modelling</td>
</tr>
<tr>
<td>Prof Graham Currie</td>
<td>Transport@ the London 2012 Olympic Games – the inside story</td>
</tr>
<tr>
<td>Dr Meead Saberi</td>
<td>The physics of traffic in urban networks</td>
</tr>
<tr>
<td>Dr Chunhui Li</td>
<td>Mechanisms responsible for thick mixing zones in complex coastal hydrogeological systems</td>
</tr>
<tr>
<td>Mr Zunrou Li</td>
<td>Pre-stressed grouted sleeve connection of FRP tubular members</td>
</tr>
<tr>
<td>Dr Meead Saberi</td>
<td>Direct vs. non-stop flights: understanding airline network structure</td>
</tr>
<tr>
<td>Prof Xiao-Ling Zhao</td>
<td>Outside study program (OSP) report</td>
</tr>
<tr>
<td>Dr Gavin Mudd</td>
<td>Too expensive to matter: a critical appraisal of uranium resources, mining and the coming end of nuclear power</td>
</tr>
<tr>
<td>Dr Belinda Hatt</td>
<td>Giving effective oral presentations</td>
</tr>
<tr>
<td>Prof Graham Currie</td>
<td>Melbourne public transport and the State election: needs vs progress vs promises</td>
</tr>
<tr>
<td>Prof Malek Bouazza</td>
<td>Turning building foundations into energy batteries</td>
</tr>
<tr>
<td>Mr Long Truong</td>
<td>Understanding operational effects of combinations of public transport priority measures</td>
</tr>
<tr>
<td>Mr Daniel King</td>
<td>Load transfer platform behaviour in a geosynthetic reinforced piled embankment</td>
</tr>
<tr>
<td>Mr Sina Sinaie</td>
<td>Mechanical response of steel and concrete under post-earthquake fire conditions</td>
</tr>
<tr>
<td>Ms Mahsa Mir Momeni</td>
<td>Mechanical properties of partially damaged steel and concrete materials induced by high strain rate at high temperatures</td>
</tr>
<tr>
<td>Mr Ahmed Mirza</td>
<td>A new methodology to measure transport network resilience: integrating structural reliability and transport connectivity</td>
</tr>
<tr>
<td>Ms Farhana Naznin</td>
<td>Exploring the road safety impacts of tram priority treatments</td>
</tr>
<tr>
<td>Mr Kelvin Goh</td>
<td>Exploring new methodologies and perceptions on the road safety impacts of bus priority</td>
</tr>
<tr>
<td>Mr Samuel Chuah</td>
<td>Fabrication, characterisation and modelling graphene oxide concrete composite</td>
</tr>
<tr>
<td>Ms Xiaoling Wu</td>
<td>Towards medium-resolution soil moisture retrieval from active and passive microwave observations</td>
</tr>
<tr>
<td>Mr Kanjana Siamphukdee</td>
<td>Development of the 3-D predictive ageing simulations of reinforced concrete port structures</td>
</tr>
<tr>
<td>Ms Fatemeh Javidan</td>
<td>Monotonic and cyclic behaviour of innovative long beam-column members consisting of steel plates and tubes</td>
</tr>
<tr>
<td>Mr Mohammad Nassirnia</td>
<td>Mechanical behaviour of innovative corrugated columns with or without corner tube</td>
</tr>
<tr>
<td>Mr Mustafizur Rahman</td>
<td>Anti-social behaviour and design quality</td>
</tr>
<tr>
<td>Ms Mei Sun Yee</td>
<td>Remote sensing error assessment for subsequent use in model confrontation</td>
</tr>
<tr>
<td>Mr Chris De Gruyter</td>
<td>Can travel plans reduce car use at new residential developments</td>
</tr>
<tr>
<td>Mr Ahmed Mirza, Ms Mahsa Mir Momeni, Mr Timothy Werner, Mr Alastair MacLeod</td>
<td>Departmental 3MT Thesis Competition participants</td>
</tr>
<tr>
<td>Mr Milad Haghani</td>
<td>Path-based stochastic traffic assignment: which one is the big deal; specification of the error component, model estimation or the size of choice sets</td>
</tr>
<tr>
<td>Ms Negin Foulaidi Moghaddam</td>
<td>Subsurface structural property retrieval in the Surat Basin using space-borne SAR interferometry deformation maps</td>
</tr>
<tr>
<td>Ms Sindu Satasivam</td>
<td>Fibre-reinforced polymer composite modular sandwich structures for building construction</td>
</tr>
<tr>
<td>Ms Ze Meng</td>
<td>A study of pathogen removal efficiency of constructed stormwater</td>
</tr>
<tr>
<td>Mr Xiao Yang</td>
<td>Develop space frame structure using pultruded GFRP components</td>
</tr>
<tr>
<td>Ms Shahi Islam</td>
<td>Sustainable park-and-ride network design</td>
</tr>
<tr>
<td>Ms Nomeritae Nasir</td>
<td>Modelling transition from free-surface to pressurized flow in drains with smoothed particle hydrodynamics</td>
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## RESEARCH

<table>
<thead>
<tr>
<th>Presenter</th>
<th>Seminar Topic</th>
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<tbody>
<tr>
<td>Mr Sajjad Hosseini</td>
<td>Effect of strain ageing on the mechanical properties of steel and concrete materials under static, cyclic, high-strain rate and thermal loading</td>
</tr>
<tr>
<td>Dr Shujian Chen</td>
<td>Understanding the enhancing mechanism and potential of nano particles in cement and concrete matrix</td>
</tr>
<tr>
<td>Ms Arezou Houshmand</td>
<td>Improving the condition of urban streams by redirecting coarse-grained sediments</td>
</tr>
<tr>
<td>Mr Dusan Jovanovic</td>
<td>Modelling impact of stormwater on faecal contamination of urban estuaries</td>
</tr>
<tr>
<td>Ms Anna Lintern</td>
<td>Changing the way we solve water pollution problems: using historical data to develop remediation priorities and targets</td>
</tr>
<tr>
<td>Ms Lorelei Schmitt</td>
<td>Exploring unfamiliar public transport travel: a synthesis</td>
</tr>
<tr>
<td>Mr Richard Amoh-Gyimah</td>
<td>Developing macro level safety planning models and their implementation in transport network</td>
</tr>
<tr>
<td>Mr Chris De Grutyer</td>
<td>Travel plans for new residential developments: insights from theory and practice</td>
</tr>
<tr>
<td>Ms Harsha Fowdar</td>
<td>Optimisation of biofiltration systems for treatment of high strength waters</td>
</tr>
<tr>
<td>Ms Katerina Pavkova</td>
<td>New methods exploring urban public transport congestion using Lorenz curves</td>
</tr>
</tbody>
</table>

## 4.4 Publications

Congratulations to **Prof Malek Bouazza** and **Dr Martand Singh** on receiving an Honourable Mention (runner up) for their paper titled: “Thermal conductivity of geosynthetics.” The paper has been judged to be amongst the best three papers published in Geotextiles and Geomembranes in 2013 for its very significant contribution to the geosynthetics discipline.

### 2014 Summary of Publications

<table>
<thead>
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<th></th>
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<tbody>
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<td>Journal Article</td>
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<tr>
<td>Conference Publication</td>
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<td><strong>Total</strong></td>
<td><strong>278</strong></td>
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</table>

### Journal Articles – Peer-reviewed


An, K & Lo, HK 2014, 'Ferry service network design with stochastic demand under user equilibrium flows' Transportation Research, Series B: Methodological, vol 66, pp. 70-89. DOI: 10.1016/j.trb.2013.10.008

An, Y-F, Han, L-H & Zhao, XL 2014, 'Analytical behaviour of eccentrically loaded concrete-encased CFST box columns' Magazine of Concrete Research, vol 66, no. 15, pp. 789-808. DOI: 10.1680/macr.13.00330

RESEARCH
Delbosc, AR & Currie, G 2014, 'Impact of attitudes and life stage on decline in rates of driver's license acquisition by young people in Melbourne, Australia' Transportation Research Record-Series, vol 2452, pp. 62-70. DOI: 10.3141/2452-08
Delbosc, AR & Currie, G 2014, 'Using discussion forums to explore attitudes toward cars and licensing among young Australians' Transport Policy, vol 31, pp. 27-34. DOI: 10.1016/j.tranpol.2013.11.005
Dias, C, Ejtemai, O, Sarvi, M & Shiwakoti, N 2014, 'Pedestrian walking characteristics through angled corridors: an experimental study' Transportation Research Record-Series, vol 2421, pp. 41-50. DOI: 10.3141/2421-05


Hamel, P & Fletcher, TD 2014, 'Modelling the impact of stormwater source control infiltration techniques on catchment baseflow' Hydrological Processes, vol 28, no. 24, pp. 5817-5831. DOI: 10.1002/hyp.10069
RESEARCH


Heidarpour, A, Tofts, NS, Habibnejad Korayem, A, Zhao, XL & Hutchinson, C 2014, 'Mechanical properties of very high strength steel at elevated temperatures' Fire Safety Journal, vol 64, pp. 27-35. DOI: 10.1016/j.firesaf.2014.01.006


Ji, J & Chan, CL 2014, 'Long embankment failure accounting for longitudinal spatial variation - A probabilistic study' Computers and Geotechnics, vol 61, pp. 50-56. DOI: 10.1016/j.compgeo.2014.05.001


RESEARCH


Kandra, HS, McCarthy, DT, Fletcher, TD & Deletic, A 2014, 'Assessment of clogging phenomena in granular filter media used for stormwater treatment' Journal of Hydrology, vol 512, pp. 518-527. DOI: 10.1016/j.jhydrol.2014.03.009


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RESEARCH


Mohamed Careem, MN, Pathegama Gamage, R & Sanjayan, JG 2014, 'Effect of different mix compositions on apparent carbon dioxide (CO₂) permeability of geopolymer: Suitability as well cement for CO₂ sequestration wells' Applied Energy, vol 114, pp. 939-948. DOI: 10.1016/j.apenergy.2013.05.050


Mudd, GM, YeIlishteyt, M, Reck, BK & Graedel, TE 2014, 'Quantifying the recoverable resources of companion metals: A preliminary study of Australian mineral resources' Resources: Natural Resources and Management, vol 3, no. 4, pp. 657-671. DOI: 10.3390/resources3040657


Pallewela Liyanage, PW, Pathegama Gamage, R & Viete, DR 2014, 'Specimen slenderness and the influence of joint orientation on the uniaxial compressive strength of singly jointed rock' Journal of Materials in Civil Engineering, vol 26, no. 6, pp. 1-4. DOI: 10.1061/(ASCE)MT.1943-5533.0000907


Payne, EGI, Pham, T, Cook, P, Fletcher, T, Hatt, BE & Deletic, A 2014, 'Biofilter design for effective nitrogen removal from stormwater - influence of plant species, inflow hydrology and use of a saturated zone' Water Science and Technology, vol 69, no. 6, pp. 1312-1319. DOI: 10.2166/wst.2014.013


RESEARCH
Pender, BM, Currie, G, Delbosc, AR & Shiwakoti, N 2014, 'International study of current and potential social media applications in unplanned passenger rail disruptions' Transportation Research Record-Series, vol 2419, pp. 118-127. DOI: 10.3141/2419-12
Poustie, MS, Brown, RR & Deletic, A 2014, 'Receptivity to sustainable urban water management in the South West Pacific' Journal of Water and Climate Change, vol 5, no. 2, pp. 244-258. DOI: 10.2166/wcc.2013.242
Poustie, MS & Deletic, A 2014, 'Modeling integrated urban water systems in developing countries: case study of Port Vila, Vanuatu' Ambio, vol 43, no. 8, pp. 1093-1111. DOI: 10.1007/s13280-014-0538-3
Schmitt, LA, Harris, S & Currie, G 2014, 'Adapting an online transit journey planner into a low-cost travel survey tool' Transportation Research Record-Series, vol 2405, pp. 8-15. DOI: 10.3141/2405-02
RESEARCH


Treacy, MA, Bruhwiler, E & Caprani, CC 2014, 'Monitoring of traffic action local effects in highway bridge deck slabs and the influence of measurement duration on extreme value estimates' Structure and Infrastructure Engineering, vol 10, no. 12, pp. 1555-1572. DOI: 10.1080/15732479.2013.835327


Urich, CH & Rauch, W 2014, 'Modelling the urban water cycle as an integrated part of the city: A review' Water Science and Technology, vol 70, no. 11, pp. 1857-1872. DOI: 10.2166/wst.2014.363


Wasantha, PLP & Ranjith, PG 2014, 'Water-weakening behavior of Hawkesbury sandstone in brittle regime' Engineering Geology, vol 178, pp. 91-101. DOI: 10.1016/j.enggeo.2014.05.015


RESEARCH


Yellishetty, M & Mudd, GM 2014, 'Substance flow analysis of steel and long term sustainability of iron ore resources in Australia, China, Brazil and India' Journal of Cleaner Production, vol 84, pp. 400-410. DOI: 10.1016/j.jclepro.2014.02.046


Zhao, XL, Li, W & Stanbrook, JJ 2014, 'A framework for the integration of performance based design and life cycle assessment to design sustainable structures' Advances in Structural Engineering, vol 17, no. 4, pp. 461-470. DOI: 10.1260/1369-4332.17.4.461


Zockaie, A, Mahmassani, H, Saberi Kalaeef, M & Verbas, O 2014, 'Dynamics of urban network traffic flow during a large-scale evacuation' Transportation Research Record-Series, vol 2422, no. 1, pp. 21-33. DOI: 10.3141/2422-03

Conference Papers – Peer-reviewed


Ao, Y, Kodikara, JK & Robert, DJ 2014, Cyclic direct simple shear test on soft clay at low normal stress - As applicable to offshore pipeline axial walking problems. in Proceedings: The 8th Australasian Congress on Applied Mechanics 2014 (ACAM 8). Engineers Australia, Barton ACT Australia, pp. 1-9, Australasian Congress on Applied Mechanics, Barton ACT Australia, 1 January.


Research


Chen, X, Liu, Z, Islam, ST & Deng, W 2014, Park-and-ride network design in a bi-modal transport network to prompt public transport mode share. in M Beer, S-K Au & JW Hall (eds), Vulnerability, Uncertainty, and Risk: Quantification, Mitigation, and Management. American Society of Civil Engineers, Reston VA USA, pp. 2282-2291, International Conference on Vulnerability and Risk Analysis and Management (ICVRAM), Reston VA USA, 1 January. DOI: 10.1061/9780784413609.229


RESEARCH


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4.5 Postgraduate research projects

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<td>Rowan Drinkwater</td>
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<td>Fatemeh Javidan</td>
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<td>Feng Lin</td>
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<td>Fujia Luo</td>
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<tr>
<td>Bo Zu</td>
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<td>Dr Wenhui Duan</td>
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<td>Asli Acikel</td>
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<td>Ehsan Ahmadi</td>
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<td>Farhana Ahmed</td>
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<td>Sajjad Hosseini</td>
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<td>Negin Moghaddam</td>
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--- | --- | ---
Kunal Singh (IITB/Monash) | Investigation of permeability of fractured steep and deep rock slopes with high ground water pressures | Prof Ranjith PG/Prof T N Singh
Nikhil Sirdesai (IITB/Monash) | Numerical and experimental study of rocks under high temperature conditions: underground coal gasification | Prof Ranjith PG/Prof T N Singh
Casey Slaughter | Impact of mine fires on escape and techniques for improvement through mine fire simulation and training | Prof Jerry Tien
Qianyi Song | Behaviour of I-beam to box column connections under post-earthquake fire | Dr Amin Heidarpour/ Prof Xiao-Ling Zhao
Arooran Sounthararajah (IITB/Monash) | A study of fatigue damage of cement stabilised granular materials for pavement design | Prof Jayantha Kodikara
Anudeep Sure (IITB/Monash) | Distributed hydrological modelling of Murray Darling Basin through assimilation of remotely sensed datasets | Dr Valentijn Pauwels/ Dr R Ramsankaran
Long Truong | Understanding operational effects of combinations of public transport priority measures | A/Prof Majid Sarvi
Nadeesha Ukswattage | Study of the accelerated carbonation of coal fly ash for carbon dioxide sequestration and soil amendment | Prof Ranjith PG
Michael Von’t Steen | Determination of design stiffness for soft rock and hard soil based on small strain stiffness | Prof Malek Bouazza
Yikuan Wang | Development of multi-functional intelligent fibre reinforced polymer (FRP) composite systems for Civil infrastructure | Dr Wenhui Duan
Darshana Weerasinghe | Coupled thermos-hydro-mechanical modelling for solving geo-infrastructure problems in fractured soil | Prof Jayantha Kodikara
Zhehan Weng | A life cycle impact assessment of rare earth’s mining & use | Dr Gavin Mudd
Timothy Werner | Wealth from waste: modelling the potential of Australia’s future metal recycling systems | Dr Gavin Mudd
Ashley Wright | Improving flood forecasting skill using remote sensing data | Dr Valentijn Pauwels
Xiaoling Wu | Towards medium-resolution soil moisture retrieval from active and passive microwave observations | Prof Jeff Walker
Lei Xie | Fibre reinforced polymer sandwich structures for modular wall assembly | Dr Yu Bai
Xiao Yang | Develop planar and space frame structures using pultruded GFRP components | Dr Yu Bai
Yan Yang | The disadvantaged group: research on improving the public transport service rate | Prof Graham Currie
Mei Sun Yee | Remote sensing error assessment for subsequent use in model confrontation | Prof Jeff Walker
Chengpeng Zhang | Effects of pre-vibration on material properties of rockfills | Prof Ranjith PG
Decheng Zhang | Impact of coal-fluid interaction on the effectiveness of fracturing during coal seam gas drainage | Prof Ranjith PG
Kefeng Zhang | Stormwater treatment and control | Prof Ana Deletic
Lu Zhang | Performance of geomembranes in extreme conditions | Prof Malek Bouazza
Qianhui Zhang | Fabrication and characterization of epoxy nanocomposites towards retrofitting steel/concrete structure | Dr Wenhui Duan
Zhujing Zhang | Assessment of beam-to-column connections for pultruded FRP structures | Dr Yu Bai
Yanlong Zheng | TBM tunnelling in complex grounds at great depth: rock breaking mechanism and performance prediction | Prof Jian Zhao

#### 4.6 Theses accepted for Higher Degree in 2014

<table>
<thead>
<tr>
<th>Candidate Name</th>
<th>Thesis Topic</th>
<th>Supervisor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenan Feng</td>
<td>Damping and strain rate effect of geopolymer</td>
<td>Dr Yu Bai</td>
</tr>
<tr>
<td>Mengzi Sun</td>
<td>Molecular dynamics simulations on enhancement of mechanical properties of clay using carbon nanotubes</td>
<td>Prof Wenhui Duan</td>
</tr>
</tbody>
</table>
### 4.7 Postgraduate Student Awards

Dr Wasantha Liyanage was awarded the Vice Chancellor’s “Mollie Holman Medal” for Doctoral Excellence for his thesis titled “On the Coupled Hydro-mechanical Behaviour of Jointed Rock Masses: An Application to Mine Slope Stability”. Wasantha also won the Kenneth Hunt Award for the Best PhD thesis within the Faculty of Engineering.

At our Annual Dinner in June, Navinda de Silva won the 2014 award for Best PhD Thesis, Kai Gong won the Best MEngSc (Research) award and Cintia Dotto won the Eric Laurenson Medal.

Tim Werner and Li Chik were awarded the Noel Murray Scholarship in 2014.

Department Postgraduate **Best Publication** Awards:
Charitha Dias (Transport Group)
Sindu Satasivam (Structures Group)
Nadeesha Ukwattage (Geo Group)
Xiaoling Wu (Water Group)

Postgraduate Conference **Best Presentation** prize recipients:

| Chui Fern Yong | Could porous pavements be part of the urban water solution? | Prof Ana Deletic |
| Peter Marcus Bach | UrbanBEATS: a virtual urban water system tool for exploring strategic planning scenarios | Dr David McCarthy, Prof Ana Deletic |
| Hithamillage Ranmalee Sajeewanie Bandara | Development of a soil hydraulic parameter estimator for geotechnical purposes | Prof Jeff Walker, Prof Robert Gurney |
| Mohamed Nasvi Mohamed Careem | Geopolymer as well cement for geological sequestration of carbon dioxide | Prof Ranjith PG, Dr Asadul Haque |
| Derek Chun Chuen Chan | A study of pipe-soil climate interaction of buried water and gas pipes | Prof J Kodikara, Prof J Cull, Prof M Bouazza |
| Kira Kankani Gayani Inoka Chandrasena | Faecal microorganism removal in stormwater biofilters | Dr David McCarthy, Dr David McCarthy |
| Will Darlington | The effect of scale and defect planes on the failure process and strength of rock with applications in open pit mining | Prof Ranjith PG, Prof Jayantha Kodikara, Dr Xavier Choi |
| Kelvin Chun Keong Goh | Exploring new methodologies and perspectives on the road safety impacts of bus priority | Prof Graham Currie, Dr David Logan, A/Prof Majid Sarvi |
| Md Shahidul Islam | Strength and mineralogical behaviour of lime-GCBS-treated acid sulphate soils | Dr Asadul Haque, Prof Ranjith PG |
| Harpreet Singh Kandra | Clogging of stormwater filters with high filtration rates | Prof Ana Deletic, Dr David McCarthy |
| Asghar Habibnejad Korayem | Fabrication and characterisation of carbon nanotube reinforced epoxy composites and their application in CFRP-steel double strap joints as structural adhesives. | Dr Wenhui Duan, Prof Xiao-Ling Zhao, Prof G P Simon |
| Piyal Wasantha Pallewela Liyanage | On the coupled hydro-mechanical behaviour of jointed rock masses: an application to mine slope stability | Prof Ranjith PG, A/Prof Malek Bouazza, Dr Asadul Haque, Prof Jayantha Kodikara |
| Emily Georgiana Irene Payne | The influence of plant species and water dynamics on nitrogen removal within stormwater biofilters | Dr Belinda Hatt, Prof Tim Fletcher, A/Prof Perran Cook |
| Brendan Pender | Unplanned urban passenger rail disruption – new methods and perspectives on bus bridging | Prof Graham Currie, Dr Alexa Delbosc, Dr Nirajan Shiwakoti |
| Benjamin Michael Shannon | Fracture propagation of cohesive soils under tensile loading and desiccation | Prof Ranjith PG, Prof Jayantha Kodikara |
| Nan Ye | Mixed pixel retrieval of soil moisture from L-band passive microwave observations | Prof Jeff Walker, Dr Dongryeoel Ryu, Prof Robert Gurney |
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1st Prize: Christopher De Gruyter
2nd Prize: Sina Sinaie
3rd Prize: Nomeritae Nasir

Mahsa Mir Momeni won first prize at both the Department and Faculty 3MT (three-minute thesis) competition with her presentation titled “Structural resilience against terrorist destruction”. Mahsa also won the People’s Choice award at Department level and second place at the University 3MT competition. Congratulations to Kai Gong who was accepted into a PhD program at Princeton in 2014. Well done Kai! Well done to Shi Shao on winning a gold medal at the University Games for the sport of sabre (fencing).

2014 Monash graduates who were awarded the degree of Doctor of Philosophy at the May ceremony included:
Front row, left to right: Dr Emily Payne, Dr Asghar Habibnejad Korayem, Dr Matthew Burns, Dr Ben Shannon, Dr Wasantha Liyanage and Dr Ranmalee Bandara.
Back row, left to right: Dr Edo Daly (supervisor), Dr Gavin Mudd (supervisor), Dr Val Pauwels (supervisor), Prof Ranjith PG (supervisor), Prof Geoff Rose (supervisor), Prof Jeff Walker (Head), Prof Jayantha Kodikara (supervisor), Dr Chris Rudiger (supervisor) and Dr Belinda Hatt (supervisor).

2014 Monash graduates who were awarded the degree of Doctor of Philosophy at the October graduation ceremony included:
Left to right: Dr Harpreet Kandra, Prof Jeff Walker (Head), Dr Kayvan Aghabayk, Dr Gavin Mudd (supervisor), Dr Derek Chan, Prof Ana Deletic (supervisor), Dr Alexa Delbosc, Dr Gayani Chandrasena, Dr David McCarthy (supervisor), Prof Graham Currie (supervisor) and Dr Pater Bach.

4.8 Postgraduate Students who graduated in 2014

Graduate Diploma in Infrastructure Engineering and Management
Matthew Wagner
Ross Douglas Macklin

Graduate Diploma in Transport & Traffic
George Cilliers
Udi Horowitz
Robert McMurphy

Master of Engineering Science (Research)
Alice Niculescu

Master of Infrastructure Engineering and Management
Emmanuel Thomas Mullens
Emmanuel Shachoongo Kanguma
Pinnawala Gedara Muditha Chamara Ariyarathna
Nishendra Attygalla
Mohamed Sherif Ghatwari

Timothy Pratheep Sinnappu
Mubwendarikwa Manwa
Anil Dhakal
Prabaharan Sathithyamoorthy
Sandeepani Manjula Kodituwakku
Viktor Peter Brenners
Daniel Joseph Meade
Dev Ananth Krishnasamy
Syarief Bakar
Kandeeban Balasingham
Ishraq Kammouna
Bimsara Yogitha Bandara Galpotthage
Dave O’neal Scantlebury
Roshanak Shahshahani
Mark Jerome James Colegate
Suresan Subramaniam
Mohammedsani Abdelkader Jehar
Paul Ian Edwards
Master of Traffic
Henry Lambie Clark
Sanjeeve Anthony Amindra Jayasuriya
Anthony Samuel Allan Fichera
Bei Stella Qu
Roberto Di Federico
Ben Mitchell
Brayden John Heetel Capper
Mark Benjamin Petrusma

Master of Transport
Melinda Jayne Tickle
Dajia Cai
Christopher Dominic Zito
Hannah Jane Elizabeth Ruprecht
Roshan De Silva
Badri K Karki
Stephen Paul O'Hern
Vidhiya Mahendran
Peter Gerard Kelly
Antony Lewis Johnstone
Benjamin Edward Caspani
Graham Alan Horner
Jennifer Joy Alton
Mathew Peter Brooks
Trent Jonathan Ekanayake
David James Hayward
Nelson Kwame Dzadey
Zuraidi Bin Mohamed Saifollah
Suzanne Hendren
Campbell Robert Marsden
4.9 International Programs

Prof Walker and Prof Wang (Associate Dean International) visited Harbin Institute of Technology, Harbin China, to promote the Master of Advanced Engineering and to explore possible collaboration.

South East University (Suzhou)
Staff and student orientation for the new Southeast University - Monash University Joint Graduate School in Suzhou took place in February 2014.

The first graduation of students from the Southeast University-Monash University Joint Graduate School (Suzhou) in China was recently attended by senior staff from both institutions. Monash President and Vice-Chancellor, Professor Ed Byrne and Southeast University President and Deputy Chancellor, Professor Yi Hong were present for the two graduation ceremonies on 27 June. The ceremonies took place at the Joint Graduate School building in Suzhou (near Shanghai) and marked the first cohort of students to have completed the two-year double masters program in IT. Masters degrees were awarded by both parent institutions to the 25 students who undertook Masters in Computer Technology (SEU) and Information Technology Systems (Monash).

The Southeast University-Monash University Joint Graduate School (Suzhou) was established in 2012. The School has already enrolled more than 200 students and will progressively build to a capacity of around 1400.

Monash is the first Australian university to be granted a licence to operate in China and the first
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foreign university granted a licence for the establishment of a graduate school in China. The 60,000-square-metre building that houses the School has cutting-edge facilities to support education and future research activities. A number of Masters courses are now running at the new campus, and it’s anticipated that a broad range of Masters and PhD programs in disciplines from economics to engineering will be offered as the partnership between the two universities evolves and strengthens.
The School is complemented by a Joint Research Institute established to conduct multi-disciplinary research projects. The emphasis will be on areas of strategic importance to industry in Australia and China, including nanotechnology, bioinformatics, water, energy and light metals, which reflect the two universities’ world-recognised strengths in engineering, health and science.
5. **SERVICE**

5.1 **Contribution to Professional Organisations**

Adam, Con (Dr)
Member, ISO Standard TC 165 Committee
Member, Standard Australia TM004 Committee

Bouazza, Malek (Prof)
Fellow, Institute of Engineers Australia
Chair, Organising Committee 7th International Congress on Environmental Geotechnics, Melbourne, Nov. 2014
Chair, ISSMGE TC 215 Environmental Geotechnics
President ACIGS
Honorary Chair Asian Regional Committee of International Geosynthetics Society
ASTM Committee on Geosynthetics
Australian Standard C20 on Geosynthetics
Vic chapter of Australian Geomechanics Society

Bui, Ha (Dr)
Organising Committee, 3rd Japan/Vietnam Joint Symposium on Geohazards and Environmental Issues

Caprani, Colin (Dr)
Membership and Qualifications Committee, Institution of Structural Engineers
Member, Australian Network of Structural Health Monitoring
MS organiser: “Bridge Loading – Measurement and Modelling”, IABMAS 2014, Shanghai
MS organiser: “Vulnerability Modeling and Risk Assessment of Bridges Subjected to Multiple Threats” IABMAs 2014, Shanghai

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

Collins, Frank (A/Prof)
Victorian Committee Member, Concrete Institute of Australia (Past President)
Project Expert Panel Member of the “Implication of Climate Change Impact on Concrete Infrastructure” for Dep’t of Climate Change
Member, American Concrete Institute (ACI) Committees: 222 Corrosion of Metals in Concrete; 217 Mass Concrete; 365 Service Life Prediction
Member, RILEM International Committee TC-217-PRE Progress of Recycling in the Built Environment
Member, Concrete Institute of Australia Concrete Durability Committee

Currie, Graham (Prof)
Vice chair, US Transportation Research Board – Committee AP075 Light Rail Transit Systems
Chair, US Transportation Research Board – Subcommittee on ‘International LRT Developments’ AP075 (3)
Member, US Transportation Research Board – Committee AP050 Bus Transit Systems
Member, US Transportation Research Board – Committee AP025 Public Transportation Planning and Development
Member, VicRoads Roads Based Public Transport Advisory Council

Delbosc, Alexa (Dr)
Member, AITPM
Certified Research Associate, Mineta Transportation Institute

Deletic, Ana (Prof)
Director of Monash Water for Liveability (MW4L)
International Expert Advisor, Pennine Water Group (Sheffield and Bradford Universities), EPSRC (UK) platform grant centre.
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Urban Drainage Systems as Key Infrastructures in Cities & Towns – a Serbian Joint National Project.
Deputy Chair of Water Forum Committee (effective January 2014)
Australian Academy of Technological Sciences & Engineering (ATSE) and ATSE Governance Review Committee, Melbourne

Duan, WenHui (Dr)
Member of organising committee for Concrete 2015 Melbourne

Johnson, Marilyn (Dr)
Member, Amy Gillett Foundation Research and Policy Committee
Member, Australian Cycling Conference Reference Group

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

Lamborn, Julia (Prof)
FIEAust CPEng EngExec NER APEC Eng IntPE

Liu, Terry (Dr)
Member, Monash Institute of Graduate Research (MIGR), Monash University, (Feb 2013- Feb 2018)

Lu, Ye (Dr)
Member, Australian Network of Structural Health Monitoring

McCarthy, David (Dr)
Secretary of International Working Group on Data and Models (under JCUD of IWA/IAHR)

Mudd, Gavin (Dr)
Member, Alligator Rivers Region Technical Committee (ARRTC) Darwin
Scientific Advisory Group, International Congress on Environmental Geotechnics (Melbourne, November 2014)

Monerris, Alessandra (Dr)
Co-chair, Group I – Observational data, OzEWEX project.

Pauwels, Valentijn (Dr)

Rose, Geoff (Prof)
Member, US Transportation Research Board – Committee ABE50 Travel Demand Management
Member, US Transportation Research Board – University Representative
Member, US Transportation Research Board Joint Subcommittee on Emerging Vehicles and Personal Transportation
Fellow, Institute of Engineers, Australia
Australasian Transport Research Forum National Steering Committee
International Travel Survey Methods Conference, Local Organising Committee 2011-2014
World Conference on Transport Research, Scientific Committee

Rüdiger, Christoph (Dr)
Invited Member, Writing Team, GEOSS Water Strategy Report – Soil Moisture section, since 2012.
Invited Member, AGU Large Field Campaigns committee.
Co-chair, Data Assimilation Working Group, OzEWEX project.
Member OzEWEX Working groups (Data & DA)

Sarvi, Majid (Dr)
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Member, US Transportation Research Board – Committee AHB45 Traffic flow Theory
Member, US Transportation Research Board – Committee ADB30 Transportation network modelling
Member, US Transportation Research Board – Committee AHB45 Emergency and evacuation ANB80T
Member, US Transportation Research Board – Committee AHB45 Vehicle user characteristics AND10
Chair, US Transportation Research Board – Crowd dynamic modelling and simulation subcommittee

Shiwakoti, Nirajan (Dr)
Member, Institute of Engineers, Australia
Member, US Transportation Research Board - Committee on Transit Capacity and Quality of Service (AP015)
(April 2013- April 2016)
Member, Monash Institute of Graduate Research (MIGR), Monash University, (July 2012- July 2017)
Faculty advisor, ITEANZ student Chapter, Monash

Thompson, Russell (Dr)
Member, Freight Committee, European Transport Conference

Walker, Jeff (Prof)
GCOM-W Science Team Member
SMOS Calibration Validation Team Member
SMAP Science Definition Team Member
SMAP Science Team Member
GEWEX (Global Energy and Water Cycle Experiment) Hydroclimatology Panel Invited Member
AGU (American Geophysical Union) Experiments Committee Invited Member
Member OzEWEX Working groups x 3

Wong, Man-Bui Bill (A/Prof)
Chair of IEAust Structural Branch Committee, Victoria
Member Board of Engineering, Engineers Australia, Victoria Division
Chair 8th Inter-University Invitational Civil Engineering Competition, Monash University July 2014.

Young, William (Prof)
Fellow, Chartered Institute of Logistics and Transport, UK
Fellow, Institute of Transportation Engineers, Australia and NZ
Fellow, Institute of Engineers, Australia
Member, Committee CE-001 – Australian Standards Association AS/NZS 2890.1-6, Parking facilities

Zhao, Xiao-Ling (Prof)
Chairman, IIW Sub-commission XV-E on Tubular Structures
Chairman, IIFC International Institute for FRP in Construction] working group on FRP-strengthened metallic structures

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

5.2 Editorial Services

Adam, Con
Member, Editorial Board, FWPA newsletter, “Design of glulam based on lamination grades and mill shorts”
Commercial video publication sponsored by the Timber Industry, promoting Monash University interest in timber research, and elaborating on the topic of “Racking Capacity of Walls to Resist Wind Forces

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
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Editorial Board Member, Geotextiles and Geomembranes

Bui, Ha (Dr)
Editorial Board Member, Asian Pacific Journal on Computational Engineering

Currie, Graham (Prof)
Associate Editor, Transportation
Member, Editorial board, Road and Transport Research Journal

Daly, Edoardo (Dr)
Editorial Board Member, Advances in Water Resources
Associate Editor, Hydrological Processes

Duan, WenHui (Dr)
Member, Editorial Board, IES Journal Part A: Civil & Structural Engineering

Kodikara, Jayantha (Prof)
Associate Editor, Canadian Geotechnical Journal
Associate Editor, Journal Environmental Geotechnics

Liu, Zhiyuan (Terry) (Dr)
Editorial Board, International Journal of Transportation
Editorial board member, International Journal on Civil Engineering & Urban Planning

Pauwels, Valentijn (Dr)
Associate Editor, Water Resources Research
Review Editor, Frontiers in Hydrosphere

Ranjith, PG (Prof)
Assistant Editor, Journal of Unconventional oil and gas resources
Editorial board member of Rock Mechanics and rock engineering
Editorial board member of Engineering Geology

Rose, Geoff (Prof)
Member, Editorial Advisory Board, ICE Transport Journal, Institution of Civil Engineers (UK)
Member, Editorial Board, IET Intelligent Transportation Systems

Rüdiger, Christoph (Dr)
Editorial Board and Associate Editor (Book), Remote Sensing of the Terrestrial Water Cycle, AGU Press

Sarvi, Majid (Dr)
Member, Editorial board, Transportation research part C
Member, Associate Editorial, Transportmetrica B
Member, Editorial board, Journal of advanced transportation
Member, Editorial board, Journal of Transportation letters
Member, Editorial board, Journal of intelligent transportation systems

Shiwakoti, Nirajan (Dr)
Associate editor, International Journal of Industrial Engineering and Management Science

Thompson, Russell (Dr)
Guest editor, Procedia - Social and Behavioral Sciences (Thompson)
Associate Editor, Asian Transportation Research Society

Walker, Jeff (Prof)
Guest Editor, Journal of Hydrometeorology

Wong, Bill (A/Prof)
Engineering Structures, Journal of Constructional Steel Research, APFIS conference
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Young, William (Prof)
Member, Editorial Advisory Board, Institution of Civil Engineers (UK)

Zhao, Xiao-Ling (Prof)
Member, Editorial Board, Advanced Steel Construction
Member, Editorial Board, International Journal of Structural Stability and Dynamics
Member, Editorial Board, Thin-Walled Structures
5.3 **External Review of PhD Theses and MEngSc (Research)**

Deletic, Ana (Prof)
Reviewer & Examiner, PhD Thesis, University of Newcastle (UK)

5.4 **Services to Expert Bodies, Expert Advice & Media Interviews**

Camporese, Matteo (Dr)
Proposal review for: Agence Nationale de la Recherche (France), MIUR (Ministero dell’Istruzione, dell’Università e della Ricerca, Italy).

Deletic, Ana (Prof)
Media interview with newspaper journalist Greg Foyster via telephone / skype re. Cities as Water Supply Catchments, Monday 17th February 2014
By invitation, interview (filmed) with student Hanadi Hoblos of Marketing & Advocacy, SDSN Youth, for a short film on Sustainability - United Nations, Wednesday 14th May 2014.

Pauwels, Valentijn (Dr)
Proposal reviewer for Science and Technology Foundation, The Netherlands

Rüdiger, Christoph (Dr)
Proposal reviewer for Romanian Ministry of Education

5.5 **External Seminars, Workshops and Special Presentations**

Deletic, Ana (Prof)
Workshop, Zero Additional Maintenance WSUD - Development of Trial Installations, City of Manningham, 7th February 2014, East Doncaster, Melbourne.
Workshop, United Nations – Sustainable Development Goals (UN-SDGs), Monash Sustainability Institute, 19th February 2014.
ATSE Water Forum Leadership meeting, ATSE headquarters, Bowen Crescent, Melbourne, 3rd March 2014.
SouthEast Water, DAnCE4Water, D1.1. (group presentation), Heatherton, Melbourne, 28th March 2014.
CRC Industry Partner Workshop, Coogee, Sydney, 2nd April –3rd April 2014.
Joint Monash University & Ben-Gurion University of the Negev (Monash-Ben-Gurion) Seed Fund functions from 28th April –2nd May.
Future Water Workshop, EPA Vic, head office, 200 Victoria St, Carlton, 5th May 2014.
Social Development Goals - United Nations Workshop (SDG-UN) hosted by the Monash Sustainability Institute, Auditorium, NAB building, Docklands, 19th- 20th May 2014.
WWCM in Practice, Water for Liveability, Office of Living Victoria, 21st May 2014.
CRC for Water Sensitive Cities – Celebrating the transition to water sensitive cities, Yarra Room, Podium Level, The Langham, 1 Southgate Ave, Southbank, 15th August 2014.
CRC for Water Sensitive Cities Rain Gardens Workshop, Monash Law Chambers, 555 Lonsdale St, Melbourne, 3rd September 2014.
CRC Research Workshop, Arts Centre, 20th October 2014.
Presentations with CRC for Water Sensitive Cities at Southeast University – Monash Joint Research Institute, Suzhou and Nanjing, China, 23-25th November 2014.
Presentation to Indonesian delegation at the ATSE (AGM, Forum & New Fellow Seminars etc), The Langham Hotel, Southbank, Melbourne, 28th November 2014.
Hatt, Belinda (Dr)
Workshop, Developing vegetation selection guidelines for biofilters in south-west Western Australia, Department of Water, February 20th 2014, Canning River Eco Education Centre, Perth.

5.6 Conference Attendance

Daly, Edoardo (Dr)
International Conference on Computational Methods in Water Resources (CMWR 2014), Stuttgart, 10-13 June, 2014

Deletic, Ana (Prof)
11th International Water Association (IWA) Leading Edge conference on Water and Waste Water Technologies, Yas Island, Abu Dhabi, United Arab Emirates, Tuesday 28th-29th May 2014.
5th Water Research Horizon Conference, Botanical Garden / Museum, Berlin, Germany, Tuesday 17th- Wednesday 18th June 2014.
13th International Conference on Urban Water Drainage (ICUD), Borneo Convention Centre, Kuching, Sarawak, Malaysia, Sunday 7th – Friday 12th September 2014.

Hatt, Belinda (Dr)
Water Sensitive Cities Conference, Arts Centre, Melbourne, 21-23 October 2014

Henry, Rebekah (Dr)

Pauwels, Valentijn (Dr)

Rüdiger, Christoph (Dr)

Bui, Ha (Dr)
Invited talk on Smoothed Particle Hydrodynamics in Environmental Engineering and Geosciences organised by the Federal Waterways Engineering and Research Institute (BAW) and Ruhr University Bochum
Ranjith PG (Prof)
Invited talk on Coal Seam Gas and Co2 sequestration: University of Science Technology Beijing, China

5.7 Administration

Departmental

Bai, Y., Director of International Affairs
Bouazza, M., Final Year Representative
Bui, H., Timetable officer (Semester 2), Open Day committee
Caprani, C., Deputy Director of Teaching
Collins, F., Head of Structures Group, BE/BArch coordinator
Currie, G., Director of Research
Daly, E., Director of Research Training, Research Training Committee
Deletic, A., Deputy Head of Water Group, Director of Monash Water for Liveability
Duan, W.H., OHS Committee, Library representative
Haque, A., Director of Teaching, Program Leader Infrastructure Eng & Management, Education Committee, Timetable officer (Semester 1)
Hatt, B., Combined Degree representative (Clayton)
Heidarpoor, A., Deputy Head of Structures Group, Level 2 representative
Kodikara, J., Deputy Head of Department, Publications Officer
Lu, Y., Level 3 Representative, website editor
McCarthy, D., Education Committee
Mudd, G M, Course Director Bachelor of Environmental Engineering
Pauwels, V., Head of Water Group, Theme coordinator
PG Ranjith, Head of Geomechanics Group,
Rose, G., Program Leader Transport and Traffic course
Rüdiger, C., Deputy Director Research Training; Theme co-ordinator; Workload Officer
Sabeeri, M., Deputy Head of Transport Group
Sarvi, M., Director of Institute of Transport, Head of Transport Group, Deputy Director of Research, Open Day Department Representative
Shiwakoti, N., Open day committee
Tien, J., Head of Mining Group
Walker, J., Head of Department, Management Committee Chair, OHS Committee Chair, Industry Advisory Committee member
Wong, M.B., Level 1 Representative, Exam Officer, Engineering Committee Representative, BTech (Infrastructure) Director
Yellishetty, M., Deputy Head of Mining Group
Young, W., Alumni Relations

Faculty

Bouazza, M., Academic Discipline Panel
Bui, H., Equity & Diversity Committee
Daly, E., Engineering Research Training Committee
Deletic, A., Engineering Research Committee, Promotions Committee, Monash Research Committee, Faculty Executive Committee, External Relations Committee
Haque, A., Master of Engineering Working Group (coursework)
Kodikara, J., Senior Lecturer Promotions Committee
McCarthy, D., 1st year review committee member
Mudd, G M, Academic Progress Committee
Pauwels, V., Academic Progress Committee, Business and Economics Faculty Board
PG, Ranjith, Faculty Blackboard Administrator
Rüdiger, C., Academic Progress Committee, Academic Discipline Committee
SERVICE

Walker, J., Faculty Executive Committee, Quality Verification Committee, Faculty Board Steering Committee, Faculty Probation Committee
Wong, M.B., Engineering Education Committee
Zhao, X.L., OSP Committee

University

Johnson, M., Monash University Human Research Ethics Committee (MUHREC)
Mudd, G.M., Environmental Sustainability Stakeholder/Reference Committee
Rose, G., SMT (Environment) and Transport sub-committee
Rüdiger, C., Academic Board
Walker, J., Academic Board, Provosts Nominee for Associate Professor Promotion Committee
6. **TRAINING & PROFESSIONAL DEVELOPMENT**

Deletic, Ana (Prof)
Academic Heads’ Leadership Induction Program, Monday 24th –25th February 2014, South Yarra, Melbourne
Academic Heads Leadership Induction Program, Clayton campus, 4th April 2014
Supervisors’ Skills and Performance Conversations, New Horizons, 9th April 2014
ARC DP Grant Writing Workshop, 16th December 2014

Hatt, Belinda (Dr)
Future Research Leaders Program (completed 2014)

Henry, Rebekah (Dr)
Research Supervisor Accreditation, Level 1 (in progress)

Lu, Chunhui (Dr)
Graduate Certificate of Academic Processes (completed 2014)

Monerris-Belda, Alessandra (Dr)
Future Research Leadership Programme (completed 2014)

Pauwels, Valentijn (Dr)
Future Research Leadership Programme (in progress)

Rüdiger, Christoph (Dr)
Future Research Leadership Programme (in progress)

Walker, Jeff (Prof)
Middle Eastern Cultural Awareness
China Cultural Awareness
Leadership in Action