IE brings together Civil Engineering, Environmental Engineering and the Geomatic Disciplines
I am very pleased to present our 2017 Annual Report and achievements.

The Department of Infrastructure Engineering has had a successful year, with several achievements and activities and also several high-level changes to our structure in line with the Melbourne School of Engineering new structure and strategy. It is my pleasure to welcome some changes in our Department leadership and structures.

Prof. Andrew Western was Deputy Head of Department to May 2017 and is Director of Infrastructure for the Melbourne School of Engineering. Prof. Colin Duffield was appointed to Deputy Head of Department (Academic) and Prof. Majid Sarvi to Deputy Head of Department (Research). Prof. Stephan Matthai becomes Discipline Leader for Civil Engineering. I thank my colleagues for their able support in their former and new roles.

One of the highlights of the year was welcoming several new academic staff and our three Enterprise Professorss: Prof. Gary Liddle, Enterprise Prof. of Transport; Prof. Greg Foliante, Enterprise Prof. of Sustainable Cities; Prof. Rob Vertessy, Enterprise Prof. of Water Management. The role of Enterprise Professor is a new senior academic position created in 2016 by the University designed to enhance the institution’s links with industry and business.

The Department has been successful in winning several significant projects and competitive research grants. In addition, the Centre for Advanced Manufacturing of Prefabricated Housing (CAMP.H) was successful in winning three grants in 2017. The Centre for Spatial Data Infrastructures and Land Administration (CSDILA) has also entered into a significant partnership with Land Use Victoria (LUV), Department of Environment, Land, Water and Planning (DELWP), Victorian Government, to modernise the land subdivision process as part of the e-Plan (DELWP), Victorian Government, to modernise.

We welcome new IAG Chair Mr Mark Allam from The City of Melbourne Council. Assoc. Prof. Helen Goldsworthy retired after many years service at the University. Helen was an expert in Earthquake Engineering and Structural Engineering. We also celebrated the career of Emeritus Prof. Len Stevens at our end of year function. Len, a former Dean of Engineering, has been an indefatigable teacher, mentor and colleague for over 60 years (and counting). I am grateful to have such colleagues and friends in our community.

The Department hosted several conferences and symposia, and staff and students presented around the world. The 3D Australia GeoInfo Conference, hosted by the Centre for Spatial Data Infrastructures and Land Administration in October, was well attended by the international geospatial research and industry communities. The Ocean Engineering Team, led by Prof. Alexander Babanin, won the bid to host the 2021 International Conference on Ocean, Offshore and Arctic Engineering (OMAE 2021) in Melbourne. This is the main international conference in ocean engineering and represents a significant coup for the University and our Department.

Several of our academic staff have received awards for their outstanding contributions to research across disciplines. The Australian Integrated Multimodal Ecosystem (AIMES), a world-first transport test-bed project led by Prof. Majid Sarvi, won the 2017 Intelligent Transport Systems (ITS) Australia National Research Award. The project received a Recognition of Excellence award from OpenGov Asia earlier in 2017. Prof. Priyan Mendis and Assoc. Prof. Tuan Ngo received the inaugural University of Melbourne Award for Excellence in Industry-Engaged Research in recognition of their high impact research, most recently including founding and leading the ARC Training Centre for Advanced Manufacturing of Prefabricated Housing (CAMP.H). Dr Meenakshi Arora and Prof. Muthupandian Ashokkumar (Faculty of Science) won the Award for Excellence in Internationalisation of Research for the Melbourne India Postgraduate Program (MIIPP). Dr Arora was also the recipient of the Monash Engineering Women’s Leadership Award.

Mr Brian Marwick, one of our current senior industry advisors and a former Department student, received the Department’s Thornton-Smith Medal. The medal is presented every year to a graduate of the Geomatics Discipline who is considered to have made an outstanding contribution to the engineering Profession in the field of Geomatics. Dr Ailar Hajimohamadi one of our Research Fellows was one of the inaugural recipients of the MSE International Research Fellowship for Female Academics, and Dr Jonathan Phuong Tran won the Gene Corley Highly Commendable Paper award for fundamental research at the 12th International Conference on Shock and Impact Loads on Structures in Singapore. Congratulations to all on these recognitions.

We also congratulate Prof. Ian Johnston, Enterprise Professor Gary Liddle, and Assoc. Prof. Frank Leahy, who were recognised in the 2017 Australia Day and Queens Birthday Honours.

Our postgraduate students have also been successful, receiving State and international awards in spatial and water research and across all disciplines. Congratulations to Behnam Atazadeh, Sina Khatami Mashhadi and Margarita Saft.

The Department Postgraduate Conference was another highlight of 2017. This conference was the 7th conference produced in the annual series since the establishment of the Department in 2011 and organised successfully by the Graduate Infrastructure Engineering Society (GIIES). The conference featured presentations from our PhD and Masters by Research students across our three main disciplines (Civil Engineering, Environmental Hydrology and Water, Geomatics) and the conference showcased the quality of research performed by our students.

Endeavour 2017 was once again a success, with 14 final year projects representing the Department and three awards received for the students research projects. In 2017, a record number of 344 students completed around 165 final year research projects.

Enrolments in Infrastructure Engineering were the second highest across all Departments in the School of Engineering, with just over 8000 enrollments in Infrastructure-owned subjects.

I thank all of our academic, Professional, and honorary colleagues for their work throughout the year: teaching, supervising, demonstrating,
arranging field trips and being generous with their time, expertise and guidance to our students and colleagues. In particular, I thank Prof. Andrew Western, Prof. Colin Duffield and Prof. Majid Sarvi (Deputy Head), Assoc. Prof. Graham Moore (Chair Education Committee) and our Discipline Leaders: Prof. Stephan Winter, Prof. Mike Stewardson and Prof. Stephan Matthai for their leadership and hard work.

I thank our students, not only for their work on their own research but also for their contributions in many other ways, helping their fellow students and taking an active part in the life of the Department. Special thanks to the Graduate Infrastructure Engineering Students (GIES) team.

I also take this opportunity to thank our Industry Advisory Group members and all our industry partners for their support and expertise. Particularly, I would like to thank Mr Chris McRae, the Chair of the IAG, for his outstanding leadership over 4 years.

Thanks also to Ms Eileen Doufas-Shea and Ms Pauline Woolcock for their outstanding administration and executive support, and Ms Chris Charman and Ms Jenny Smith for their professional support.

Special thanks to all colleagues and senior executives across the University, and in particular the School of Engineering and School of Electrical, Mechanical and Infrastructure Engineering, for their ongoing operational support and contribution to the life of the Department.

Prof. Abbas Rajabi Fard
Head of Department
APPOINTMENTS

Alongside but distinct from traditional academic appointments, Enterprise appointments are a mechanism to enable the University to recruit industry leaders and experts who can enrich and offer valuable contributions to the University’s teaching, research and engagement activities through their industry knowledge, expertise and practice.

In 2017, the Department appointed the following industry leaders to the role of Enterprise Professors:

1. Prof. GARY LIDDLE
   Enterprise Prof. of Transport at the University of Melbourne. He is best known for his recent roles as a top transport official in the state of Victoria, Australia, where he served as CEO of VicRoads, interim CEO of Public Transport Victoria, interim CEO of V/Line and Deputy Secretary of Transport.

2. Prof. GREG FOLIENTE
   Greg leads inter-disciplinary and trans-disciplinary research and education, consulting and collaboration initiatives that advance innovation in the built environment and urban systems sectors, with a primary focus towards improved sustainability, liveability and resilience.

3. Prof. ROB VERTESSEY
   Rob retired from executive leadership in Public Service in April 2016 and has returned to research. Specialties: Catchment hydrology, forest hydrology, hydrologic modelling, research management, organisational leadership, hydro-climatic variability, climate change, water security, water information, environmental intelligence.

Prof. Q.J. Wang
Professor of Hydrological Forecasting

Prof. Q.J. Wang obtained his BE in 1984 from Tsinghua University at Beijing with a “Graduate of Excellence” Award. In Ireland, he completed his MSc in 1987 and PhD in 1990 at University College Galway. QJ worked briefly as a Postdoctoral Fellow with Prof. James Dooge at University College Dublin, before returning to University College Galway to take up a Lecturer position. In 1994, QJ came to Australia and joined the University of Melbourne, where he worked as a Lecturer and later as a Senior Lecturer. In 1999, QJ took up a Principal Scientist position at the Victorian Department of Primary Industries, where he led irrigation research. In 2007, QJ joined CSIRO Land and Water as an Office of the Chief Executive Science Leader and Senior Principal Research Scientist. At CSIRO, he built his national and international reputation as a leader in water forecasting research and development. In February 2017, QJ took up the position of Prof. of Hydrological Forecasting at the University of Melbourne.

PROMOTIONS

1. Assoc. Prof. Tuan Ngo to Professor
2. Dr Guillermo Narsilio to Assoc. Professor
3. Dr Kourosh Khoshelham to Senior Lecturer

SENIOR APPOINTMENTS

1. Prof. Colin Duffield to Deputy Head of Department (Academic)
2. Prof. Majid Sarvi to Deputy Head of Department (Research)
3. Prof. Stephan Matthai to Discipline Leader Civil Engineering

APPOINTMENTS

Research
1. Dr Qingxiang Liu, Research Fellow in ACCME
2. Dr Alberto Alberello, Research Fellow in Ocean Engineering
3. Dr Amedeo Cappa, Research Fellow in Ocean Engineering
4. Ms Maryam Abdolahpour, Research Fellow in Ocean engineering
5. Dr Behnam Atazadeh, Research Fellow in Urban Land Administration
6. Dr Tongtiegang Zhao, Research Fellow in Water Forecasting
7. Dr Elham Naghi Zadeh Kalhaki, Research Fellow in Spatial Data Integration
8. Dr Kuncho Kurtev, Geo-Modeller
9. Dr Emmanuel Fontaine, Research Fellow in Ocean Engineering
10. Dr Hani Akbari, Research Fellow in Multiphase Flow in Porous Media
11. Dr Heifeng Zhang, Research Fellow in Ocean Engineering
12. Dr Danlu Guo, Research Fellow in Statistical Catchment Water quality Modelling

Teaching
1. Dr Murray Peel, Senior Lecturer
2. Dr Felix Kin Peng Hui, Senior Lecturer & Academic Specialist
3. Mr Ryan Hoult, Senior Tutor
4. Mr Amir Orangi, Senior Tutor
Prof. ABBAS RAJABIFARD is Head of Department. He is Chair of the UN Global Geospatial Infrastructure Meeting, Management-Academic Network. Prof. Rajabifard is Director of the Centre for SDIs and Land Administration and is immediate Past-President of Global Spatial Data Infrastructure Association and is an Executive Board member of this Association. He was Vice Chair, Spatially Enabled Government Working Group of the UN Global Geospatial Information Management in Asia-Pacific, and member of the Victorian Spatial Council. Prof. Rajabifard’s research interests lie in the areas of spatial data infrastructure, disaster management, land administration, 3D data platforms for Smart Cities.

Prof. COLIN DUFFIELD was Deputy Head of Department Academic) until May 2017 and is now Deputy Head of Department (Research). He is Prof. of Engineering Project Management and Civil Engineering. He is also a Board Member of Infrastructure Australia and a Fellow of the Law School (where he delivers a master-level unit on infrastructure procurement). Colin is a recognised international thought leader in the efficient procurement of public infrastructure and the incorporation of private finance as a mechanism for achieving value for money outcomes.

Deputy Head of Department Director of Infrastructure (MSE)

Prof. ANDREW WESTERN was Deputy Head of Department to May 2017 and is Director of Infrastructure for the Melbourne School of Engineering. Andrew has more than twenty-five years experience in catchment and waterway research, teaching and consulting. He has worked as a researcher for the Centre for Environmental Applied Hydrology, Technical University of Vienna, The CRC for Catchment Hydrology and eWater CRC.

Discipline Leader Civil Engineering

Prof. MAJID SARVI is Deputy Head of Department (Research). Majid is Prof. in Transport for Smart Cities. He received his PhD degree in Transportation Engineering from Tokyo University (2001). He also holds a M.Eng and B.Eng degrees in Civil Engineering. He has over 20 years of professional, academic and research experience in the areas of traffic and transport engineering. His researches are multidisciplinary with international outlook and both theoretically oriented and applied in nature. His fields of research cover a range of topics, including: crowd dynamic modelling and simulation, large scale multimodal transport network modelling, vulnerability and optimization, as well as traffic flow theory and operations.

Education Specialist

Prof. STEPHAN MATTHAI is Discipline Leader Civil Engineering. Stephan earned a Dr. Phil from the Eberhard Karls University of Tübingen, Germany, focusing on the characterisation and numerical simulation of hydrothermal gold deposits from the Research School of Earth Sciences at the Australian National University, Canberra. He conducted postdoctoral research on hydrocarbon systems in the Gulf of Mexico basin at Cornell University, and fluid flow in fractured rock masses at Stanford University. At the Swiss ETH Zürich, he implemented subsurface fluid convection and heat transfer models. In 2003, he became a Senior Lecturer of Computational Hydrodynamics at Imperial College London, UK, focusing on multi-phase flow in fractured hydrocarbon reservoirs. Prior to joining the University of Melbourne, he was Chair and Head of the Petroleum Reservoir Engineering Institute at the Montanuniversitaet Leoben, Austria.

Prof. STEPHAN WINTER is Discipline Leader for Geomatics. Stephan’s research interests are in disaster management, emergency response, evacuation, human orientation, wayfinding and navigation, intelligent transportation systems (ITS) and computational transportation science, mapping (crowd sourcing, volunteered geographic information), Mobile geosensor networks; Smart Cities (smart transport, urban analytics); Spatial cognitive engineering; Spatial cognition; Spatial data mining and geographic information retrieval.

Discipline Leader (Geomatics)

Assoc. Prof. GRAHAM MOORE is an education specialist who has worked with learners and teachers at the University since 1985. Over that time he has been instrumental in implementing innovations in teaching and learning across a broad range of environmental, agricultural and civil engineering subject areas. He has always been interested in ensuring the ‘big picture’ is kept in mind, whether it be through alignment of assessment, learning outcomes and learning activities along the learning axis, or keeping fundamental knowledge, engineering applications and community needs constantly in focus when approaching problem solving, design and research. Graham has served on many Department and MSE and University committees and working groups over his career. In 2017 he was Chair of the Infrastructure Engineering Education Committee, Assistant Dean (Academic Operations) for the Melbourne School of Engineering, and advisor and mentor to many groups and individuals.

Discipline Leader (Environmental Hydrology & Water Resources)

Prof. MICHAEL STEWARTSON is Discipline Leader for Environmental Hydrology & Water Resources. His research interests are in: ecohydrodynamics, hydromorphology, and freshwater ecosystem management.

Discipline Leader (Environmental Hydrology & Water Resources)
ACADEMIC STAFF (T&R AND RESEARCH)

Civil Discipline
Prof. Stephan Matthai
Prof. Alexander Babanin
Prof. Colin Duffield
Prof. Priyan Mendis
Prof. Anne Steinemann
Prof. Majid Sarvi
Prof. Ian Young
Prof. Nelson Lam
Assoc. Prof. Alessandro Toffoli
Assoc. Prof. Lu Aye
Assoc. Prof. Helen Goldsworthy (to June)
Assoc. Prof. Russell Thompson
Assoc. Prof. Tuan Ngo
Dr Lihai Zhang (Snr Lecturer)
Dr Guillermo Narsilo (Future Fellow)
Dr Mahdi Miri Dastani (Snr Lecturer)
Dr Felix Kin Peng Hui (Snr Lecturer)
Dr Behzad Rismanchi (Lecturer)
Dr Samintha Perera (Lecturer)
Dr Elisa Lumantarna (Lecturer)
Dr Jonathan Phuong Tran (Research Fellow)
Dr Rackel San Nicolas (Research Fellow)
Dr Elena Sanina (Research Fellow) (to March)
Dr Massoud Sotf (Research Fellow, DECRA)
Dr David Heath (Research Fellow)

Environmental Hydrology & Water Resources Discipline
Prof. Michael Stewardson
Prof. Andrew Western
Prof. G.J. Wang
Assoc. Prof. Graham Moore (Teaching Specialist)
Assoc. Prof. Rory Nathan
Assoc. Prof. Dongryeol Ryu
Dr Meenakshi Arora (Snr Lecturer)
Dr Marco Ghisalberti (Snr Lecturer)
Dr Angus Webb (Snr Lecturer)
Dr Murray Peal (Future Fellow/Snr Lecturer)
Dr Justin Costelloe (Snr Research Fellow)
Dr Avril Horne (Research Fellow)
Dr Tim Peterson (Research Fellow)
Dr Joanna Szemis (Research Fellow) (to August)
Ms Simranjit Kaur (Research Assistant)
Mr Rodger Young (Technical Officer)

Geomatics Discipline
Prof. Stephan Winter
Prof. Abbas Rajabifard
Assoc. Prof. Allison Kealy (to June)
Mr Clifford Ogleby (Snr Lecturer & Teaching Specialist)
Dr Mohsen Kalantari (Snr Lecturer)
Dr Kourosh Khoshelham (Snr Lecturer)
Dr Martin Tomko (Lecturer)
Dr Maria Vasandani (Lecturer)
Dr Benny Yiqun Chen (Research Fellow)
Dr Kate Potts (Research Fellow)
Dr Ronny Kudadinata (Research Fellow) (to April)
Dr Sahel Sabri (Research Fellow)
Dr Sam Amirebrahimi (Research Fellow to Oct.)
Dr Behnam Atazadeh (Research Fellow)
Dr Elham Naghi Zadeh (Research Fellow)

PROFESSIONAL STAFF
Ms Eileen Doufas-Shea, Executive Assistant to the Head of Department
Ms Pauline Woolcock, Department Administrator
Ms Meg Belmonte, Centre Manager, Centre for Advanced Manufacturing of Prefabricated Housing (CAMP.H)
Ms Hai Do, Academic Support Coordinator
Ms Claire Grist, Academic Support Coordinator
Ms Chris Charmae, Administration Assistant (to June)
Ms Jenny Smith, Administration Assistant
DEPARTURES/RETIREMENTS

We wish the following colleagues all the best with their new roles and future plans.

Assoc. Prof. Helen Goldsworthy retired after 23 years at The University of Melbourne. Helen was a lecturer in Earthquake Engineering and Structural Engineering.

Dr Joanna Szemis, Research Fellow in the Hydrology & Water Resources group from January 2015 to August 2017.

Dr Roser Casas-Mulet worked in the department from 2014 - 2017 as a Research Fellow in the Hydrology & Water Resources group.

Assoc. Prof. Allison Kealy was a lecturer in Geomatics in the Department of Infrastructure Engineering since 1999 and Assistant Dean (Academic) in the School of Engineering at the University of Melbourne for 5 years.

Dr Anna Lintern was a Research Fellow in the Environmental Hydrology and Water Resources Group from January 2016 to November 2017.
The Department of Infrastructure Engineering has an active Industry Advisory Group (IAG) which:

- provides input in connection with strategic planning and long-term direction
- helps generate internship opportunities and student placements
- provides feedback on subjects and programs
- facilitates guest lectures and other industry contact between students and their future employers
- advises on teaching and research programs

The IAG meets three times a year in March, July and November

In December, Mr Chris McRae retired as Executive Director of Land Use Victoria and Registrar of Titles, and as Chair of our Department Industry Advisory Group.

We are thankful to Chris McRae for his leadership, time and commitment to the Department of Infrastructure Engineering as Chair of the Industry Advisory Board and to education.

We wish him all the best for his new chapter.
2017 Industry Advisory Group Members

- Mr Chris McRae (IAG Chair), Executive Director, Land Use Victoria, Department of Environment, Land, Water and Planning (DELWP)
- Mr Mark Allen, Strategic Project Manager, City Design, City of Melbourne
- Mr Dominic Arcaro, Director, Navire
- Mr Glenn Cockerton, Managing Director, Spatial Vision Innovations
- Ms Catherine Eymin, Director, Infrastructure, Yarra Trams
- Mr Graham Hawke, Deputy Director, Environment and Research Division, Bureau of Meteorology
- Mrs Alice Kesminas, Solutions Manager – Community Energy for AusNet Services’ Energy Solutions group
- Mr Dean McIntyre, Manager, GHD Victoria
- The Hon Gary Nairn (Former Federal Minister), AAM and Tasmanian Spatial Information Council (TASSIC)
- Ms Finola Reid, Principal, Melbourne Buildings, ARUP
- Mr Brendon McNiven, Principal, Melbourne Building, ARUP
- Ms Sharon Davis, Executive Director, Water Resources, Water & Catchments (DELWP)
- Mr Peter Ryan, Managing Director, WBHO Infrastructure
- Prof. Abbas Rajabifard, Head of Department
- Prof. Peter Scales, Director of Engagement, Melbourne School of Engineering
- Prof. Andrew Western, Deputy Head of Department (to May)
- Prof. Colin Duffield (Deputy Head of Department, Academic)
- Prof. Majid Sarvi (Deputy Head of Department, Research)
- Prof. Stephan Winter, Discipline Leader, Geomatics
- Prof. Michael Stewardson, Discipline Leader, Environmental Hydrology & Water Resources
- Prof. Stephan Matthai, Discipline Leader, Civil Engineering
- Prof. Gary Liddle, Enterprise Prof.
- Prof. Greg Foliente, Enterprise Prof.
Throughout the year we sought to deepen our industry engagement, as well as our engagement with honorary staff, students and industry friends, and to deliver activities that would benefit and acknowledge the research undertaken by all and, in particular, RHDs and early career researchers in the department.

Prof. Priyan Mendis and Dr Kate Nguyen were invited to join the special working group on Fire and Facades of the World Council of Tall Buildings and Urban Habitat, which is the peak body in tall buildings around the world, with members from 130 countries. This group formed in 2017 following a significant number of tall building fires around the world. It appears the cause of many of these fires might have been inadequate fireproofing to the cladding, compounded by other issues in each case.

The Grenfell Tower in London is one of many fires that have breached perhaps the longest-standing fundamental fire safety object of tall buildings, which is “compartmentalization”: i.e. to resist the spread of fire between floors. The Working Group will seek to deconstruct what “fire safety” means, take it back to the key concepts that are independent of code or country, and ask whether we understand each of those concepts and how they should be addressed.

The Working Group will incorporate the work of investigations in countries around the world, with the objective of creating an international perspective on the issues, and to generate recommendations and guidelines that could work internationally, while local guidance is also accommodated.
MEETING WITH LEI
The Centre for SDI and Land Administration received senior representatives from Land Equity International (LEI) to discuss close collaboration, particularly for research in line with shared interests including Land Rights in the UN sustainable development goals. The LEI representatives were led by Tony Burns, Managing Director of LEI and two of their senior experts: Dr Kate Dalrymple and Dr Daniel Paez. Kate and Daniel are both former students.

OCEAN ENGINEERING
The Ocean Engineering Group won the bid the host the OMAE-2021 Conference in Melbourne in 2021. This is the main international ocean engineering conference (Ocean, Offshore and Arctic Engineering) run by the American Society of Mechanical Engineers. Co-Chairs Prof. Alex Babanin and Dr Hayden Marcollo; https://www.asme.org/events/omae
The Ocean Engineering Group also won the bid for the 2019 International Wave Hindcasting and Forecasting/Coastal Hazard Symposium; Prof. Ian Young and Prof. Alex Babanin. http://www.waveworkshop.org/

OAIRO
MSE recently hosted representatives from British smart technology company OAIRO at the university to discuss further partnerships and collaborations. OAIRO is a British company leader in smart technology and sustainability for ensuring comfortable indoor environments while saving great amounts of energy. They developed a leading-edge solution, which is patented, to efficiently control indoor climates.

The meeting was organised by Dr Behzad Rismanchi, whose initial conversation with the company was with the Director of the OAIRO (Mark Stenning) via an introduction by the Energy Efficiency Council (EEC) back in October 2016.

The meeting on 15 November 2017 also involved OAIRO’s Group CEO from the UK, Bryan Saxby. OAIRO is looking to expand their research capability on their novel technologies. After number of meetings and discussions to formulate the collaborative pathway, an MOU was signed between the two organisation on June 2017 to facilitate the discussion around energy saving approaches for HVAC systems.

Behzad said that UoM is currently engaged in one of the OAIRO’s projects in Melbourne, with a researcher observing OAIRO’s technology to improve air quality and reduce energy consumption in one of Melbourne hotels.

“It is anticipated that the technology could have a significant impact on the Australian building energy consumption in the following years,” he said.

“This collaboration is in line with the school of engineering research agenda under Future Infrastructure programs. Also, this research contributes to the Government’s science and research priorities, with the link to energy, enabling the Australian commercial and residential sector to improve efficiency and as a result, create jobs, growth and export opportunities.”

“This engagement can lead to novel thinking and new approach on HVAC system design. This will set a major step to take part in solutions to drive a sustainable future, development and understanding of novel technologies that enhance the wellbeing and, at the same time, reduce the demand for electricity in residential and commercial buildings,” he said.
The inaugural 3D Australia GeoInfo Conference was at the University of Melbourne from 24th to 27th October 2017. 3D Australia 2017 comprised the 3D Geoinfo Conference 2017, the 1st international workshop on BIM and GIS integration, and 3D Cadastre training.

The 3D Geoinfo Conference 2017 brought together 150 international researchers from academia, industry and government in the field of 3D spatial information. It provided an interdisciplinary forum in the fields of data collection, advanced modelling approaches, data analysis and visualisation.

The attendees enjoyed excellent keynote lectures on topics related to the national approach for 3D SDIs, nD systems for cities, the changing role of surveyors and spatial professions driven by 3D technologies, cultural shift to achieve smart cities and the role of standards in nD city systems.

There were 43 scientific papers submitted to the conference. After the double-blind peer review process, 16 papers were accepted and published in ISPRS Annals (Volume IV-4/W5) and eight papers in ISPRS archives (Volume XLII-4/W7) both available online as open access proceedings. The papers covered a range of topics related to 3D geospatial data including drivers of 3D data, reasoning and structuring 3D data, 3D indoor data, several applications of 3D data such as energy analysis, asset management, cadastres and much more. The papers also included some examples of how 3D data is being used by public sector agencies. There were many short papers presenting promising future research.

BIM-GIS Integration was a pre-conference workshop session of 3D GeoInfo 2017 organised by the BIM Working Group of the International Association of Geodesy. The workshop provided a platform for researchers to present and discuss their work in various aspects of BIM and GIS integration. The focus of the workshop was on the challenges of integrating BIM and GIS. There were ten papers presented during the workshop through which several challenges were identified, including leadership, advocacy, collaboration inter-domain and intera-domain, best practices, funding models for BIM and GIS integration, BIM and City Models data value and IP, standards and scales, BIM to 3D GIS workflow, data models based on concepts and ontologies, cross-domain curriculum development and BIM/GIS issues in the context of current social constructs (public and private sectors). There was also a recognition of cross-domain collaboration in this space, such as those between OGC, buildingSmart and ISO. The need for more academic community input into BIM and GIS standards was strongly highlighted.

The 3D Cadastre training presented the Centre for Spatial Data Infrastructures and Land Administration’s previous and current research topics related to 3D Cadastre. It also provided training on the implementation of 3D digital cadastral systems. There were 40 attendees, all of which received a certificate of attendance from the Centre for Spatial Data Infrastructure and Land Administration, the University of Melbourne.

The attendees enjoyed Australian hospitality including Melbourne’s famous coffee, international food, an Aussie BBQ and Australian Aboriginal music.


We would like to thanks all the participants for their support.
In the Media

Prof. Majid Sarvi from the Department of Infrastructure Engineering appeared in the December/January issue of the RACV’s Royal Auto Magazine, discussing the National Connected Multimodal Transport Test Bed: https://read.now.isentia.com/femg/1735/882596031.pdf


Dr Mahdi Disfani and team’s research into recycling old tyres into road surfaces was featured in the AMTIL e-Magazine: http://amt.com.au/upload/AMT_DEC-JAN_2018/files/assets/basic-html/page-50.html

Prof. Stephan Winter and postgraduate student Marie Truelove from the Department of Infrastructure Engineering wrote for Pursuit about their framework that helps to identify fake news on social media: http://go.unimelb.edu.au/m726.

Prof. Priyan Mendis from the Department of Infrastructure Engineering appeared on Radio National Drive, discussing how buildings and infrastructure perform during extreme heatwaves: http://go.unimelb.edu.au/m725.

Associate Prof. Rory Nathan from the Department of Infrastructure Engineering was mentioned in the Sydney Morning Herald regarding the importance of workplace inclusivity and diversity: http://go.unimelb.edu.au/3ep6.

Prof. Anne Steinemann's research on consumer product emissions and health effects has received widespread media coverage this year. Her work has been featured in more than 1,000 newspapers, magazines, radio and television programs, and web-based media outlets, spanning six continents, and reaching an audience of over 200 million people. She has conducted interviews with national and international outlets including the Washington Post, CBS News, New York Daily News, National Public Radio, Prevention Magazine, Daily Mail U.K., BBC, Sydney Morning Herald, ABC Radio Sydney, ABC Radio Tasmania, 3AW Radio, 9 News, Channel 10, 4BC Radio Brisbane, PBS News Hour, and National Geographic.


Dr Mahdi Disfani and team’s research into recycling old tyres into road surfaces was featured in the AMTIL e-Magazine: http://amt.com.au/upload/AMT_DEC-JAN_2018/files/assets/basic-html/page-50.html

The inaugural recipients of the MSE International Research Fellowship for Female Academics have been announced.

Seyedeh Mohadeseh Ganji (Computing and Information Systems), Ailar Hajimohamadi (Infrastructure Engineering, far left), and Ida Asadi Someh (Computing and Information Systems), are the recipients.

This Fellowship provides academic staff on fixed-term contracts with a dedicated period in overseas universities and research centres, to strengthen or develop new academic networks, to observe and learn ground-breaking techniques/practices, and to develop new lines of research. Aside from travel and research costs, support is also given to dependants who will be accompanying the recipient overseas.

Ailar Hajimohamadi said that international collaborations will bring global esteem and visibility to her research and give her the scope for diversified funding sources in the future.

"With this Fellowship, I will be visiting the University of Sheffield in the UK and I can further build up my track record after my career interruption and increase the likelihood for major advances in my academic career."

Endeavour Engineering & IT Exhibition

The Endeavour 2017 event was once again a success this year with IE well represented with 14 final year projects on the floor. The event closed with an evening award ceremony.

Three projects from IE were highlighted:

(1) Best IE project award: “Value Stream Mapping for Offsite Prefabricated Construction” by students Hao Feng Lim, Osmar Rodrigues de Oliveira, Lin Cheng Zhang Xu, Matthew Lei Zhang (under Dr Felix Hui’s primary supervision)

(2) 1st Mention of honour: “Investigation into the behaviour of a grouted Surefoot foundation system in sandy soils” by students Sheng Li, Teoh, Jackson Peter Wade, Mark Henein (under Dr Mahdi Disfani’s primary supervision)

(3) 2nd Mention of honour: “Decision-making framework for infrastructure projects: Indonesia” by Vijayshree Behal (under Prof. Colin Duffield’s primary supervision)
Career Celebration of Emeritus Professor Len Stevens AM

In December, as part of our Department end-of-year function, we celebrated the career of Prof. Len Stevens AM.

Prof. Stevens has been involved in the Melbourne School of Engineering for over 60 years. Graduating from the School with his Bachelor of Civil Engineering in 1950, Prof. Stevens went on to serve as Dean for nearly a decade in the 70s and 80s. He was involved in some of Australia’s most important building projects, such as the New Parliament House, The Arts Centre in Melbourne and the Australian Academy of Science’s Shine Dome.

Female Staff in Infrastructure Engineering Lunch

The Department hosted an annual lunch to discuss opportunities and related issues of importance within our female cohort and IE senior leadership. We welcomed A/Prof. Elaine Wong as the Assistant Dean for Diversity and Inclusion from the School of Engineering, who outlined policies and changes being made at the school level to attract, retain and promote female academics within Engineering. Our departmental Diversity and Inclusion representatives, Assoc. Professor Helen Goldsworthy and Dr. Murray Peel, also attended and Helen’s considerable contribution over many years was acknowledged prior to her retirement.

Gaming for Research

On Open Day, spatial information researchers had set up a location-based game for all visitors. This game, a sort of scavenger hunt, asked people to find a marked location on campus, and provide a place description good enough to be found by their friends or family members. The collected place descriptions helped the researchers create navigation systems that communicate as people do. The participants on Open Day were awarded with attractive prizes.

Civil Engineering

Dr. Ailar Hajimohammadi organized a successful workshop on: “Sustainable valorisation of waste tyre and recycled glass in Civil Engineering”.

Civil Engineering
Prof. Priyan Mendis and Assoc. Prof. Tuan Ngo received the inaugural University of Melbourne award for Excellence in Industry-Engaged Research in recognition of their high impact research, most recently including founding and leading the ARC Training Centre for Advanced Manufacturing of Prefabricated Housing (CAMP-H).

Priyan and Tuan have a long history of high impact research including several projects from the Department of the Prime Minister and Cabinet, National Security Science and Technology Branch to develop software to simulate and assess technical and natural hazards to the urban environment between 2005 and 2009. Since 2011, Priyan and Tuan have attracted 18 grants and $15 million to the University of Melbourne. Among these projects are the Defence Material Technology Centre project to develop advanced composite/metallic materials for defence applications, two CRC-Ps ($3M each) to develop innovative building technologies, and the ARC Training Centre for Advanced Manufacturing of Prefabricated Housing (CAMP-H), that is seeking to transform Australia’s prefabricated building industry: http://CAMP.H.eng.unimelb.edu.au

Dr Meenakshi Arora and Prof. Ashok Muthupandian (Faculty of Science) are the 2017 winners of the award for Excellence in Internationalisation of Research, for the Melbourne India Postgraduate Program (MIPP).

MIPP is a joint initiative of the University of Melbourne through its IRRTF program and a select group of India’s best research institutions. The program was launched in November 2013 in the Indian capital New Delhi by Prof. Glyn Davis, the Vice-Chancellor of The University of Melbourne, with an aim to promoting research collaboration between the University of Melbourne and four Indian Partner Institutions, namely, IIT Madras, IIT Kanpur, IIT Kharagpur and Indian Institute of Science.

Over the past 3 years, MIPP has attracted the brightest minds to pursue their RHD research at UoM and initiated more than 30 research collaborations between the UoM and partner institutions through jointly supervised PhD programs. The program provides the enrolled students with a unique opportunity to work at both UoM and IITs; thereby promoting internationalisation of research. Many of the MIPP projects involve collaboration with industry, government and non-government organisations.

The conference organised by MIPP Team 30-31 January 2017 in Melbourne Australia presented a testimony of highest quality of research being undertaken in collaboration with 25 academics from partner institutions involving more than 35 UoM academics. The success of the program has landed itself into a Dual Degree Doctoral Program that was launched mid 2017, further enhancing the internationalisation of research and research training profile.
OpenGov Excellence Award

The University was one of 10 Victorian government agencies to be recognised at the recent Victoria OpenGov Leadership Forum.

"Winning the award endorses the importance of the university’s strategy to work in close collaboration with government and leading industries to tackle complex transportation issues, such as congestion and road safety in our cities." Majid Sarvi

The OpenGov Recognition of Excellence recognises government agencies who have achieved excellence in using ICT, often working behind the scenes to make government smarter, more agile, more efficient and more transparent. RoE aims to set new benchmarks of government ICT innovation in the ASEAN & ANZ regions.

Dr Margarita Saft won the editor’s choice award from WRR and was officially presented with the award at the AGU conference in December. Only a few papers receive such awards each year. The paper was Margarita’s final PhD paper:


At our end-of-year function in December, the Department Outstanding Service Awards were presented to the following staff in recognition of their dedication to teaching and service in facilitating the academic pursuits, and for outstanding administrative assistance:

- Assoc. Prof. Dongryeol Ryu,
- Dr Jonathan Phuong Tran,
- Ms Jenny Smith (right with Prof. Abbas Rajabifard) and
- Ms Anshu Tara (HR)

Victoria Awards for Excellence in Concrete

Prof. Priyan Mendis has been awarded honorary membership by the Concrete Institute of Australia. He was recognised for his outstanding service to the concrete industry in Australia and accepted his award at the Victorian Awards for Excellence in Concrete.

Priyan said, "I am deeply honoured and humbled to accept this prestigious award. I am very passionate about Concrete, starting from my PhD to starting my career as a structural engineer, pioneering the use of high-strength concrete in Australia in the Telecom Corporate Building in Melbourne in late 1980s and many research grants and writing more than 250 papers related to concrete, including supervising more than 40 PhD students.”

Also at the awards, the team led by Assoc. Prof. Tuan Ngo received an award for Excellence in Concrete in the category of Technology and Innovation. The award was presented to the team by Minister Wade Noonan.

The team has developed an innovative light weight concrete panel system for high speed modular construction. The new panel system has a number of significant enhancements compared to the traditional panels in terms of load resistance, much lower carbon footprint and life-cycle costs. It offers desirable properties, such as being light-weight, easy to construct, economical, recyclable and reusable.

Dr Meenakshi Arora was the recipient of the Monash Engineering Women’s Leadership Award. Meenakshi joined other award winners from across Australia, New Zealand and Malaysia for a two-day conference of female leaders in engineering academia at Monash University on June 15-16.

Dr Jonathan Phuong Tran won the Gene Corley Highly Commendable Paper award for fundamental research at the 12th International Conference on Shock & Impact Loads on Structures, Singapore.

Dr Gene Corley is regarded as the “preeminent expert on building collapse investigations and building codes” by the American Society of Engineers (ASCE). He built his reputation as one of the world’s experts on structures damaged by natural and manmade disasters as he investigated some of the most notable building failures in recent U.S. history. As Team Leader, he directed the FEMA investigation into the September 11, 2001 collapse of the World Trade Center’s twin towers.

Dr Tran and Dr Corley are both Alumni from the University of Illinois at Urbana-Champaign.
The medal is presented every year to a graduate of the Geomatics Discipline who is considered to have made an outstanding contribution to the engineering profession in the field of Geomatics.

MR BRIAN MARWICK
Senior Industry Advisor, Centre for SDIs and Land Administration (CSDILA)

Brian Marwick’s experience in the spatial information industry extends over some fifty years. During this time he has moved from a surveying role on major construction projects to senior management roles in both the public and private sectors. Since 1980, Brian has been actively involved in both technical and management capacities in the implementation of the spatial information technology that has evolved during this period.

As Chief Surveyor of the MMBW he oversaw the commencement of the digitisation of the maps covering metropolitan Melbourne that would eventually form part of today’s Vicmap. After moving to the private sector in early 1990, he was responsible for managing various contracts such as the maintenance of Vicmap for the Victorian Government and the implementation and ongoing maintenance of Australia’s geocoded national address file (G-NAF) for PSMA Australia.

In 2009 he joined PSMA Australia on a part time basis and has continued his involvement with G-NAF. At the same time he also joined the Centre for Spatial Data Infrastructures and Land Administration at the University of Melbourne as a Senior Advisor. Both positions he still holds today.

Throughout his time in the industry, Brian has served on various Government advisory committees associated with the spatial industry. He was President of the Institution of Surveyors, Australia in 1998 and served on its Council for some nine years. Brian was chairman of the University of Melbourne Geomatics Course Advisory Committee for number of years as well an external member of the University of Melbourne Engineering Faculty.

Brian is a Licensed Surveyor in Victoria and a Fellow of the Surveying and Spatial Institute of Australia. He holds a Diploma in Surveying (RMIT), a Graduate Diploma in Business Administration (Swinburne) and a Master of Geomatic Engineering (University of Melbourne).

Australia Day Honours
Prof. Ian William Johnston (Retired), Honorary Professor: Officer of the Order of Australia (OA)
For distinguished service to engineering, as an academic, researcher, practitioner and consultant, particularly in the fields of structural foundation engineering and geothermal energy.

Queen’s Birthday Honours
Assoc. Prof. Frank Leahy (Retired)
Honorary Principal Fellow Francis Joseph Leahy was named in the Queens Birthday 2017 Honours List.
He was recognised for significant service to surveying and mapping through research and innovation, and to education as a lecturer and mentor. He retired in 2005 after working at the University of Melbourne for 44 years.

Prof. Gary John Liddle (Enterprise Professor): Officer of the Order of Australia (OA)
For distinguished service to public administration in the Victorian transport sector through leadership in policy direction, infrastructure development, road safety and regulatory reform.
The Department has been very active in seeking international research collaboration. 2017 marked the beginning of many new and renewed engagements, with visits to and from the University with colleagues in academia, industry and government around the world.

QATAR

On the 23 February 2017, CSDILA Director, Prof. Abbas Rajabifard gave a keynote speech at the 4th UN-GGIM Arab States Plenary Meeting in Doha, Qatar. Prof. Rajabifard is the chair of the UN-GGIM Academic Network.

The UN-GGIM (United Nations on Global Geospatial Information Management; http://ggim.un.org/) exists to address issues relating to the management and development of geospatial information from the local to global levels. It encompasses an Academic Network to capture the role and contributions of academia in global spatial information management.

SEOUL


He also organised a half-day long mini-symposium on seismic design in regions of low-to-moderate seismicity featuring presentations by researchers and experienced professional engineers coming from five different countries.

BRAZIL

The 2nd Brazilian Symposium Symposium on Ocean Waves was held in Rio de Janeiro, Brazil in March (co-organisers and co-Chairs, Prof. Alex Babanin and Dr Nelson Violator Carvalho).

CHINA

The 2nd Australia-China Conference on Ocean Waves and Wave-Coupled Processes was held in Qingdao, China in October. (Co-organiser and co-Chairs, co-Directors of the Australia-China Centre on Maritime Engineering, Profs. Alex Babanin and Fangli Qiao).
MoU for research and education relating to Public-Private Partnerships

Under the watchful eyes of Premier Daniel Andrews (Premier of Victoria), Mr Lin Nianxiu (Vice Chairman of National Development and Reform Commission of China) and Ms Jan Adams (Australia’s Ambassador to the People’s Republic of China) a Memorandum of Understanding (MoU) was signed between The University of Melbourne, Zhejiang University and Royal Melbourne Institute of Technology in Beijing on the 15th May, 2017. In the first instance, it is expected that the parties will develop Public-Private Partnership (PPP) training programs or courses.


The Forum brought together over 100 delegates, geospatial experts, and academics from over 50 UN Member States. The participants discussed three major themes: i) the challenges and shortcomings of land rights in the context of rapid and transformative urbanization; ii) the technical and social requirements of developing smart cities for all; iii) the direct link between land rights, smart cities for all, and the Sustainable Development Goals (SDGs) and potential pathways towards the achievement of the SDGs.

In April 2017, a group from the Department of Infrastructure Engineering, including Professors Michael Stewardson, Rob Vertessy, Abbas Rajabifard and John Langford, participated in a Training workshop in Iran on “Lessons Learnt from Australia’s Water Experiences”. The main outcome was the announcement of the Australia Iran Joint Water Centre led by our Water team and Sharif University.
JAPAN

2017 ZEMCH Mission, Japan - Attended by RHDs Mr Bernie Gibson & Mr Fraser Paxton.

ANTARCTICA

Exploring the Birthplace of Monster Waves

Alessandro Toffoli, Associate Professor in Ocean Engineering, and Alberto Alberello, Research Fellow, went on an expedition to Antarctica, where wind and wave conditions are the most extreme on Earth. Studying winds waves here provides scientists with the most comprehensive data on earth, which allow investigation of extreme marine conditions, the formation of extreme (also known as freak or rogue) waves and the interaction between waves and sea ice. The reason for this research is that strong winds and waves drive the exchange of heat and gas between the atmosphere and the ocean - contributing to the energy balance of the planet. Understanding environments like the Antarctic helps further our knowledge about the way the ocean behaves and interacts with the global climate, and that is something that will be crucial to our future.


ITALY

On July 16-21, Gabriele Imbalzano, RHD Steven Linforth, Assoc.Prof. Tuan Ngo, Thang Nguyen & Dr Ali Kashani attended the 25th International Conference on Composite/Nano-Engineering (ICCE25) in Rome, Italy. They presented five papers focusing on foamed concrete and auxetic structures.

Dr Ailar Hajimohammadi attended a Conference in Siracusa, Italy (Syntactic and Composite Foams V) in March, supported by the Ian Potter Foundation ($1500). Ailar won the Best Questions Award.

Dr Maria Vasardani, RHD Ms Yaoli Wang and Prof. Stephan Winter attended the Thirteenth International Conference on Spatial Information Theory (COSIT 2017) held in L’Aquila, Italy, on September 4-8 2017.

Dr Maria Vasardani, RHD Ms Yaoli Wang and Prof. Stephan Winter attended the Thirteenth International Conference on Spatial Information Theory (COSIT 2017) held in L’Aquila, Italy, on September 4-8 2017.
Australia’s Ambassador to China, Jan Adams AO PSM, and her delegation visited the Qingdao base of the Australia-China Centre for Maritime Engineering (ACCME).

ACCME is a joint Centre between the University of Melbourne and the First Institute of Oceanography (FIO) of the State Oceanic Administration of China, with partners from RMIT, Woodside Energy (WA) and Metocean Solutions (NZ).

It is co-directed by Prof. Alex Babanin from UoM and Prof. Fangli Qiao from FIO and is working to establish a new generation of metocean modelling in wave-ocean forecasting and industry practice.

The Australian delegation consisted of representatives from the Department of Foreign Affairs and Trade and the Australian Trade and Investment Commission.

Ms Joanna Bunting, Counsellor (Industry, Innovation and Science) at the Australian Embassy in Beijing, said the Ambassador and the delegation were impressed with ACCME’s work, and pleased to show the Australian government’s support for ACCME and Australia-China science cooperation under the bilateral Australia-China Science and Research Fund (ACSRF).

"International collaboration is fundamentally important for Australian scientists and researchers," she said.

"Australia is recognised globally for our high quality research, but with only 0.3 per cent of the world’s population, and 95 per cent of scientific papers produced outside of Australia, we need to work collaboratively to have global impact."

“China is a priority economy under Australia’s Global Innovation Strategy, and ACSR Joint Research Centres are an important element to support and showcase Australia-China joint research and development in fields of mutual interest.”

Co-Deputy Director Dr Zhenya Song said the Ambassador gained a better understanding of ACCME’s work, how its research is progressing and its plans for the future.

MALAYSIA

Prof. Abbas Rajabifard above with members of the Malaysian Board of Surveyors was invited by the Board to deliver a one day talk in Kuala Lumpur, Malaysia. Prof. Rajabifard’s speech was about “Spatially Enabled Platform to Support Liveability Planning for Smart Cities”.

SWEDEN

Assoc. Prof. Tuan Ngo, Dr David Heath and RHD Mr Fraser Paxton engaged in a PrefabAUS study tour of Sweden with Smart Housing, which is involved in the $10m ProWood Centre at Linneaus University.
Following on from the MSE Curriculum Review in 2016, two new senior tutors were appointed to assist with curriculum design, tutor training and quality improvement projects. Ryan Hoult and Amir Orangi are now on 3 year contracts in this area. Among their first tasks are assisting in the duplication of 3 undergraduate subjects to allow more flexible course planning options. The second offering in each year will be offered in a flipped classroom mode, while the first will remain in a more traditional style.

The accreditation with the EU ASIBN organisation to allow us to continue to use the EurACE label for our Master of Engineering graduates was concluded in 2017 after a visit by the accreditation panel from Germany in 2016. This means that our graduates have a recognised engineering qualification across the European Union, as well as the English speaking world with the accreditation through Engineers Australia for the Washington Accord.

A record number of 344 students completed around 165 final year research projects in 2017. This represents an outstanding effort on behalf of all supervisors, technical staff, mentors and industry partners. Research conferences were held in June and November to allow the students present their results in both oral presentations and via posters. Each conference ran the entire day and had five parallel sessions to accommodate the numbers. Many students took the opportunity to chair sessions. A large number of project groups also exhibited their outcomes in the MSE Endeavour Exhibition.
In the first week of July a group of 27 students and staff from the University of Melbourne and Tsinghua University of China undertook a field trip through the southern Murray-Darling Basin to understand the key drivers and infrastructure required for water resource management.

We visited the spectrum of water resource use and infrastructure, from large dams, such as Hume Dam on the Murray, through to upgraded irrigation systems around Shepparton and leading edge irrigated farms in northern Victoria.

The group experienced many interesting and informative tours and presentations from the hosting organisations and this sparked many questions and discussions from the students. Both the Melbourne and Tsinghua students obtained important insights into the challenges of water resource management in a large regulated basin and the lessons that can be learnt in Australia and China.

We had a great time, took many group photos and managed to dodge the rain most of the time. We even managed to see kangaroos and emus in the Gunbower floodplain forest near the Murray River, much to the delight of the Chinese students.

Next year, this subject, ‘International River Basin Management’ goes to China to experience their water resource challenges.
NEW GRANTS

Growing knowledge and innovation for the benefit of the Australian community

ARC OUTCOMES
The Geomatics team started with two larger ARC Discovery Projects this year. One is on “Self-healing maps” and studies rapid updating by crowdsourcing, social media or other streams of observations. The other one is on “Making human place knowledge digestible by computers: Designing a place-based GIS” (telluswhere.net) and studies the understanding of human spatial knowledge hidden in spoken or written natural language, and the use of this knowledge in answering people’s questions for places.

Dr Avril Horne will be developing a management tool to improve how we make decisions about environmental water use in the face of changing climate.

A computer model will be used to understand the remarkable ability of our joints to remain well lubricated under high contact force - fundamental knowledge that could lead to novel bio-inspired engineering, led by Dr Lihai Zhang.

LINKAGE GRANTS
Dr Guillermo Narssilo*; Assoc. Prof. Lu Aye*; Prof. Saman Halgamuge; Assoc. Prof. Ruchi Choudhary; Dr Kenneth Woodman, Department of Infrastructure Engineering LP160101486: Optimisation of shallow geothermal systems for Australian schools. Partners: CATHOLIC EDUCATION OFFICE; NO. 42 ARCHITECTS PTY LTD

DISCOVERY GRANT

OTHER GRANTS
• Cost-effective mitigation strategy development for building related earthquake risk awarded by Bushfire & Natural Hazards CRC 2017 - 2020
• Computer Services of Numerical Investigation of the Structural Performance of Rigid Debris-resisting Barriers to Boulder Impact awarded by CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 2017
• The CRC-P for Advanced Manufacturing of High Performance Building Envelope Systems is a collaboration between the largest manufacturer of building products in Australia - CSR Building Products Ltd, the University of Melbourne and Inhabit Australasia Pty Ltd to develop a new generation of innovative building façade systems based on panelised timber composite and lightweight steel structures. This project will develop safer, more sustainable and more durable façade systems, which exhibit significantly enhanced air/water tightness, resistance to extreme loads and energy efficiency. This new CRC-Project is one of the only two grants which are fully funded in this round with $3M from the CRC-P Program plus a significant industry funding.
This project will bring together leading industry experts and researchers in façade science and engineering, construction technologies, sustainable materials and systems by creating a world-class collaborative research and training environment to develop new innovations and build the essential skills for the future of prefab façade design and manufacture in Australia.
• A research and development grant, led by Assoc. Prof. Tuan Ngo, for project “A novel application of recycled glass in lightweight concrete” was awarded by SUSTAINABILITY VICTORIA.
• In August 2017, Dr Ailar Hajimohammadi was granted 96 hours of Australian Synchrotron beamtime.
• In July 2017, Dr Ailar Hajimohammadi was granted a Dyson Fellowship to support her travel to the Princeton University in the US and to initiate collaborations with the University.

OTHER RESEARCH

Prof. Nelson Lam
Prof. Nelson Lam was awarded an international research contract by the geotechnical engineering office of the Hong Kong SAR government to develop a new method of designing reinforced concrete barriers to resist landslides and rockfalls.

The project has been completed and has won praise by the annual review board of the geotechnical engineering office. The final outcome of the research will be introduced in geotechnical engineering practices in Hong Kong in the future.
The University of Melbourne Centre for Disaster Management and Public Safety-CDMPS led by our Department has successfully continuing its research and training activities. Research at CDMPS focuses on themes associated with preparing for, responding to, recovering from, and mitigating against incidents across the all-hazards spectrum of emergency management. In 2017, the activities of the Centre were dedicated to directly engaging with academia, industry and government. The Centre focussed much of its engagement activities on expanding the awareness and application of its major capabilities, in particular, the Intelligent Disaster Decision Support System (IDDSS), crowd management simulation and unmanned aerial vehicles. Because of these activities, CDMPS has formed partnerships with government and NGOs, including Victoria Police, Victorian Fire Brigades (VFBV), CFA, Nokia and Vic.Gov., centred around CDMPS developing tools to address their questions, challenges and situations. Throughout 2017, CDMPS also met with representatives from:
- The University of Calgary, Canada
- Hualie River Committee, China
- International Critical Control Rooms Alliance
- Quikscity, United Kingdom
- Australian Football League
- Open Geospatial Consortium
- NASA

In June, the Centre was invited to join the Association of Pacific Rim Universities (APRU) Multi-Hazard Program, held by the International Research Institute of Disaster Science (IRIDeS) at Tohuku University, Japan. In September, CDMPS hosted a number of prominent guests from the University of Melbourne to showcase the Centre’s capabilities, including its major research, training and engagement activities. The Centre welcomed Provost, Prof. Margaret Sheil AO; Pro Vice-Chancellor, Prof. Mark Hargreaves; Dean of Engineering, Prof. Iven Mareels; Head of School of Electrical, Mechanical and Infrastructure Engineering, Prof. Doreen Thomas; and selected industry representatives.

The showcase included presentations from CDMPS leaders and academics and testimonial from representatives of close industry partners: Volunteer Fire Brigades Victoria (VFBV) and General Motors Holden. Visitors also had the opportunity to meet with CDMPS staff and students, view the Centre’s capabilities and equipments including Unmanned Aerial Vehicles and test the Holo Leno glasses used in virtual reality research in safety and evacuation.

Mission Critical Public Safety Communications

In 2017, CDMPS continued to be a major participant in the mission critical public safety communications ecosystems in Australia. The Centre collaborates broadly with the government and public safety communications representatives. In March 2017, CDMPS contributed to a Federal Government discussion paper about strengthening the national security of Australia’s critical infrastructure, in which CDMPS highlighted the need to recognise public safety communications as critical infrastructure. CDMPS also hosted an exhibition booth at the CommsConnect Conference in Melbourne. In October, CDMPS and its affiliated researchers participated in a Vic Minister/University of Melbourne VC Roundtable on future research needs and opportunities in emergency management. The roundtable outcomes are now being developed to engage key agencies and decision-makers across the Victorian government.

Highlights

- Successful completion of several industry research projects
- Release of the Beyond Bushfires Report
- Vic Government-UoM roundtable on research needs and opportunities in emergency management
- Completion of three PhD graduates, Dr Farhad Layalvi, Dr Saeed Asadi Bagloee and Dr Hosna Tashakkori Hashemi, with another three under examination.
- Published 21 journal papers and 5 conference proceedings, and several technical reports.
- Published 21 journal papers and 5 conference proceedings.

Planning for the future

In 2017, CDMPS had its 3-year anniversary. This was an opportunity to reflect on its achievements to date and to look ahead and plan for its future. The Centre has experienced significant growth since its inception, which has created a number of opportunities for further development across research, training and engagement. The Centre has developed a strategic plan for the future, which emphasises pursuing future research and funding opportunities and exploring further avenues for research and collaboration. In particular, through examining the United Nations Sustainable Development Goals in the context of disaster management and public safety.

The strategic plan also outlined the Centre’s re-defined Research Priority Areas, which are as follows:
1. Understanding and mitigating extreme events and critical incidents
2. Enabling technology, informatics and analytics
3. Improving whole-life infrastructure system performance and resilience
4. Strengthening organisational, institutional and community resilience
5. Enhancing policy and decision making

In July 2017, the Centre also said goodbye to Mr Greg Ireton, who guided the Centre as Manager since 2016, and welcomed Prof. Greg Foliente to the position.
Established in 2001, the Centre for Spatial Data Infrastructures and Land Administration provides a focus for research in spatial data infrastructures (SDIs), spatial enablement and land administration by building on ongoing research relationships and creating new links through extended collaboration at both national and international levels.

The Centre for SDIs and Land Administration—CSDILA has had another successful year. The activities of the Centre are based on a three-pillared approach: the development of a research program; a focused post-graduate training program; and facilitated knowledge transfer including a visiting program.

In 2017, CSDILA has had a productive year by completing several major research projects, receiving new research grants, and hosting an international conference as well as a number of national and international visitors. The Centre also launched new projects and significant partnerships in Australia and overseas. The Centre has published over 30 refereed papers and 3 PhD students graduated in 2017.

The Centre’s advisory board comprises distinguished Australian and overseas leaders in spatial science and related technologies from academia and industry. Advisory board members are kept informed of the Centre’s activities and they also encourage the promotion of networking linkages and research opportunities between the Centre researchers and their own institutions and contact networks.

Partnership with Land Use Victoria and DELWP (e-Plan Initiative)

A major engagement and research outcome for 2017 was the launch of the e-Plan Project partnership with LUV of DELWP.

The e-Plan partnership project aims to modernise the land subdivision process in Victoria by replacing the current paper-based processes with digital substitutes. e-Plan is principally a digital data file of surveying and administrative information related to a subdivision survey. It can contain all the information in a cadastral survey and subdivision plan. CSDILA has been instrumental in this project since it was kicked off by DELWP in 2008, but now holds a formal long term partnership with LUV to develop e-Plan further.

3D Australia 2017

One of the key activities for 2017 was the 3D Australia 2017, an international event hosted by CSDILA at the University of Melbourne. The event was attended by over 150 people from 20 countries and included representatives from a range of universities, industries and governments.

The event was focussed around the 12th 3D GeoInfo Conference, which is held annually in different locations around the world. The topic of the conference was focussed on 3D developments and 3D applications in advanced 3D data and technologies. In addition, CSDILA hosted a ‘BIM-GIS Workshop’ and ‘3D Cadastres training’ as a part of 3D Australia.

UADI Project

The Urban Analytics Data Infrastructures (ARC LIEF) Project was a significant outcome for 2017. The UADI project was a collaborative effort between a consortium of urban research centres across Australia led by our CSDILA Centre. UADI delivers harmonised, interoperable data services to support the modelling, designing, planning and management for the growing Australian cities. CSDILA held a launch for the UADI project during 3D Australia 2017, which hugely successful with many attendees from different countries, many organisations and universities.
The CAMP.H group had a very busy 2017 with quite a few successes in getting new grants, organising workshops and forums and entertaining international visitors.

Successful grant applications

- Cooperative Research Centre Program (CRCP) in partnership with CSR and Inhabit Australasia entitled “Advanced Manufacturing of High Performance Building Envelope Systems”

- Future Industries Funding in collaboration with Envirosip and Aboriginal Housing Australia entitled “Novel Modular Construction Techniques for Aboriginal Housing”

Regional Collaborations Programme-APRAH

In this Regional collaboration grant, a research network with other countries will be set up in order to promote international collaboration in the region.

**Activities:**

Forum on the Aftermath of Grenfell Tower Fire – Are Australian Buildings safe?

4 July 2017

Key Speaker: World renowned fire safety expert, Dr Jonathan Barnett, Technical Director RED Fire Engineers.

The objective of the forum was to discuss the Grenfell tower event, which has touched many lives and how the Australian cities will especially be affected as the population become concentrated in urban cities and many medium-rise and high-rise buildings have been constructed with non-compliant products.

CAMP.H Full day Workshop held on 14 Sept 2017

CAMP.H ran a highly successful workshop on the 14th of September at the University of Melbourne which was an opportunity for CAMP.H Chief Investigators, Partner Investigators, Partner representatives, postdoctoral research fellows and PhD students to come together to discuss research in progress, explore opportunities for collaboration, and to plan the future of CAMP.H.

An update on activities during the first 12-months of the Centre was provided, followed by guest presentations by Dr Kirsi Jarnerö and Dr Mikael Ludvigsson (Smart Housing – Sweden), Ms Joyce Ferring (Associate Director ANZ Modular Lead – AECOM), and a round table discussion including Dr John Stehle (Director of Advanced Science and Engineering, KPMG), Ms Joyce Ferring and Dr Jonathan Barnett (Technical Director, RED Fire Engineers). The afternoon session included 20 presentations by CAMP.H postdoc research fellows and PhD candidates, including video presentations from interstate and Sweden.

The workshop improved collaboration among the large CAMP.H team and strengthened research in the many projects being run within the Centre.

Sustainable valorisation of waste tyre and recycled glass in civil engineering - Workshop

Hosted by CAMP.H group with Tyre Stewardship Australia (TSA) and Sustainability Victoria (SV) on 1st Nov 2017. The workshop’s aim was to update the industry and fellow researchers about recent advancements in valorisation of recycled glass and end-of-life tyre in innovative civil engineering applications and discuss the challenges and opportunities. There were 10 presentations with keynote speakers from PrefabAUS, VicRoads, UoM, TSA, SV and Swinburne University of Technology.
Held at the end of each year, the Postgraduate Conference is an important component of our department’s research and training strategy for Research Higher Degree (RHD) students. The conference’s aims are in line with our university goals of research excellence and quality research training.

This year the Infrastructure Engineering Postgraduate Conference 2017 (IEPC 17) was held on 10 November 2017 at the new Arts West building on the University campus. The conference showcased works of 96 postgraduate research scholars in the department, which included civil, environmental, geomatics as well as ocean engineering.

Sessions were categorized according to their field of research and were themed as:
1. Materials, safety and disaster management;
2. Environmental Engineering;
3. Geomatics and Applications;
4. Disaster Mitigation for Public safety;
5. Geoscience, Ocean Engineering and Energy Management; and
6. Transportation Engineering, Mathematical Modelling, and Built Environment.

Prof. Abbas Rajabifard, Head of the Department of Infrastructure Engineering, officially opened the conference and was followed by a keynote speech by Prof. Greg Foliente on ‘From Research to Entrepreneurship’.

After successful completion of 96 presentations over 6 sessions, research scholars, invitees, and Prof.s were invited into the common seminar hall (Forum Theatre) for the last segment of the event. The last segment included a panel discussion and prize distribution ceremony.

The panel discussion this year, like the keynote speech, was based on the topic: ‘Research to Entrepreneurship’. The panel included distinguished dignitaries such as Dr Gideon Kusuma, Dr David Heath, Dr Simon Wilkins and Dr Ali Aien which was chaired by Mr Glen Currie.

Panelists and the Chair had distinguished careers in starting/co-founding or closely working for a business.

The panel discussion was followed by the prize distribution ceremony. Prizes were awarded for best journal paper in the three streams of IE Department, the best presentation on the conference day in three streams and for the best entry for the ‘Capture My Research’ competition held online during this year (see page 63 for winners’ list).
International Days
The two events held in 2017 celebrated the cultural diversity within the department.

Guests were invited to share the history, traditions, music and food of the many countries that make up the Infrastructure Engineering Department.

Everyone was invited to bring a popular/traditional food of their country of origin.

GIES AGM and new committee elected
The Graduate Infrastructure Engineering Students’ Society (GIES) represents the graduate students of the Department of Infrastructure Engineering. The society organises regular events, providing social cohesion amongst the graduate student group and opportunities to network with industry.

In May, the GIES Annual General Meeting was held to elect the new committee for 2017-2018.

The elected members are:
- Siddhesh Godbole, President
- Katayoon Bahramian, Vice President
- Ganesh Ganadhiepan, Secretary
- Annie Zhou, Treasurer
- Aoche Zhong, Media & Communications Officer
- Adrian Cervantes, Student Advocacy Officer

We thank the 2016-2017 Committee for their valued contribution, organisation and commitment.
Diwali or Deepavali

Diwali or Deepavali is the Hindu festival of lights celebrated every year in the northern Autumn (the southern Spring). It is one of the most popular festivals of Hinduism and spiritually signifies the victory of light over darkness, good over evil, knowledge over ignorance, and hope over despair. Its celebration includes millions of lights shining on rooftops, outside doors and windows, around temples and other buildings in the communities and countries where it is observed.

Many of our postgraduates attended the festival at a special celebration on 27 October arranged by the IIT-IISc Graduates committee.

Postgraduate Conference Awards

Best Journal Paper:
- Geomatics: Fuqiang Gu for the paper "Robust and Accurate Smartphone-based Step Counting for Indoor Localization: Published in IEE Sensors Journal
- Civil (joint winner): Zahra Shahhoseini for the paper "Collective movements of pedestrians: How we can learn from simple experiments with non-human (ant) crowds": Published in PLOS | one
- Civil: (joint winner): Mahil Tharindu Pathirana for the paper "Risks of failure of annealed glass panels subject to point contact": Published in International Journal of Solids and Structures
- Environmental Hydrology & Water Resources: Jun Wang for the paper "Evaluating four downscaling methods for assessment of climate change impact on ecological indicators": Published in Environmental Modelling & Software

Best Presentation:
- Neda Nematollahi (Civil): Topic "Analysis of fragranced consumer products and natural sources of fragrances to understand their differences:
- Natasha Ballis (Environmental): Topic: "Informing megadrought risk assessments using palaeoclimate"
- Surabhi Gupta (Geomatics): Topic "Negotiation between vehicles and pedestrians for the right of way at intersections"

Capture My Research:
- Students' Choice: Leila Soufeiani
- Staff Choice: Debaditya Acharya

Other Awards

In 2017, all finalists for the Student Water Prize at the Victoria Water Awards were from MSE. What an achievement!

Those nominated from the Department of Infrastructure Engineering were:
- Saeed Asadi Bagloee, PhD Student, "Minimization of Water Pumps Electricity Usage via a Hybrid Artificial-intelligence and EPANET"; and
- Amir Orangi, PhD Candidate and AquaTerra co-founder, "Innovative Soil Water Content Estimation"

Yaoli Wang – at ACM SIGSPATIAL - Received Best Research Paper Award
Victorian Spatial Excellence Award (VSEA)

Dr Behnam Atazadeh received the Victorian Spatial Excellence Award (VSEA) for Postgraduate Student of the year on Wednesday, 1 November 2017. This award is conferred to Dr. Atazadeh due to his PhD research project which significantly contributed to the ongoing progression of the surveying and spatial industry.

The Spatial Excellence Awards celebrate the achievements of top spatial information enterprises and individuals, and showcase the finest projects and most significant performance of professionals that the Surveying and Spatial Industry have to offer. Projects and individuals attaining recognition at this premier event are deemed to be truly outstanding achievers and pre-eminent in their field.

Mr Sina Khatami Mashhadi received his certificate for being a Finalist for ‘Victorian International Student of the Year - Research’ from The Hon. Philip Dalidakis, Minister for Innovation and the Digital Economy, at Victorian International Education Awards ceremony. All the three finalists were from University of Melbourne.

POSTGRADUATE PROFILE

Cheng Cheng (pictured above) is in the third year of her PhD. She is from China and her background is in Environmental Engineering. Chen got her Bachelor and Master of Environmental Engineering from Huazhong University of Science and Technology in China.

Supervisors: Assoc. Prof. Russell G. Thompson, Dr Alysson M. Costa, Dr Sam Yuen

Her Project Title is: Optimization of disaster waste clean-up.

POSTGRADUATE Profile RHD Awards

Project description: This project commenced in 2014, and focuses on the optimization of disaster waste clean-up considering the location selection of Temporary Disaster Waste Management Sites (TDWMS). Two different modes are proposed for modelling waste clean-up after small and large disasters respectively to minimize the clean-up time and cost. The constraints considered in the models include time windows, capacity of vehicles, number of vehicles and capacity of TDWMS. Based on the different features of the two different problems, two different approaches are applied for the two models. For small disasters, three heuristics are developed to get the solution. In terms of large disasters, exact algorithms are used.
We extend our congratulations to all our graduates and wish them every success in their endeavours and a bright and promising future.

"IT ALWAYS SEEMS IMPOSSIBLE UNTIL IT'S DONE."

Nelson Mandela
GRADUATIONS
WE HAVE BEEN PRIVILEGED TO WELCOME VISITORS FROM ALL OVER THE WORLD IN 2017

- Prof. Dr.-Ing. Boris Kruppa, Technische Hochschule Mittelhessen (THM), Gießen, Germany
- Prof. Werner Kuhn (UCSB), who is a partner in the ARC DP “Making human place knowledge digestible by computers”.
- Dr. Moshindeh Shahrabi, University of Calgary, Canada
- Prof. Kaj Nagel (TU Berlin), collaborating on smart mobility solutions.
- Dr. Haibo Chu, Tsinghua University, P.R. China
- Prof. Jun Wu Xia, China University of Mining and Technology
- Ms. Li Liu, Student Visitor, P.R. China
- Prof. Jun Wu Xia, China University of Mining and Technology
- Ms Dandan Sun, School of Materials Science and Engineering, Tongji University, Shanghai, P.R. China
- Dr. Sun-Gu Lee, Principal Researcher, Ground System Development Team, Satellite Information Center, Korea Aerospace Research Institute.
- Mr. Tomas Poblete, University of Talca, Chile
- A/Prof. Xianhai Meng, School of Computer Science and Engineering, Beihang University (BUAA), P.R. China
- Assoc. Prof. Guo-hua Shi, School of Energy, Power & Mechanical Engineering, North China Electric Power University, Baoding, P.R. China
- Mr. Maurizio Bianco, Universita Degli Studi Di Cagliari, Italy
- Dr. Hercules Cascon, Xavier University-Ateneo de Cagayan Philippines (United Board Fellows Program)
- Joaquin Andre’s Franco Gantiva, Civil and Environmental Engineer & Graduate research assistant, Civil Engineer Mater’s student, Urban and Regional Sustainability Group, The University of Los Andes, Colombia
- Ms. Dharma Sree, National Technical University of Singapore.
- Prof. Armin Seyfried, Division Civil Security and Traffic, Jülich Supercomputing Centre, Germany
- Dr. Maik Boltes, Faculty of Computer Science, University of Cologne, Germany
- Dr. Maja Bitenc, Graz University of Technology | TU Graz - Institute of Applied Geosciences
- Assoc. Prof. Hung Xuan Nguyen, Center for Interdisciplinary Research in Technology, Hutech University, Ho Chi Minh City, Vietnam
- Mr. Alexander Schlicting, Institut für Kartographie und Geoinformatik, Leibniz Universität Hannover
- Ms. Shawnee Bandhoe, University of Twente, The Netherlands
- Ms. Maryam Rabiee, Columbia University, New York City, USA
- Ms. Chloé Pereira, Mr. Adrian Simon, Mr. Maxime Benech - ESTP Paris, France
- Mr. Pierre-Antoine Harlé, Polytech Clermont-Ferrand, Aubiere Cedex, France
- Ms. Azlil Le Gouguec, Toulouse, France
- Mr. Antoine Moutou, France
- Mr. Regis Bellot, France
- Ms. Carina Seliger, BOKU - University of Natural Resources and Life Sciences, Vienna, Austria
- Ms. Ciclie Black, UNGGIM, USA
- Mr. Daniele Oxoli, Politecnico di Milano, Italy
- Mr. Tony Burns, Dr. Daniel Paez, Dr. Kate Dalrymple (Land Equity Int)
- Mr. Yip Kit Meng, Malaysia
- Mr. Demetris Kitsakis, National Technical University of Athens, Greece
- Dr. Remetey-Fülöpp Gábo Remstey, Hungary.
- Dr. Sun-Gu Lee, Korea Aerospace Research Institute
- Dr. Jaeju Lee, Rural Research Institute, South Korea

Left: Prof. Jacynthe Pouliot (left) visited CSDILA from the Université Laval in Quebec, Canada. Prof. Pouliot is from the Department of Geomatic Sciences and has expertise in 3D modelling, 3D cadastral applications, geospatial data integration and geospatial information systems.
Prof. Bohumil Kasal from Fraunhofer WKI and TU Braunschweig in Germany visited the Centre for Disaster Management and Public Safety (CDMPS).

Pictured with CDMPS Directors Prof. Greg Foliente (left) and Prof. Abbas Rajabifard (right).
Prof. Bill Rosehart (2nd from left)
Dean of the Schulich School of Engineering at the University of Calgary, visited the Department of Infrastructure Engineering and CDMPS on 01 December 2017 for a fruitful exchange of ideas related to engineering higher education, organisational structure, research challenges and our respective strategic initiatives. He was especially interested in the Melbourne Model of education, and our interdisciplinary work related to geomatics and spatial science, and disaster management and public safety, and ways by which our respective academics and researchers could potentially collaborate in the future. For the rest of his visit at the University of Melbourne, he was also joined by the University of Calgary’s Vice-Provost (International) and Dean of the Faculty of Science.

Dr Remetey-Fülöpp Gábo (above right with Prof. Abbas Rajabifard) is the GSDI liaison to the Committee of Earth-Observation Satellites (CEOS) Working Group on Information Systems and Services (WGISS). Dr Gábor is also the delegation to the:
• Group on Earth Observations (GEO) Plenary XIII;
• Hungarian National Geographical Information Association (HUNAGI); National Geodetic Survey
• The Presidium of the Hungarian Astronautical Society (abbreviated as MANT in Hungarian)
• MFT
He was also the Secretary General of HUNAGI (Nov 1994 - May 2015).

At a workshop in November 2017 the Department hosted a delegation from the Nanjing Hydraulic Research Institute, China. The workshop was also attended by staff from the Bureau of Meteorology and Victoria University.

Members of the Huaihe River Committee, China, who visited CDMPS
The Ocean Engineering Group welcomed the following visitors in 2017:

- Dr Jian Sun, Ocean University of China, Qingdao, China, funded by the China Scholarship Council (3 January – 31 December)
- Ms Maryline Poirier, Concordia University, Quebec, Canada, funded by CREATE program from Concordia University and Natural Sciences and Engineering Research Council of Canada (20 January – 20 April)
- Dr David Wang and Dr Sabrina Parra, US Naval Research Laboratory, Mississippi, USA, (13 – 24 February)
- Ms Dharma Sree, National Technical University, Singapore (13 – 24 February)
- Dr Adrian Law Wing-Keung, National Technical University, Singapore (24 February)
- Dr Adrian Law Wing-Keung, National Technical University, Singapore (24 February)
- Ambassador Peter Tesch (Australian Embassy to Russia, Moscow) (4 April)
- Dr Alexander Ignatov, NOAA, and Prof. Irina Gladkova, The City College of New York (USA) funded by ARC Discovery project (8 – 22 April)
- Dr Michela De Dominicis, National Oceanography Centre, Liverpool, England (10 April)
- Dr Sergei Sheberstov, PP Shirshov Institute of Oceanology, Moscow, Russia (11 April)
- Mr Haoyu Jiang, Ocean University of China, Qingdao, China, funded: Australia-China Centre for Maritime Engineering, University of Melbourne (16 - 30 April)
- Dr Matt Zed, Woodside Energy Ltd, Western Australia (27 April)
- Dr Ramesh Kolar, ONR Global, Singapore (1 May)
- Prof. Gerassimos Athanassoulis, National Technical University of Athens, Greece, funded by ARC Discovery project (1 - 13 May)
- Prof. Ken Melville, University of California San Diego, California, USA, funded by ONR project (6 June)
- Dr Peter McComb, Director, Metocean Solutions Ltd, New Zealand (29 June)
- Dr Said Mazaheri, Iranian National Institute for Oceanography & Atmospheric Science, Tehran, Iran (25 August)
- Mr Danny Merritt, Liquid Robotics, USA (12 September)
- Dr Patricia Gruber, Technical Director, US ONR Global, Washington, DC, USA (2 October)
- Commander Joe Martin, US ONR Global, Singapore (9 October)
- Dr Nicole Jones, UWA, WA (19 October)
- Prof. Alexander Miaskov, Director, Dr Vassiliy Cheskidov, Moscow Mining Institute NUST MISIS, Russia (20 October)
- Dr Agustinus Ribal (pictured right), Hasanuddin University, Makassar, Indonesia, funded by Endeavour Research Fellowship, Department of Education and Training, Australian Government (3 April – 2 October)
- Prof. Raj Sannasiraj S.A., IIT Madras, India (27 November – 1 December)
- Dr Nelson Violante-Carvalho, Federal University of Rio de Janeiro, Brasil, funded by CAPES, Brazilian government (13 -23 December)
### Major publication categories

- A2 – Edited Research Book
- B1 – Research Book Chapters
- C1 – Journal Articles Refereed
- F1 – Full Written Papers Refereed

### All publication categories

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<th>Publication Type</th>
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<tr>
<td>A1 Edited Books</td>
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<tr>
<td>B1 Research Book Chapters</td>
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<tr>
<td>C1 Journal Articles Refereed</td>
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<tr>
<td>F1 Full Written Papers Refereed</td>
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**Grand Total** 285