PROGRAMME

Sunday 9 December 2018 4.30pm Registration Opens Venue: Wintec, Rotokauri Campus 5.00pm – 7.30pm Pöwhiri and Welcome Function Venue: G-Block Foyer, Wintec, Rotokauri Campus, Hamilton All conference sessions from Monday 10 to Wednesday 12 December will take place at University of Waikato, Hamilton.

Monday 10 December 2018

8.00am	Registration Opens Venue: Ground Level Foyer, S Block, University of Waikato
8.30am – 10.30am	Conference Opening and Plenary Session 1 Venue: L.G.01, L Block, University of Waikato Chair: Janis Swan and Trudy Harris
8.30am – 8.50am	Welcome to Country - Mihi Whakatau
8.50am – 8.55am	Vice Chancellor (University of Waikato) <i>Neil Quigley</i>
8.55am – 9.00am	Acting Chief Executive (Wintec) Dave Christiansen
9.00am – 9.05am	Welcome by Conference Chair
9.10am – 10.05am	Totiū te mātauranga: Repositioning the emphasis Angus Macfarlane
10.05am – 10.15am	AAEE President Address <i>Tom Goldfinch</i>
10.15am – 10.25am	Engineering Futures 2035 <i>Doug Hargreaves</i>
10.25am – 10.30am	Group Photo
10.30am – 11.00am	Morning Tea and Exhibition Venue: Upper Foyer, S Block





Sunday 9 December and Monday 10 December

11.00am – 12.30pm	Parallel Sessions			
	Parallel Session 1A Venue: S.1.02 Chair: Sally Male	Parallel Session 1B Venue: S.1.03 Chair: Matthew Hughes	Parallel Session 1C Venue: S.1.04 Chair: Steven Goh	Workshop 1D Venue: SB.2
11.00am – 11.10am	Faculty attitudes towards integrated engineering as a concept and a curriculum ⁷⁸ Tom Goldfinch, J Vulic, K Willey, G Miao, R Fiford, A Hadigheh	Connection to country - Building a connection to Indigenous knowledges in engineering education ¹⁴⁹ Jennifer Turner, A Burt, L Mann	Enhancing innovation and entrepreneurial competences of engineering students through a systematic cross-industry innovation learning course ⁶ Pavel Livotov	11.00am – 12.30pm Using practice architectures theory to support writing practices in the engineering curriculum ¹⁶¹ <i>Rosalie Goldsmith,</i> <i>Keith Willey</i>
11.10am – 11.20am	Embedding a Management System for Engineering Education (MaSEE) into curricula ⁴¹ Bernadette Foley, T Gill, E Palmer, S Eglinton- Warner, B Senadji, E Martinez-Marroquin	Designing an on-country engineering education experience in collaboration with the Gunditjmara community ¹¹¹ Juliana Kaya Prpic, Damein Bell	A new higher education curriculum model to meet the needs of the Civil Construction industry ¹⁰³ A Irvine, J Irvine, Andrew Rose	
11.20am – 11.30am	Reflections on a large curriculum change project ¹⁴⁹ Roger Hadgraft, B Francis, J Lawson, R Jarman	Cross-cultural construction engineering with aboriginal communities ¹⁵⁸ Cat Kutay, B Gunay, C Tobin	Aligning student projects and curriculum design in mechanical engineering design courses to meet the needs of local industries ⁷¹ <i>Lim Jen Nee Jones,</i> <i>M Ismadi, B Thong Tan,</i> <i>S Wordley</i>	
11.30am — 11.40am	ALOhA! Aligning learning outcomes and assessment. First stages of a constructive alignment and curriculum mapping project at a unit and faculty level ⁷² Veronica Halupka, <i>T Nguyen, WM Woo,</i> <i>J Lamborn</i>	How we tell our engineering stories ¹⁵¹ Cat Kutay, Elyssebeth Leigh	Diversity games that highlight importance of diversity and collaboration for engineering and project management students ¹⁴⁴ Ehassan Sakhaee, <i>R Eymont</i>	

11.40am – 11.50am	Understanding the feasibility of micro- credentials in engineering education ¹⁰ Brenden Mischewski, A Christie	He Toki engineering leaders ¹⁷¹ A Te Whetu, Kym Hamilton, E Tarena	Developing critical thinking and intellectual design skills via collaborative projects in engineering and business postgraduate studies ⁹³ <i>Mahyar</i> <i>Shirvanimoghaddam</i>	
11.50am – 12.00pm	Using micro-credentials to improve Pasifika participation in engineering education ⁴⁰ <i>Neel Pandey, L Falema'a</i>	Strategies for promoting cultural diversity within student laboratory groups in an engineering degree course at an Australian University ³² S Jaikaran-Doe, B Leòn de la Barra, S Lyden, I Wang, F Fan, A Henderson, E Franklin, Peter Doe	Enhancing students' reflections in performance planning and review subjects ⁶⁶ Reza Mahinroosta, J Devitt	
12.00pm – 12.30pm	Discussion	Discussion	Discussion	
12.00pm – 12.30pm 12.30pm – 1.30pm	Discussion Lunch and Exhibition Venue: Upper Foyer, S Block	Discussion	Discussion	
· ·	Lunch and Exhibition	Discussion	Discussion	
12.30pm – 1.30pm	Lunch and Exhibition Venue: Upper Foyer, S Block	Discussion Parallel Session 2B Venue: S.1.03 Chair: Neel Pandey	Discussion Parallel Session 2C Venue: S.1.04 Chair: Anne Gardner	Workshop 2D Venue: SB.2

Monday 10 December

Monday 10 December

	Parallel Session 2A cont. Venue: S.1.02 Chair: Mohammad Al-Rawi	Parallel Session 2B cont. Venue: S.1.03 Chair: Neel Pandey	Parallel Session 2C cont. Venue: S.1.04 Chair: Anne Gardner	Workshop 2D cont. Venue: SB.2
1.40pm – 1.50pm	Rethinking progression of engineering students: Influential factors ¹⁶ Xianbo Zhao, J Pienaar, F Martin	Using culturally relevant game-based education strategy ¹⁸² Anuroop Gaddam, K Lundqvist	First contact – engaging engineering students in professional skills ¹⁰⁶ C Mankelow, Jim Hefkey	
1.50pm – 2.00pm	Employer and lecturer perceptions of science and engineering graduate competencies: Implications for curricular and pedagogical practice ⁵⁹ <i>Elaine Khoo, K Zegwaard,</i> <i>A Adam</i>	Supporting diversity: The emotional experience of different minority groups ⁷ <i>KF Wilson, Kate Wilson</i>	A novel approach to professional empowerment of engineers ⁷⁰ <i>P Cebon,</i> <i>Juliana Kaya Prpic,</i> A Ooi	
2.00pm – 2.10pm	Reflective practice in continuous professional development ¹³ Thanh Nguyen, M Bevis, J Lamborn	A conceptual framework to analyse diversity of perceptions in engineering students of learning management concept ²² K Dini, Aaron Blicblau, A Abdekhodaee	Finding the sweet spot - The key to enduring industry relationships ¹⁵⁶ Jennifer Turner, T Smith, E Crossin	-
2.10pm – 2.20pm	A new professional engagement program – outline and initial outcomes ⁶⁷ Anthony Kadi, D Lowe	Capitalising on student diversity in a masters level unit of study on safety systems and risk analysis ¹¹⁶ Rodney Fiford	Write your own reference: An innovative assessment strategy for quality self- reflections in engineering education ⁵⁴ <i>Miao Li, E Lindsay</i>	
2.20pm – 2.30pm	Mapping competency of final year engineering projects with AQF8 goals ¹⁶⁴ Mohammad Rasul, A Sayem, U Mumtahina	Dancing at the party: Educational practices in engineering education that foster diversity and inclusion ⁶⁹ R Chang, F Maclean, J Dohaney, Llew Mann	A numerical unhappiness function for allocating cadet engineers to placement positions ⁵⁸ <i>E Lindsay,</i> Reza Mahinroosta	
2.30pm – 3.00pm	Discussion	Discussion	Discussion	1

3.00pm – 3.30pm	Afternoon Tea and Exhibition Venue: Upper Foyer, S Block				
	Workshop 3A Venue: S.1.02	Workshop 3B Venue: S.1.03	Workshop 3C Venue: SB.02		
3.30pm – 5.00pm	Beyond the qualification – a guided self-assessment for future-proofing engineering education for a diverse workforce ¹⁴⁷ Natalie Lloyd, Eva Cheng, Art Agrawal	Implementing virtual work integrated learning ¹⁴⁶ Sally Male, David Pointing, Doug Hargreaves	Engineering futures 2035 ¹⁷⁸ C Crosthwaite, D Hargreaves, J Wilson, P Lee, B Foley, I Burnett, T Goldfinch, Mark Symes		

Monday 10 December

Tuesday 11 December 2018				
7.30am	Registration OpensVenue: Downstairs Foyer, S Block, University of WaikateParallel Sessions			
8.00am – 9.30am				
	Parallel Session 4A Venue: S.1.02 Chair: Maryam Moridnejad	Parallel Session 4B Venue: S.1.03 Chair: Mark Symes		
8.00am – 8.10am	Development of student confidence for academic success ²³	Visually exploring sentiment and keywords for analysing student		

8.00am – 9.30am	Parallel Sessions				
	Parallel Session 4A Venue: S.1.02 Chair: Maryam Moridnejad	Parallel Session 4B Venue: S.1.03 Chair: Mark Symes	Parallel Session 4C Venue: S.1.04 Chair: David Lowe	Workshop 4D Venue: SB.2	
8.00am – 8.10am	Development of student confidence for academic success ²³ <i>Aaron Blicblau</i>	Visually exploring sentiment and keywords for analysing student satisfaction data ⁸³ Samuel Cunningham- Nelson, M Baktashmotlagh, W Boles	Demystifying contemporary learner engagement: CQUniversity Engineering ¹¹² Aruna Jayasuriya, F Martin, B Taylor	8.00am – 9.30am Validating storytelling for indigenous knowledge teaching ¹⁵² Cat Kutay, Elyssebeth Leigh	
8.10am – 8.20am	One step ahead of national strategy: Integrating global competence in engineering education ¹⁷⁷ <i>Björn Kjellgren, E Keller</i>	Exploring the student experience of industry placements using sentiment analysis ⁹⁶ <i>Melanie Fleming,</i> <i>B Coulter, S Weaver</i>	Student engagement: how to quantify ²⁰ <i>Nirmal Mandal</i>		
8.20am – 8.30am	Reducing software engineers' "Fear of the large" ¹²⁷ Chris McDonald	Improving student engagement, experience and performance through experiential learning in a first year Engineering Mechanics course ⁹⁹ Shanmuganathan Gunalan , B Gilbert, H Guan, H Karampour, J Crough	Assessment of engineering professional skills through EPSA rubric class administrations ⁹¹ Hadisantono Hadisantono, <i>G Rowe, N Giacaman</i>		

9.30am – 10.00am	Morning Tea and Exhibition Venue: Upper Foyer, S Block			
9.00am – 9.30am	Discussion		Discussion	
8.50am – 9.00am	Human-centrics and design thinking in engineering practice ²⁸ <i>Warren Reilly, B McBride</i>	Discussion	Combined civil engineering and surveying field week – improved student outcomes ² Bruce Harvey	
8.40am – 8.50am	Can one class hour improve creative problem solving self-efficacy ¹⁷³ John Smith, I Belski, N Brown, J Kalyvas	Towards deterring contract cheating: Stimulating students' motivation through authentic assessment design ¹⁶⁷ <i>Samer Skaik, J Borg</i>	Lessons learned: Understanding online engagement satisfaction in a large postgraduate Information Assurance Principles (IAP) course ⁶⁸ Elena Sitnikova, <i>M Saberi, K Joiner,</i> <i>D Townsend, E Robertson</i>	
8.30am – 8.40am	Complexity makes me feel incompetent and it's your fault ⁶³ Keith Willey , T Machet	Feedback approach and its effectiveness; finding a new way to utilize the feedback more effectively in undergraduate engineering studies ¹⁶³ A Sayem, Mohammad Rasul , U Mumtahina	Creative engineering graduates – developing diverse thought ³⁷ John Baxter-Lindsay, P Briozzo	

Tuesday 11 December

10.00am – 11.30am	Plenary Session 2 Venue: L.G.01, L Block Chair: Tom Goldfinch				
10.00am – 10.45am	Accountability for Diversity: Addressing Power and Privilege in Engineering Education Donna Riley - Fullbright Scholar				
10.45am – 11.30am	Panel Discussion: Donna Riley Sonja Macfarlane Richard Coll Sheryl Sorby				
11.30am – 12.30pm	Lunch and Exhibition Venue: Upper Foyer, S Block		AAEE Annual General Meeting Venue: S.1.02		
12.30pm – 2.00pm	Parallel Sessions				
	Parallel Session 5A Venue: S.1.02 Chair: Gerard Rowe	Parallel Session 5B Venue: S.1.03 Chair: Chris Whittington	Parallel Session 5C Venue: S.1.04 Chair: Colin Kestell		
12.30pm – 12.40pm	ATAR, prior knowledge and performance in idea generation ⁸¹ <i>Gavin Buskes, I Belski</i>	Evaluating the impact of the YoWIE summer school on girls' perception of engineering ⁹⁷ Toby Boyson	A heutagogical approach for teaching a numerical analysis subject in engineering ¹²⁸ Peter To, R Tuladhar		
12.40pm – 12.50pm	If I don't have a language to discuss and think about it then it's not part of my reality ⁶¹ <i>Keith Willey,</i> A Gardner	Spatial skills and problem solving: Comparing low and high visualisers across genders in chemical engineering ⁸⁴ Grace Panther, S Sorby	Regular and automatic feedback of concepts as formative assessment ⁸⁷ Samuel Cunningham-Nelson, M Mukherjee, A Goncher, W Boles		
12.50pm – 1.00pm	Facilitating effective teamwork - engineering instructors' perspectives on strategies ³⁰ Jiachun Huang, T Vo, S Wordley, K Ryan	Strategies to increase equity and access in engineering internships ¹⁰⁷ <i>Natalie Lloyd, S Male, M Paull</i>	Creativity in mechanical design: The use of visually diverse ethnography methodologies for better practice ⁸⁹ Paul Briozzo, <i>R Fiford</i>		

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1.00pm – 1.10pm	Individual student assessment in team projects: A team charter approach ¹⁹ <i>Nirmal Mandal</i>	Capstone mechanical engineering design project – develop an interactive ball run display as STEM activity for the Waikato Museum ⁴⁹ Shen Hin Lim, P Higgins, R Jangali, G Neshausen	Safe system learning for tertiary road transport engineering students ¹²⁹ Christopher Stokes, W Moon, J Strandroth, J Woolley, N Johansson
1.10pm – 1.20pm	Encouraging engineering students participation in face-to-face peer learning ³¹ R Shvartsman, Liyuan Fan, V Trieu	Is engineering for me? Do girls have enough information to decide? ⁵² Janis Swan, B Cowie	Factors that influence peer learning in social media enhanced engineering courses ¹²⁰ <i>Mohsen Dokhanchi,</i> <i>L Kavanagh, C Reidsema</i>
1.20pm – 1.30pm	Implementation of marker training exercises to improve marking reliability and consistency ¹⁰⁸ <i>Gavin Buskes,</i> H Chan	Where do New Zealand female engineers come from? Insights from a quantitative analysis ⁴⁸ <i>Paul Docherty</i>	Spatial skills and their correlation with engineering problem- solving ¹⁸³ Sheryl Sorby, G Duffy, N Loney, L Perez
1.30pm – 2.00pm	Discussion	Discussion	Discussion
1.50pm 2.00pm	Discussion	Discussion	Discussion
2.00pm – 2.30pm	Afternoon Tea and Exhibition Venue: Upper Foyer, S Block	Discussion	Discussion
	Afternoon Tea and Exhibition	Workshop 6B Venue: S.1.03	Workshop 6C Venue: SB.02
	Afternoon Tea and Exhibition Venue: Upper Foyer, S Block Workshop 6A	Workshop 6B	Workshop 6C
2.00pm – 2.30pm	Afternoon Tea and Exhibition Venue: Upper Foyer, S Block Workshop 6A Venue: S.1.02 Cultural diversity in engineering laboratory and project group work ³³ S Jaikaran-Doe, B Leon de la Barra, I Wang, A Henderson, E Franklin, Peter Doe	Workshop 6B Venue: S.1.03 Facilitating interdisciplinary teamwork with boundary negotiating artifacts ⁴⁴	Workshop 6C Venue: SB.02 Developing 3-D spatial skills for engineering success ¹⁶⁵ Sheryl Sorby

Tuesday 11 December

8.00am	Registration Opens Venue: Downstairs Foyer, S Block, University of Waikato					
9.00am – 9.45am	Plenary Session 3 Venue: L.G.01, L Block Chair: Janis Swan	Venue: L.G.01, L Block				
9.00am – 9.45am	Engineering Education in the I Richard Coll	Pacific: Managing Quality a	nd Diversity			
9.45am – 10.15am	Morning Tea and Exhibition Venue: Upper Foyer, S Block					
10.15am – 11.45pm	Parallel Sessions					
	Parallel Session 7A Venue: S.1.02 Chair: Roger Hadgraft	Parallel Session 7B Venue: S.1.03 Chair: Aidan Bigham	Parallel Session 7C Venue: S.1.04 Chair: Keith Willey	Workshop 7D Venue: SB.2		
10.15am – 10.25am	Identifying students' procedural and conceptual difficulties with mathematics ²¹ <i>Nigel Shepstone</i>	Experiencing disability: A preliminary analysis of professional identity development in U.S. undergraduate civil engineering students ⁸ Cassandra Groen- McCall, L McNair, M Paretti, A Shew, D Simmons	How to maintain the conversation, group work and peer assessment when a modest post- graduate course goes big ¹⁸⁴ Navid Haghdadi, I MacGill	11.00am – 12.30pm Technology-enabled international joint courses ¹⁶⁰ Ang Liu, Yun Dai, S Lu, A Trowbridge		
10.25am – 10.35am	Strategies for teaching engineering mathematics ²⁶ Maree Lake, N Lake, R Vasquez Padilla	Recognising diversity in the improvement of educational practice ⁵³ <i>H Marzbani, M Jollands,</i> <i>Colin Kestell</i>	Implementation of team-teaching in a large class through a flipped learning approach for an engineering design unit ⁸⁶ Mohd-Zulhilmi Paiz Ismadi, L Jones, S Wordley			

10.35am – 10.45am	Teaching Physics concepts without (much) mathematics: View through a concept-index, threshold- concept lens ⁹ <i>M Wilson, L Streeter,</i> <i>S Seshadri, Jonathan Scott</i>	Reflecting on our own learning: Incorporating diverse worldviews into teaching and learning activities ¹⁵⁹ Mohammad Al-Rawi, J Khanna, A Lazonby	Team-based assessment in a large class ¹⁵ Kana Kanapathipillai, L Collins
10.45am – 10.55am	Mathematics in a practice-based course: Entry requirements and diversity ¹²⁵ <i>Emily Cook</i>	Understanding student absenteeism in undergraduate engineering programmes ¹¹⁰ <i>S Bakrania,</i> Chris Whittington, <i>T Anderson, R Nates</i>	Delivering and engineering course across multiple campuses and online ¹⁵⁴ Fae Martin, A Jayasuriya, B Taylor
10.55am — 11.05am	A new learning environment through improved learning objectives in an introductory solid mechanics course ³⁹ <i>Christopher McGann</i>	A human centred design 'makerthon': The creation of a framework for teaching humanitarian engineering competencies ²⁹ Wenqian Gan, R Fiford, N Brown, S Perkins, C Wong	Teaching safety in design in large classes using VR ¹⁰¹ Sally Male, P Kenworthy, G Hassan, A Guzzomi, T Van Der Veen, J French
11.05am – 11.15am	Discussion	Developing awareness of stakeholders: Contrasting professional ethics education in engineering and medicine ³⁵ Jain Skinner , A Torda	Redesign of first year 'Principles of Engineering Design' course ¹¹³ E Hakansson, H Namik, Febelyn Reguyal, C Toma
11.15am – 11.45am		Discussion	Discussion

Wednesday 12 December

11.45am – 12.45pm	Lunch and Exhibition Venue: Upper Foyer, S Block Parallel Sessions					
12.45pm – 2.25pm						
	Parallel Session 8A Venue: S.1.02 Chair: Robert Dantzer	Parallel Session 8B Venue: S.1.03 Chair: Prue Howard	Parallel Session 8C Venue: S.1.04 Chair: Graham Town	Workshop 8D Venue: SB.2		
12.45pm – 12.55pm	Application of BYOD-based pedagogy in engineering education ⁵⁶ Hossein Askarinejad, L Alton	A pilot initiative on improving students' task value perceptions of high school mathematics through practical STEM interventions ¹⁰⁰ B Taylor, Claire-Marie McLean, A Duncan, A Jayasuriya, R Dodd, T Whiting	Student perceptions of open-book and closed-book exams in postgraduate engineering management subjects ¹¹⁹ H Al-Kilidar, A Sixsmith, R Leveaux, G Mooney, Natalie Lloyd	1.30pm – 3.00pm He Awa Whiria: Weaving indigenous and western perspectives and creating inclusion in Australasian engineering education ⁹⁴ Matthew Hughes, Juliana Kaya Prpic, Tom Goldfinch, Jade Kennedy		
12.55pm – 1.05pm	Investigation of learning resource requirement to improve student engagement and satisfaction ⁹² Shaminda de Silva, <i>T James, A Jayasuriya,</i> <i>T Simpson</i>	What's your purpose? Redefining the being and becoming of future engineers through professional purpose ⁹⁵ Jacqueline Dohaney, L Mann, A Coddington	Changing student dispositions to learning: Preliminary findings of a case study ⁷⁹ <i>Nigel Robertson</i>			
1.05pm – 1.15pm	Streamlining student course requests using chatbots ⁹⁰ Melanie Fleming , P Riveros, C Reidsema, N Achilles	Attracting future engineers through practical and collaborative initiatives ¹⁷⁵ Levinia Paku, M Jenson, R Evans	Conceptualisations of academic rigour in engineering degree programs ³⁶ David Lowe, K Willey			

1.15pm – 1.25pm	A computer-assisted, personalized approach for efficient evaluation of large-scale assessment applications ⁸² L Senevirthna, A Goncher,	Future proofing engineers through embedded systems design ⁷⁵ D Preethichandra, U Izhar	Fostering project management competencies in undergraduate engineering: An exploration of the use of
	James Morgan		management-educated tutors as coaches in problem-based learning ⁵⁷ <i>Elaine Khoo,</i> <i>Jonathan Scott,</i> <i>D McKie,</i> <i>Bronwen Cowie</i>
1.25pm – 1.35pm	Diverse students and lecture recording technology: Can lecture recording replace lectures? ¹⁸⁰ Maimuna Musarrat , N Huda, B Williams, B Loch	Pedagogy, practice, participation: Reimagining edtech onboarding ¹²⁴ Sharanya Yoganathan, N Sherburn, V Halupka, J Li	The future of intelligent education is not artificial ¹⁸ Rudolf Zettler
1.35pm – 1.45pm	Thinking outside of the (Augmented Reality Sand) box ⁷⁶ Guien Miao, S Clarke, R Mammucari, L Parker	Articulation of Chinese students into an Australian engineering degree ¹⁷⁶ S Jaikaran-Doe, Sarah Lyden, Peter Doe	Core Concepts and Challenges in Sustainable Engineering Education in Australia ¹⁷⁹ Michele Rosano, J Scott, B Cowie
1.45pm – 1.55pm	An investigation on learning fundamental structural concepts and practical evaluation of e-learning through the platform Xorro-Q ¹⁶⁸ James Lim	Can we select students who will go on to be successful engineers? ¹⁰⁵ Enda Crossin, J Dohaney	Students as partners: developing a dialogue for change ⁴² <i>Melanie Fleming,</i> L Kavanagh, C Reidsema, A Waris, M Lee, S Liu, R Kara-Manning
1.55pm – 2.25pm	Discussion	Discussion	Discussion
2.25pm – 3.10pm	Venue: S.1.04 Conference Closing Presentation of Best Paper and Best Reviewer Awards Closing Remarks and AAEE 2019 Handover Poroporoaki		

Wednesday 12 December



Thursday 13 December 2018

8.00am for 8.30am start	Associated Deans Teaching and Learning (ADTL) workshop Venue: SB.02, University of Waikato, Hamilton	
9.00am	Indigenous People Workshop Venue: G Block, level If, Room rkg 1.24, Wintec, Rotokauri Campus, Hamilton	