

World Engineers Convention 2019
WEDNESDAY 20 November 2019 - FRIDAY 22 November 2019
 Melbourne Convention and Exhibition Centre

As at 15 April 2019

Wednesday, 20 November 2019

	Room A	Room B	Room C	Room D	Room E	Room F	Room G	Room H	Room I	Room J	Room K
13:30	Modelling and simulation	Innovation and disruption	A changing profession (global environment, lifelong learning, entrepreneurial skills)	Education system/framework of tomorrow	Governance and risk leadership	Natural disaster risk management	Energy and sustainable practices	Smart cities	Transport systems - rail	Capacity building (Indigenous focus)	
13:30	Real-Time Optimization on Hydro-cracking Process: Applications and Benefits Rashid ANSARI	Developing uptake of Digital Engineering (DE) in Australia through industry-led research into practice approach Ammar SHEMERY, Keith HAMPSON	What The Global SKA Project Teaches Us About The Future Of Engineering And The Skills Needed To Thrive Shandip ABEYICKREMA, Antony SCHINCKEL	Inspiring The Next Generation Of Stem Leaders Jessica KAHL	Should the Victorian Government cool the plant? The application of due diligence in legislation. Gaye FRANCIS, Richard ROBINSON	Climate Change and Critical Infrastructure Resilience for Community Functionality Vilas MUJUMDAR	African energy market: a golden investment opportunity Mustafa SHEHU	Digital Engineering a Progressive and Sustainable City Jonathan HOWE	Inland Rail – Changing the Freight Rail Supply Chain in Australia Georgina GOSSE	Aboriginal Design In Transport Infrastructure: Empowering Communities Through The Inclusion Of Cultural Design Knowledge Into Project Solutions Michael HROMEK	
13:45	Acoustic Assessment for the Caulfield to Dandenong Level Crossing Removal Project Arvind DEIVASIGAMANI	Connecting Engineering Design through to Asset Sustainment: Digital Asset Visualisation and Information Systems Anthony ROE	Professionalising Fire Safety Engineering – The Warren Centre Research on Reform of Fire Safety Regulation and Practice. Peter JOHNSON, David LANGE, Ashley BRINSON	Educating Engineers for the challenges of sustainable and responsible engineering Graeme WILLIAM	Quantitative climate change risk and resilience of Victorian public hospitals and ambulance stations Tiernan HUMPHRYS, Rohan HAMDEN	Tsunami Early Warning System – India's Success Story Ashok BASA	Energy Revolution – New Opportunity for Women's Leadership Ruomei LI	Enhancing Liveability Through Community-Centric Approaches To Asset Management And Affordable Digital Tools Vivienne IVORY	Curbing congestion and air pollution in Chinese cities with Light Rail Transit Mathieu VOISIN	Aboriginal Design in Transport Infrastructure: empowering communities by including cultural design knowledge into project solutions Allan MURRAY	
14:00	Setting a new bar in digital handover, from D&C to Operations Daniel KALNINS, Gareth STEWART	Industry / End user / University collaboration for sustainable railway products Stephen WEBSTER, Alan BURNS	Engineering Leadership in an Ambiguous World John CARR	Sustainable Development Literacy in Engineering Degrees at UPV Eduardo VENDRELL VIDAL	50 Shades of Risk: A tool identify, categorise, and diagnose waterway value and risks Glenn BROWNING	Japan's Science and Technology Community's Activities Towards the Promotion of SDGs Kenichi TSUKAHARA	Quantitative scenario toward zero carbon power generation system Koichi YAMADA	Unleashing The Data to Optimize the Building Performance Jovian CHEUNG, Thomas KWOK	Sustainable Transport Solutions – Developing a 'green' heavy rail system Caroline PHILLIPS	Enabling Aboriginal participation in engineering education and employment David CRUICKSHANKS-BOYD	
14:15	Improved customer experience in self service webportal for the land and building development industry Alana DUNCKER	From Precious Lumps of Metal to Constants of Nature: Ilya BUDOVSKY	Building Engineering Capability – Changing Flow Andy COUSINS, Bruce RHODES	Engineers Australia Student Practicum Working Group: Recommendations for Sustainable Engineering Practicum Jordan BUTLER, Sally MALE	The World, Energy, and Climate – getting our priorities straight Bjorn LOMBORG	Flood forecast technological platforms: an adaptive response to extreme events Jose VIEIRA	Women in the energy sector: planning for the future Valerie AGBERAGBA	City Infrastructures Mark DYER	Urban high-speed rail helps Australia's megacity sustainability Peter STASINOPOULOS, Jeff MORAN	Engineering Aid Australia - a vision to empower indigenous participation in Australia's engineering workforce and the story of its success Merv LINDSAY	
14:30	Sustainable Pavement Management Practices in the Green Triangle Paul ROBINSON, Emma MILLER-OLSEN	Residual Life Assessment for Wind Turbine Structures Robert KILGOUR	Can we trust engineers to design infrastructure? Kylie COCHRANE	Developing a creative response-the future engineer: Skilled in maths, art and creativity Eamonn MADDEN	Fiber optic networks: connecting communities to each other and to nature Violet KALOMBA, Charles NYAGAKA	Modernization of hydromet services: the case of a Least Developed Country Yvette RAMOS	Closure process design for conversion of green electricity to product of nitric acid Jiahua ZHU, Sulan XIA	Metro Tunnel Project – transforming the face of Melbourne Tim GOSBELL	Rolling Stock Wheel Waste Management Mohamed AWADALLA	Designing an on-Country Engineering Education Experience in Collaboration with the Gundijmara Community at Budj Bim. Juliana Kaya PRPIC	
14:45	A Rail Case Study: Documents to Database Lauren THOMPSON	Smart Next Generation Transport Pavements Jayantha KODIKARA	Engineering the transition to sustainability William GRACE	Foundations AND Horizons: the critical role of international coursework to engage students in engineering for the 21st Century Cheryl DESHA		Coastal defence works: Potentialities for innovation Barbara VIEIRA	Research and Practice of Resilient Smart Grid Based on Hainan Island in China Haoyong CHEN	Victorian Digital Asset Strategy Collette BURKE	Toowoomba Second Range Crossing (TSRC) – Unfolding Pavement Innovations Kate VOLCOV	Diversity and Inclusion in Engineering Through Community Partnerships Kate SELVARATNAM, Daniel LEA	
15:00	Improving Engagement with Interactive Engineering Models Robbie MARSHALL, Aaron GILBOY		The Sustainable Goal for Engineering Amy LEZALA	Professionalising Humanitarian Engineering in Australia Jeremy SMITH		An Assessment of Vibration and Response of Nearby Structures Induced by Metre Gauge Freight Rail Transport in Nairobi Metropolis Paul C.K.KIOKO	The development of innovative technology at ZJU for the treatment of heterogeneous solid waste Jianhua YAN	Towards a Smart Connected Precinct Hai VU	System Integration and Arbitrage Opportunities on Metropolitan Trains David VAN BERGEN, Jerome ROWCROFT	A Case Study in Leveraging Local Expertise to Deliver a Complex Remediation Project William RODGER	
15:30	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing
16:00	Artificial Intelligence	Innovation and disruption	Technical or leadership careers (role models, career pathways)	Education system/framework of tomorrow	Alternative energy	Sustainable cities	Women in engineering	Sustainable energy resources	Engineering a sustainable future (population growth, biodiversity, ecosystems)	Sustainable assets and utilities (water, energy, waste)	Ethics
16:00	Optimising Chiller Energy Consumption through Machine Learning Luke MCKENZIE, Jack HIGGINS	Beijing Water Cube gets smart. The adoption of a "BIM + IoT + Analytics" digital platform transforms an iconic venue. Jacky CHAN	Engineers on Boards: Your opportunity to make a difference! Stacey DANIEL	Motivation, Capability and Inclusion: Key ingredients in engineering for Sustainable Development Nick BROWN	Renewable Carbon for Energy Storage Jessica ALLEN	Smart Solutions for Enhanced Quality of Life Satyanarayansingh RATHORE, Srinivas R	Ernesto Pollusch	Renewable Energy in Remote Asia-Pacific: Context Matters Sheena ONG	Technical solutions in the Desert Rose House, a state-of-the-art, net-zero energy ecofriendly house designed, built and operated by students Clayton MCDOWELL	Potential Sources of Site Waste on Australian Projects Peter RUNDLE	Anti-Bribery Standards, Systems and Strategies for Optimising Engineering Projects Delivery Martin MARTIN MANUHWHA
16:15	Artificial Intelligence, the Emerging Needs for Human Factors Engineering, Risk Management and Stakeholder Engagement. Michael ERSKINE	Driving towards driverless Roger CRUICKSHANK	Creating an Activist Coalition to Embed the UN SDGs in Arup Aine NI BHREASAIL	An integrated hardware, software and training platform for teaching primary students Engineering and STEM subjects Julian DINSDALE, Damien GEORGE	The future bioenergy potential of Australia Ian THOMAS	Infrastructure for Sustainable Cities Reginald VACHON	Women within engineering: developing a sustainable environment Valerie AGBERAGBA	Public Debate and Leadership in the Transport Sector Shalendra RAM	There is no such thing as an infrastructure project: focusing on people and places Graham POINTER	Best practicable environmental options for concrete demolition arisings Andrew WHYTE	Advanced Ethics for Professional Engineers David THIEL
16:20								Lessons from "Very Remote" Australia: How three projects successfully utilise solar PV and Battery Energy Storage Systems in different ways Lachlan MCLEOD, George DICKESON	Bringing concrete to life: Harnessing biological processes for building resilient ports and coastal infrastructure Shimrit PERKOL-FINKEL, Ido SELLA	The study on risk communication to the public learn from the Fukushima Daiichi Nuclear Power Plant Accident Takahiko KONO	Teaching Professional Ethics to Construction Students Asheem SHRESTHA
16:30	Amplifying Business Performance Through the Application of Machine Learning and the Building IoT Slaven MARUSIC, Matt GURR	Infrastructure planning for current and future automated vehicles Julien MARR	A Career Pathway – What Does it Look Like? Madeline LAURENSON	Engineering in the Curriculum Jessica SAUTNER	Network Development for Integration of Renewable energy Keith FREARSON	Developing Innovative Solutions Thomas COSTABILE	The Aspect of Women Engineers in Myanmar Khin Sandar TUN	Long Term Assessment of Standalone PV Systems for Rural Communities Saad ODEH	AI Applications in Railway Operations and Rolling Stock Maintenance Planning Harry LI	The LEILAC Project: Capturing Cement's CO2 Phil HODGSON	'Governing' – Managing Ethical Challenges Throughout Your Career Stephen HOWE
16:35											
16:45	Accelerating a neural network with multiple hidden layers using CUDA Sterling RAMROACH	How Drones are Changing Coastal Engineering Christine LAUHLAN ARROWSMITH	The Knowledge Machine Needs Oiling Allan GARRARD	Reimagining Engineering Education and Training in a Dynamically Evolving Technoscape – A case of the maritime domain Aditi KATARIA	Cut Carbon – Cut Cost – the Carbon Portal Kim YATES	Green Infrastructure Ania LOPEZ	The Atypical Engineer Shilpi JAIN	Engineering Dense Hydrogen Based Energy Systems Simon DOUGLAS	Sustainability: it's better engineering Ainsley SIMPSON	Recycling cigarette butts in bitumen for flexible pavements Md Tareq RAHMAN	
17:00	The Potential for Artificial Intelligence and Blockchain to Enhance the Transport Sector Karlson HARGROVES	Managed Motorways - Science for Optimisation Hendrik ZURLINDEN, Matthew HALL, John GAFFNEY	Time for engineers to be heroes Melanie DE GIOIA, Dominic DE GIOIA	Making a Difference with STEM Education Shelley WALDON	Ammonia - Carbon Free Fuel and Energy Carrier John MOTT	The new economics of infrastructure - Measuring and increasing infrastructure's social return on investment in the developing world Shilpi JAIN	From Participation to Ownership – Status of Entrepreneurship for Women Engineers in Africa Hema VALLABH	Ericsson's 1833 'Caloric' Engine Revisited Noel BARTON	Appropriate Materials and Technologies to Enhance Thermal Comfort in Disaster Prone Areas Kallan FINN, Saloni SAXENA	Innovative Lightweight Materials for Engineering Applications Paul WAMBUA	UNESCO - S3 - The future is digital panel discussion
17:05											
17:15	High Risk Electrical Training in Virtual Reality Mark SPLITTGERBER	Innovation management towards green economy; promote green practices affiliated with the sustainable development goals (SDGs) to transform our world Ahmed ALEZZ	Evolving risk analysis: moving on from heat matrices Astrid KAUFFMAN	Changing the language of who 'belongs' in engineering Anne GARDNER	Identifying cost-optimal mixes of power production technologies for every-low greenhouse-gas electricity supply in the Australian National Electricity Market Ben HEARD	Material Revival, artwork to connect - artwork that connects Guermont MILENE	Gender equality for graduate engineers in Iraq Wael ABDULMAJED	The effect of biochar type and biochar re-use in high-solids anaerobic digestion Mathu INDREN	Design for Mass Production and Dissemination of Clean Cookstoves in Developing Countries Jase BERRY	Towards more Sustainable Bridges Torill PAPE	
17:20											
17:30	Implementation of Functional Safety Management, Cost-Saving or Gold Plating Arsham AHMADI	New mobility and the door-to-door aviation experience Mark BOONE	Engineering Leadership Within Governance Obligations Being Embedded in Construction Contractor Tendering Procedures Stephen URQUHART	Teaching Coding to First Year Engineering Students Through the Internet of Things Helen FAIRWEATHER	Cleaner Energy in New Zealand Tania WILLIAMS		European Strategy for Gender Equity in Engineering and culture changes in Poland Lidia ZAKOWSKA	Energy, resource and sustainable development Shenghua YANG			
17:35											
17:45							An Examination of Bias in the Engineering Workplace in India Stacey DELVECCHIO				

Themes	Theme 1: How new technology and innovations are reshaping engineering (SDG 1, 6, 7, 9, 12, 13, 14, 15)
	Theme 2: Engineering for humanity responsive design for greater liveability (SDG 1, 2, 3, 4, 10, 11, 12)
	Theme 3: Fostering diversity and inclusion (SDG 4, 5, 10, 16, 17)
	Theme 4: Preparing the next generation of engineers (SDG 4, 17)
	Theme 5: Engineering leadership, governance and influence (SDG 1, 4, 5, 8, 12, 13, 16, 17)
	Theme 6: Our changing climate: mitigation, resilience and adaptation (SDG 3, 6, 7, 10, 13, 14, 15)
	World Federation of Engineering Organizations (WFEO)

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	Room A	Room B	Room C	Room D	Room E	Room F	Room G	Room H	Room I	Room J	Room K
13:30	Modelling and simulation	Innovation and disruption	Transformative models 1	Future workforce	Innovation	Innovative technologies	Energy and sustainable practices	Sustainable energy resources	Engineering a sustainable future (population growth, biodiversity, ecosystems)	General SDG	Capacity building (gender focus)
13:30	Influences of Geological Characteristics on the Construction of Tunnels Mohammed Irfan PEERUN, Dominic Ek Leong ONG	A Virtual Power Plant Solution for High Penetration PV in Australia Scott WATTS	Developing a virtual team to embed Safe System; lessons learnt Evan COULSON	What Will An Engineering Graduate Of 2035 Look Like? Peter LEE, Caroline CROSTHWAITE	Use of Sea Sand Seawater Concrete for Efficient and Sustainable Building Practices Tanaz DHONDY	OECD - Janos Bertok	Transforming the World and Wasted Organic Materials Samuel GROSSMAN	Renewable Energy Mega-Hub Creates New Export Industry for Australia Peter LONG	The Circular Economy in the Built Environment Joyanne MANNING	Engineering report - Rovani	Engineering Redefined: Investigating the gender diversity challenge with a strength-based approach Alison STOAKLEY, Nick BROWN
13:45	Full-field deformation measurement of membrane structures using unmanned aerial vehicle assisted photogrammetry Benjamin Steven VIEN, Wing Kong CHIU	DERMS Implementation into Microgrids - A Case Study Lee UCICH, Michael HAMILTON	Engineering a State to Prosperity: Western Australia's World Class Engineering Achievements Peter HOPWOOD	Creativity, Innovation and the Future of Engineering David CROPLEY	Strengthening a building by adding a carpark - Case study of the Gibson Sheat Centre Seismic Retrofit Project Scott KELLY	Guiding AI to Benefit Humanity and the Environment Ke GONG	Options for the energy storage of renewable energy Daniel FAVRAT	Remanufacture For Sustainable Practice Bede WOLF	Engineering for the Future - Temaiku Land Development Study, Kiribati Manh TRAN, Dennis EISZELE	Putting Human Face to World Engineering Yee Cheong LEE	"Seeking High-Performing Female STEM Academics" ... Women-only Recruitment - Should you or shouldn't you? Peter ASHMAN
14:00	An impact attenuation surfacing test to obtain the mechanical coefficients of compliant terrains Hasni HAYATI	Delivering Sustainable Water Infrastructure Brace BOYDEN	Developing and Implementing Sustainable Business Strategies and Delivering Sustainable Projects Sarah Jane STEWART	Less design, more consulting: the future of engineering Dominic DE GIOIA, Melanie DE GIOIA	Investigation and testing of Glass Fibre-Reinforced Polymer (GFRP) shear connectors for use in structurally composite concrete sandwich wall panels Komal KRISHNA	AI ethics and policies to support diversity Reine ESSOBMAJJE	Energy Storage in Power Utilities as an emerging opportunity-Is Africa Ready? Ariel Muteji MBAE	Applicability and prospect of enhanced geothermal systems (EGS) as a renewable energy source for Africa Fred KENY	The Engineering of Happiness (3H) Tito CUEVA	Engineering for Humanity, Sustainability and the SDGs Tony MARJORAM	Factors Influencing Female Students' Participation in the Engineering Profession Glenys GORICANE
14:15	Economic appraisal of a star-rated residential building to achieve a sustainable benchmark Quddus TUSHAR	Tailoring the interface between polypropylene fibers and cement using graphene based nanosheets Xupeli YAO	The Well-being of Future Generations Act: How Legislation is Driving Sustainable Development in the Built Environment in Wales Kara BRUSSEN	How engineers turned intrapreneurs can lead social innovation. Myles COKER	Practical Ground Engineering Guidance to Mitigate from Climate Change induced Fluvial Flooding Oliver PENGILLY, Thushy THUSYANTHAN	Big Data and Engineering Innovation: Infrastructure Practices Jing PENG	Experimental Validation and Dynamic Simulation of Rotor Faults in Induction Motors Ariunbolor PURVEE	A decentralised hydrogen supply chain for rail freight: Leveraging cross-sectoral knowledge to create a more sustainable Australia. Henry SWISHER	Construction of Public Facilities for Japan's Aging Society with Declining Birthrate Kayoko YAMAMOTO	Assisting the engineering profession in delivering SDGs - the work of WFEO and the developing legacy of the Global Engineering Congress Jean VENABLES	The Sensitivity of Organisational Gender Ratios to Cognitive Bias Mark TONER
14:30	Transformers: Metering, Heating, and Harmonics Michael LARKIN	A workplace that leads to innovation case study: Condor tower Arthur PSALTIS	Connecting the workforce of the future Luke CLARKSON, Jennifer CHARLESWORTH	The Future Workforce is Fluid Nee Nee ONG	Lifelines in the Pacific: how two port projects in the South Pacific are contributing to the Sustainable Development Goals (SDGs) Joanna BULDESKI	Industrial 3D Printing - Debunking the Myths Stacey DELVECCHIO	Development towards a 100% renewably produced energy world - enera makes a reality for a blueprint for other regions Carsten DR. AHRENS	Striving Towards Net-Zero by 2030 through a Campus-Wide "Energy" Living-Laboratory Jacek JASINIENIAK	Poison or Panacea? The role of infrastructure providers and owners in Offsets Gareth REES	Global Engineering Congress Legacy Nathan BAKER, Robert CURD	Attracting High School Girls to Coding, Computing and Engineering using Electronic Textiles Bernardo LEON DE LA BARRA
14:45	Stochastic Modeling and Optimization of Cybercafe Internet Service Kizito MUBIRU	Comparison study for the dynamic analysis for underground tunnels subjected to internal explosions using UHPC instead of conventional RC Mahmood ALMOHAMMED	Applying the Sustainable Development Goals to Public Infrastructure Delivery Fin ROBERTSON	Engineering for Humans Michael O'BRIEN, Duan SERFONTEIN	Developing a nature-based coastal defence strategy for Australia Rebecca MORRIS	Data, AI and Decision-making Jie LU	Transformation from Electric Grid to Utility - Telecom Grid for affordable Internet Access and Economic Growth in Developing Countries Eric WANJALA	Alice Springs: A blueprint for the future power system Clare PAYNTER	Why our Major Projects will be a driving force to achieving SDGs Charlie JEWKES	Traditions of development and modern problems of technical sciences Yury GULYAEV	Women in STEM Careers - A Leadership Development Program for Undergraduate Students Claudia SZABO
15:00	Reliability Engineering - an essential engineering discipline of the modern world Allen TAM	Delivering Value through innovation Cathal O'ROURKE	Setting up infrastructure projects for success Steve BURDON, James SMITHERS	Looking at the Past and Present for the Future of Engineering Anker BRODERSEN	Great Ocean Road Drone Drainage Catchment Analysis Wayne PERRETT	Principles & Design Guidance for Responsible AI Eric CHANG	Improving Energy Access in Africa through Efficient Appliances - Prospects and Challenges Essel Ben HAGAN	Design Using Novel Materials for Sustainable Heating and Cooling Adam JAFFE	Indigenous Languages matter for development, peace building and reconciliation - WSP's role as a global engineering professional services firm in promoting and protecting the rights of Indigenous Peoples Julia CARPENTER	Sustainability Assessment and Rating Systems for Infrastructure: What next in scope, coverage, methodology and benefits? Roger VENABLES	How To Speed Up Change And Create Gender Balanced Organisations Gunilla BURROWES
15:30	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing	Afternoon tea and Poster Viewing
16:00	Modelling and simulation	Innovation and disruption	Ethical behaviour and obligations	Blended learning and interdisciplinary	Energy efficiency	Education	Water	Green infrastructure	Environmental sustainability		Room K : 16:00 16:00
16:00	Modelling the effectiveness of HVAC energy efficiency upgrades within 29 Australian Aged Care facilities Ryan DILLON	1555 Paths to Net-Zero Energy - Genetic Algorithms for Energy Optimization Jared STOCK	Smart Engineering Governance - From best practices prospective towards economical security aligned in meeting the needs of role models Ahmed ALEZZ, Adnan AL RAHMA	A Collaborative Activity for Exploring Complexity of SDGs Christopher BROWNE	Unexpected moves towards carbon neutrality from fixing operational issues Adrian BIRD	Engineering Regulatory Policies for Engineering Professions in Africa Yashin BRJUMOHAN	UNESCO - Youssef Fillali	Melbourne 2050: Foresight for Driving Change Samantha PEART, Anne KOVACHEVICH	Study on the Spatial Transformation of Port Cities under the Guidance of Overseas Trade: A Case Study of Quanzhou Area Shaocong XU		
16:15	Strategy to assess the aerodynamic performance of the Golden Gate Bridge during planned seismic and wind retrofit program Kevin PEDDIE	On-site Chlorine Generation Powered by Solar Energy: a Sustainable Water Disinfection Solution for Difficult and Remote Sites Christopher PIPE-MARTIN	Creating Standards in Ethics and AI Greg ADAMSON	Engineering-in-Practice Techniques to Create Sustainable Engineering and Engineering-based Commercial Outcomes Michael WEST	Energy Resilient Building in Climate Change Scenario: Regional Approaches to the Global Issue Ashfaq Ahmed CHOWDHURY	The Impact of the 4th Industrial Revolution on Engineering Education - The Need of a Brave Paradigm Change Michael E. AUER	Flood and drought management: Challenges for civil engineering Tomas Angel SANCHO MARCO, Teodoro ESTRELA MONREAL	Global lessons learned from green infrastructure requirements in city planning systems Joan KO	Groundwater Impact Assessment And Minimisation For Rail Trenches Proposed In A Sensitive Location Tony CAUCHI		UNESCO - S4 - International infrastructure building for sustainability
16:30	Maritime Applications of Corrosion Prognostic Health Management Principles Aaron SUDHOLZ	How satellite imagery and data analytics are disrupting ground deformation monitoring in cities Eric AUDIGE, Blanca PAYAS	Storytelling and Ethical Leadership - Developing Narrative Skills to Manage Change Peter WELLS	Solar Cars Are Developing the Next Generation of Engineers Saamiul BASHAR	Designing Commercial Buildings in a Decarbonised Grid Scenario Kriston SYMONS	Achieving Global Engineering Education Standards J.p. MOHSEN	Managing Flood Risk: Practices in China Jing PENG	Sustainable bridges: why not? John HILTON	Humanitarian and Sustainable Engineering Through The Lens of a Biomedical Engineer Ashrith KUMAR		
16:45	Using data-driven accessibility metrics to reshape the planning of new public transport lines Rafid MORSHEDI	Rocklea to Darra - A Case Study on the Piloting of BIM for TMR Stuart COOK	What to do when things go wrong? - The Reasonable Response of an Engineer in Modern Infrastructure Delivery (PPP, Alliance, PMO) Mario VLASICH	Humanitarian engineering education fieldwork and the risk of doing more harm than good Cris BIRZER	Towards smart energy and greenhouse intensify urban water recycling Debashis RAHA, Muttucumararu SIVAKUMAR	Empowerment teaching: A 7-Phase Model to secure an effective international Knowledge Transfer in Applied Sciences Jürgen KRETSCHMANN	Analysis and optimization of water distribution system in urban China through numerical simulation and system dynamics approaches Jianping WU	Giving Waste Plastic a New Life Darren LOMMAN	Emerging contaminants - challenges and opportunities for engineers in a context of uncertainty and risk Michelle BRUCE		
17:00	Enhancing Asset Management Skill for Next Generation Bridge Engineers Dilan ROBERT	A Construct for the Merit and Social Reaction to New Technology Phillip CAMPBELL	Drive Gender Equity by Employing a Management Systems Framework Margot MATTHEWS	Cultural Awareness and Curriculum Development Brad BOWN	Adelaide Desalination Plant: process improvements in operation Javier ARTAL	Sustainable Development: Convergence and Innovation in Engineering Education and Practice Yvette PEARSON	Water and Rivers of the Future Joaquim Manuel VELOSO POCAS MARTINS	Energy Assessment of a Dwelling with PV Green Roof Design Saad ODEH	A green and sustainable electro-carbonization process utilizing carbon dioxide gas as source of carbon Willey Y. H. LIEW		
17:15	Big data and design flood estimation James BALL	What is relevant, a passing fad, fake or truly disruptive? Vaughan ROBERTSON	Technical and Regulatory Failures Driving Higher Electricity Prices in Western Australia - Case Study Steve DAVIDSON	Teaching environmental sustainability to engineers: an upside down approach Kate O'BRIEN	Climate change adaptation and mitigation: Passive house standard through parametric design Pablo SEPULVEDA CORRADINI	Addressing SDG 4, Quality Education, by Expanding Global Quality Assurance Partnerships Michael MILLIGAN	Alphonso Fernadez	The Green Retaining Wall Zachary WONG, Scott CARNE	Recent Developments in Flame Retardants Derived from Biological Resources Tanmay BHAT		UNESCO - Leadership and governance
17:30	A review of modelling practice in a gauged urban catchment under ARR2016 Daniel WOOD		The impact of IT project management upon engineering infrastructure project management Stephen MCGRATH	Training Effectiveness for Next-Gen Engineers Peter CEBON	Microgrids and their Application for Airports and Public Transit Ruby HEARD	Design and Implementation of Engineering Education Knowledge Service Platform Huijun TIAN, Jian GUAN	Carlos Mineiros	The investigation of sustainable limestone calcined clay cement Hao SUI	Future of Sustainable Building Envelopes Kerryn COKER		

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	Theme 2: Engineering for humanity: responsive design for greater liveability (SDG 1, 2, 3, 4, 10, 11, 12)
	Theme 3: Fostering diversity and inclusion (SDG 4, 5, 10, 16, 17)
	Theme 4: Preparing the next generation of engineers (SDG 4, 17)
	Theme 5: Engineering leadership, governance and influence (SDG 1, 4, 5, 8, 12, 13, 16, 17)
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11:00	Innovation and disruption	Data analytics	Governance (market/employer disruption, communication within and outside the profession, mergers)	Nature of leadership (influence on wider society)	Preparation for practice	Disaster risk management	Transport systems - road	Transport systems - sustainability	Sustainable assets and utilities (water, energy, waste)	Engineering a career	
11:00	Technology to empower engineers with better insights into seismic assessment Stephen WITHERDEN	Adaptive Building Energy Optimization: Integrating Technology and User Behaviour Altaf Mazhar SOOMRO	Coping with Disruption: A Change Management Approach Sam DURLAND	Australia's Future Submarine - a Case Study of Engineering Leadership in a Political Context Christopher SKINNER	Increasing Student Exposure to Professional Practice via a Cooperative Education Program Julia LAMBORN	Adaptation of Railway Infrastructure to Climate Change: Case of Philippines Pratush KUMAR	Optimising road freight productivity and safety by better utilising telematics data to inform road management John GORDON, Gavin HILL	NorthConnex: Building Our Sustainable Future with the SDGs Sarah BLAGROVE, Cassandra O'CONNOR	Engineering for Humanity - Sustainability of Wash, Sanitation and Hygiene (WASH) in Cox's Bazar Rohingya Refugee Camps Camilla BACHET	EWB Australia's School Outreach Program: Redefining The E In STEM For A More Diverse Future Workforce Anna CAIN	
11:15	Intelligent asset management of community infrastructure using stochastic modelling, internet of things and artificial intelligence Kanishka ATAPATTU	Turning data into intelligence - A mining utilities industry approach Kevin CHONG, Stuart NELL	Influencing and improving governance of public transportation projects Laurie BOWMAN	Taming Mega Projects. Delivering fast paced, large scale and complex projects William SMITH	TRIZ thinking heuristics to nurture future generations of creative engineers Iouri BELSKI	Preparing the emergency management sector to climate change: example from Queensland, Australia Fahim TONMOY	Improving Road Safety with Safe System Assessments Kenn BEER	Restoration Of The 114 Year Old Heritage Timber Truss Bridge At Barham Sam MILLIE	Australian Indigenous Sustainable Engineering: Realisation and Recognition Bill JORDAN	Diversifying Diversity: LGBT Representation in STEM Industries Matthew TENDAM, Daniel LUKIES	
11:30	Frontier Technologies in Aid and Development – The pathway to scalable implementation. Rasika MOHAN, Richard HANNA	Data Quality in Engineering Asset Management – creating & maintaining a foundation for data analytics Allen TAM	Restructuring an organisation's Asset Management System Michael SCHULZER	Why practical engineering solutions are an under-recognised yet pivotal key to societal progress Nick FLEMING	The Power of an Hour and inspiring the next generation of STEM professionals David POINTING	Aerodynamically shaped cyclone shelters for Queensland John HOLMES	The Great Ocean Road - Heritage Management and Road Maintenance. John TUNN, Matt MOONEY, Emma MILLER-OLSEN	Sustainable Re-use of Sydney Tunnel Spoil Jonathon SUTTON, Phil DAVIES	Asset Management Empowering Sustainable Communities Anne GIBBS	Paradoxes to be met on the road to a diverse and inclusive workforce Kate O'BRIEN	
11:45	A Cost Effective Recycled Glass Technology Dilan ROBERT	On-demand Public Transport: utilising data analytics to overcome transport challenges Ernest WONG, Mathieu VOISIN	How to increase the chance of project success Tim ELLIS	Shutdown, Inspection, Monitoring – When a 90 year old water asset interacts with the construction of a Motorway Rex WIGHTLEY, Fernando ORTEGA	Accelerating Change and the Role of Future Engineers Craig WATKINS	Global Wildfire Protection: A Proposal for an International Shared Aerial Wildfire-Fighting Aircraft Fleet and Satellite Early-Warning System Graham DORRINGTON	zero2050 – a planning framework to achieve zero road trauma by 2050 Johan STRANDROTH, Wayne MOON	Comparison of Energy Savings using 25kV Static Frequency Converter system for Traction Power Steve SMITH, Stephen GOH	R&D of closed loop technology for WPA off-gas based on full recovery of gaseous elements released from phosphate ore decomposing Jing GE, Jiahua ZHU	Galvanising a profession to truly embrace diversity Bridgit SISSONS	
12:00	Research Trends in the Advanced Applications of the Emerging 2D Nanomaterials in Construction Materials Sherry ZHANG	Performance Requirements for patch repair mortars on cracking resistance and durability Brian ABALA	How To Effectively Lead From The Middle James IOU	Engineering for Social Impact Requires Re-Thinking Engineering Leadership Jennifer TURNER	The Wonder Project – inspiring kids into engineering, particularly those that wouldn't normally choose it Bridgit SISSONS	Cyclone resilience modelling and the development of new insurance coverage programs for housing in Fiji Geoff BOUGHTON	Can a Road Maintenance Project Contribute to Sustainable Development Goals? Meiti Harlina KRAMADIBRATA	Testing of Existing Fibre Reinforced Polymer Strengthened Bridges – Are We There Yet? Steven HEFFERNAN, Udaya SATHIAMURTHY	Timber – The Human Material and a Case for Wellness Quentin JACKSON, Jeremy MANSFIELD	Towards Diversity in Engineering: Progressing from Empowerment to Power Jillian KENNY	
12:15	Abstract - Effect of boron addition to steels and recommended practice for welding Sasanka SINHA	Optimising Wind Farm Performance through Well-Engineered Visualisations David BOWLY	Breaking Up Is Hard To Do: My Experience Selling Part Of The Jacobs Business And Learning To Lead Through A De-merger Helen FORSTER	Building Global Partnerships through Emerging Technical Leaders in the Electricity Sector Beer OPATSUWAN	Integrating RAM process within design to improve overall reliability in sustainability projects Shiyam MADAN	Green equate: Enabling urban renewal through effective flood risk management Amarnath REDDY	Heuristic Approach to Routine Road Maintenance in a Resource-constrained Environment Folake Olubunmi AKINTAYO	Investigating the Diffusion Mechanism of Light Petroleum Solvents from Sprayed Seals Using Non-Destructive Method Affia TAMANNA	Cruising to a Sustainable Future: Sink or Swim Michael HANBURY	Balancing Act – The art of controlling your work-life structure Kathleen BOSELEY	
12:30	Enhanced performance of concrete with use of Carbon Nanotube enriched liquid additive Robert CAVALIERO	No one is an island: Bringing about coastal resilience through community, big data & data analytics Rebecca DRAKE	Driving Innovation Through Small Business Blake BOULTON	Building trust and (re)gaining stakeholder confidence Helen DAVIDSON	Building Resilience in Indian Slum Communities with Energy-Efficient Products Amy FORSYTH	Research on data and strategies related to building resilience in the context of climate change Jing HE	Why great freight infrastructure makes for great liveability Andy DOE, B APP SCI, M ENG SCI, RPEQ, CGEOL	Influencing Design and Improving Accessibility through Pedestrian Simulation Modelling Sarah ZHANG	Sustainable Asset Management Andrew JONES	Addressing Gender Diversity within Australia's Subsea Engineering Sector Sarah WATSON	
13:00											
14:00	Innovation and disruption	Robotics, cyber security and the internet of things & x1 Biomedical	Transformative models 2	Industry-education collaboration	Resilience	Sustainable water management practices	Sustainable assets and utilities - water	Transport systems - future	Sustainable assets and utilities (water, energy, waste)	Capacity building (inclusion focus)	
14:00	Signalling the Layout – Automation in the Design Process Wei SUN	Fibridge: Embedded fiber-optic sensing for low-cost, high resolution monitoring in bridges and IoT-connected systems Dusan STOJKOVIC, Ajay RAGHAVAN	The Regenerative Economy David RICE	Industry and Education Collaboration Is Empowering the Careers of Indigenous Students Gerard RYAN, Anita LEE HONG	Climate Changed: Evaluating vulnerabilities and enhancing the resiliency of the built environment Mike WILLIAMS, Kevin PEDDIE	Myalup - Wellington Water for Food – A Sustainability Challenge for Community & Industry Daniel VISSER	Small-scale Wastewater Treatment Technologies for Challenging Environments Shona FITZGERALD	Streets of the future – the Movement and Place approach to New Mobility Mary HAVERLAND	A Novel Concept in Reducing the Energy Consumption of RO Desalination Systems – Experimental Investigation. Ahmed SWIDAN	Three key elements to diversify the future workforce Annabella DAO	
14:15	How new technologies can improve the Melbourne Tram Network Alain CROSET, David Edward ANDERSON	Design and Evaluation of Safety Instrumented Systems: A Simplified and Enhanced Approach Angelito GABRIEL	Infrastructure Sustainability Rating Tools – exploring opportunities for the engineering profession based on international research Kerry GRIFFITHS	The power of partnerships: increasing female participation in engineering. Les DAWES, Simone LONG	Infrastructure Resilience: Resilience Engineering Mitigates Natural and Anthropogenic Hazards Chris QUIN	Hybrid Water Systems: Realising their Benefits with Ultrasonic Smart Metering Martin ANDA	Engineering Challenges of the Snowy 2.0 Pumped Storage Project Michael YEE, Ben CHAPMAN	Flying Cars – More than a Matter of Engineering Innovation Christopher DE LUIS	The Biodigester: An All in One Technology Improving People's Lives in Cambodia Heidi MICHAEL	Inclusive Culture for Building Greater Capacity and Outcomes Collette BURKE	
14:30	Case study: Optus stadium (Perth) – the implementation of openmim and digital design in delivering a state-of-the-art stadium Clayton RIDDLE, Sean MCGINN	Tank Upgrade Success through Effective Collaboration Niki ROBINSON, John EWERS	Charting the Leadership of Organisational Change Greg MCMAHON	Industry education – creating better engineers for a sustainable future Trish KERIN, Stuart CHIA	Resilience is the new Sustainability Paul O'CONNELL	Urban Waterways Renewal Project – A Leading Western Australian Demonstration Project in Water Sensitive Urban Design Agni BHANDARI	Kariba Dam Rehabilitation: Project Implementation Appraisal Kozanal GURUKUMBA	Bridging the gap between policy & deployment: Liveable cities through connected mobility and innovation Scott BENJAMIN, Majid SARVI	Achieving the UN Sustainable Development Goals: Productivity and engineering improvements James TREVELYAN	The contribution of Diversity and Inclusion at VicRoads Louise GARTLAND	
14:45	Production of Bio-Lubricant from Neem Seed Oil Babatope OLUFEMI	The Connected Site: How to digitally disrupt an \$18b construction program Matthew BOWLER, David MURPHY, Rhys CRAIGIE	Engineering a sustainable world: decision making for public infrastructure investments Angela REIDY	Developing the next generation of innovative leaders through GRIP Cordelia SELOMULYA, Victoria HARITOS	Community Resilience - Why It Matters and the Role of the Engineer David SINGLETON	Preliminary environmental profile study of Inanam river catchment, Sabah, Malaysia Kok Hou KU	Engineering a sustainable future (population growth, biodiversity, ecosystems) & Smart Farming	Present Technology – Future Public Transport Richard LAU	The Australian Minerals Industry Experience – SDGs in Action Rasika MOHAN, Jillian D'URSO	Developing Multicultural Teams for Optimal Performance and Maintaining Heterogeneity Peter RUNDLE	
14:49							Smart Irrigation: Proximal Soil Moisture Sensing for Real-Time Water Delivery Control Xiaoling WU	Rocklea to Darra: Bicycles and B-doubles Co-Existing Fran SATYA, Stuart COOK	Sustainability in Design – a toolkit for innovation Emma DADE, Damien WAGNER	Engineering Technologies Assisting Children with Autism Robert WILLIAMSON	
15:00	Impact of REFCL (Bushfire Mitigation Technology) on HV Customers Abrar AZIZ	Guiding Students with "Remote Hands" for Electronics Troubleshooting in Undergraduate Units Siva CHANDRASEKARAN	An Engineering Solution to Assist the Elimination of Trachoma from Australia Peter ROGERS	Industry Implementation of Aboriginal Cultural Heritage Education Programs Xavier HOLLIS, Tom GOLDFINCH	Building multi-generational infrastructure to meet community needs Suzanna REMMERSWAAL	Strengthening Resilience: An Application of Rapid Urban Flood Modelling to Inform Strategic City Scale Flood Management Elena SHAFRANOVA	Engineering Innovations in support of the Blue Economy and Sustainable Development Goals Andreas MAROUCOS	Greening Aircraft with Hybrid Turbo Electric Propulsion Systems Mithun ABDUL SATHAR EQBAL	Sustainable Victorian Assets Collette BURKE	From safety through well-being to inclusion Mary-Ellen FEENEY, Andrew SPINKS	
15:15	How Open Data Innovation Helps Engineer a Sustainable World Bernadine FERNZ, Duncan DEWHURST	Enabling data access and engagement: developing affordable remote immersive collaboration spaces for all Cheryl DESHA	The Engineering Skillset And Mindset – It's Contribution To Wider Society (how rocket science led me to develop a general framework for complex problem solving) Jane MACMASTER	The Model of Effective Collaboration Between Universities and Companies Bahar ALIYEVA	Engineering for a Future Ready City Richard PALMER	The growth of alternative water assets in Adelaide, South Australia Craig FLAVEL	Using Genetic Engineering to Increase Crop Production and Nutritional Diversity Elliot JONES	Overhead Wiring (OHW) Creativity and Innovation applied on the Elevated Railway Aung Kyaw Kyaw LWIN	Developing WA's for David SOURBUTTS	How happy and diverse teams deliver sustainable business Sajjad MAQBOOL, David COLLETT	
15:30	A green foundation for offshore wind energy helical piles Yuxia HU		Bringing engineering to life - to support an inclusive modern, influential and diverse profession we have transformed Susan FREEMAN-GREENE	Industry-education partnerships in support of developing the workforce of the future Samuel PERKINS	Plymouth Bridge Remediation: Putting Sustainable Heritage Engineering into Practice Sid FRENCH, Robert POWER	Design of energy generation systems for water use efficiency Sudeep NAIR	Integrating sustainable infrastructure into new urban developments Carol BOYLE				
15:34											

Themes	Theme 1: How new technology and innovations are reshaping engineering (SDG 1, 6, 7, 9, 12, 13, 14, 15)
	Theme 2: Engineering for humanity, responsive design for greater liveability (SDG 1, 2, 3, 4, 10, 11, 12)
	Theme 3: Fostering diversity and inclusion (SDG 4, 5, 10, 16, 17)
	Theme 4: Preparing the next generation of engineers (SDG 4, 17)
	Theme 5: Engineering leadership, governance and influence (SDG 1, 4, 5, 8, 12, 13, 16, 17)
	Theme 6: Our changing climate: mitigation, resilience and adaptation (SDG 3, 6, 7, 10, 13, 14, 15)
	World Federation of Engineering Organizations (WFEO)

Updated on 15 April 2019 and is subject to change.