

# Conference Program

| Sunday 4th December 2016    |   |
|-----------------------------|---|
| 5.30pm - 7.30pm             | Pre-Conference Registration<br>Conference Foyer   |
| 6.30pm - 8.30pm             | Welcome Reception<br>Charlie's Restaurant   |
| Monday 5th December 2016    |   |
| Opens 8.15am                | Conference Registration and Information Desk<br>Conference Foyer  |
| 9.00am - 10.30am            | Conference Opening and Plenary Session<br>The Reef Room   |
| Opening Ceremony:           | <p><b>Professor Scott Smith</b>, Chair of AAEE2016</p> <p><b>Uncle Larry Kelly</b>, Gumbayngirr Elder</p> <p><b>Professor Adam Shoemaker</b>, Vice Chancellor and President of Southern Cross University</p> <p><b>Associate Professor Prue Howard</b>, President of AAEE</p> |
| Keynote Presentation:       | <p><b>Professor Veena Sahajwalla</b>, UNSW Australia</p> <p><i>Engineering Education for the 21st Century – Why Industry Partnerships Work</i></p> <p>Chair - Les Dawes</p>   |
| Delegates' Group Photograph |   |
| 10.30am - 11.00am           | Morning Tea   |

**Monday 5th December - Continued**

|                   |   |  |   |  |   |
|-------------------|---|--|---|--|---|
| 11.00am - 12.30pm | <p><b>Presentation 1</b><br/>Facilitator – Lynette Johns-Boast<br/><i>Marina Room</i></p>   | <p><b>Presentation 2</b><br/>Facilitator - Charles Lemckert<br/><i>Harbour Room</i></p>  | <p><b>Presentation 3</b><br/>Facilitator - George Banky<br/><i>Jetty Room</i></p>   | <p><b>Workshop 1</b><br/><i>Sapphire Room</i></p>  | <p><b>Workshop 2</b><br/><i>Crystal Room</i></p>  |
| 11.00am           | <p><b>A Novel Real-Time Detailed Feedback Collection and Interaction Tool for Large Classes</b><br/>Alireza Ahmadian Fard Fini,<br/>Ali Akbamezhad and<br/>Taha Rashidi</p> | <p><b>Reskilling the manufacturing workforce and developing capabilities for the future</b><br/>Irene Penesis, Robin Katersky Barnes,<br/>Sue Kilpatrick, Mark Symes and<br/>Bernardo Leon de la Barra</p>   | <p><b>Skills for Managing Virtual Projects: Are they Gained Through Graduate Project Management Programs?</b><br/>Tarek Tawik, Hiyam Al-Kilidar<br/>and Ravindra Bagia</p>  | <p><b>Inclusive Pedagogy in Engineering Education</b><br/>Homero Murzi</p>   | <p><b>Using Narrative Analysis in Engineering Education Research: A Practical Guide</b></p> |
| 11.15am           | <p><b>Students' feedback - what can we do with it?</b><br/>Nirmal Mandal</p>  | <p><b>Essential Skills for Engineering Cadets and Graduates: Responses from an Industry Survey</b><br/>Shara Cameron and Josh Devitt</p>   | <p><b>Teaching Engineering Design using Modular Methods with Virtual Tools</b><br/>John Brady, Matthew Joordens<br/>and Ben Horan</p>   | <p><b>Assessing Students' Experiences in a Virtual Learning Environment</b><br/>Sivachandran Chandrasekaran,<br/>Julius Orwa and John Long</p> |   |
| 11.30am           | <p><b>Formative feedback on writing skills for international EAL student engineers</b><br/>Elizabeth Yong, Catherine Irving and<br/>Hiromi Teramoto</p>                     | <p><b>Professional development within study abroad programs for engineering educators to gain confidence in preparing students to contribute to the Sustainable Development Goals</b><br/>Nick Brown, Joli Price,<br/>Jennifer Patricia Turner<br/>and Alanta Colley</p> | <p><b>Optical Spectroscopy Laboratory with Complementary Virtual and Hands-on Experiments</b><br/>Maria del Carmen Lopez-Bautista,<br/>Sergei Khotiaintsev,<br/>Rodolfo Lorenzo-Bautista<br/>and Jumnuen Miron-Carrasco</p> |  |   |
| 11.45am           | <p><b>Student considerations on the use of annotated lecture notes and recordings in a learning environment</b><br/>Emily Cook, Therese Keane<br/>and Aaron Blieblau</p>    | <p><b>Transitioning into Professional Practice: The Employer Perspective</b><br/>Hansani Thebuwana, Roger Hadgraft<br/>and Firoz Alam</p>  | <p><b>Augmented Reality in Engineering Education: Current Status and Future Opportunities</b><br/>Veronica Halupka</p>  |  |   |
| 12.00pm           | <p><b>Out-of-Class Mathematics Support for Engineering Students</b><br/>Ian Lightbody, Therese Wilson and<br/>Graham Dawson</p>   | <p><b>Customizing the EPSA Rubric to Cover Local Curriculum Content for Assessment of Engineering Professional Skills</b><br/>Hadisantono, Gerard Rowe<br/>and Nasser Giacaman</p>   | <p><b>Discussion</b></p>  |  |   |
| 12.15pm           | <p><b>Discussion</b></p>  | <p><b>Discussion</b></p>   | <p><b>Discussion</b></p>  |  |   |
| 12.30pm - 1.45pm  | <p><b>Lunch</b></p>   | <p><b>Lunch</b></p>  | <p><b>Lunch</b></p>   | <p><b>Charlie's Restaurant</b></p>   |   |

**Monday 5th December - Continued**

| Monday 5th December - Continued |  | AAEE AGM   |   | Jetty Room  |  | Island Court |  |
|---------------------------------|--|--|---|---|--|--------------|--|
| 1.00pm - 1.45pm                 |  |  |   |   |  |              |  |
| 1.45pm - 3.15pm                 | <b>Presentation 4</b><br>Facilitator - Chris Browne<br><i>Marina Room</i>  | <b>Presentation 5</b><br>Facilitator - Graham Town<br><i>Harbour Room</i>  | <b>Presentation 6</b><br>Facilitator - Jo Devine<br><i>Jetty Room</i>   | <b>Workshop 3</b><br><i>Sapphire Room</i>   | <b>Workshop 4</b><br><i>Crystal Room</i>   |              |  |
| 1.45pm                          | <b>Optimising Accurate Academic Language Skills for Engineering Higher Degree by Research Students</b><br>Alison-Jane Hunter, Colin Kestell and Margaret Cargill | <b>Redesigning Engineering Curricula around Studios</b><br>Roger Hadgraft, Julia Prior, Justine Lawson, Tim Aubrey and Rob Jarman    | <b>Current Engineering Education and Training Practices on Aboriginal Cultural Heritage</b><br>Thomas Goldfinch and Xavier Hollis   | <b>Developing Humanitarian Pathways in Engineering Education and the Impacts on Gender Diversity</b><br>Alison Stoakley, Jennifer Turner and Nick Brown | <b>Managing Student Behaviours You Don't Understand</b><br>Lydia Kavanagh and Liza O'Moore |              |  |
| 2.00pm                          | <b>Transitioning to University: The engineering students' struggle</b><br>Maree Savins and Neal Lake   | <b>Engineering Fundamentals in a new Undergraduate Curriculum</b><br>John Long, Siva Chandrasekaran and Julius Orwa                  | <b>Laws of Attraction: Increasing Female Interest in Engineering</b><br>Tali Duffield and Jonathan Li   | <b>Developing Humanitarian Pathways in Engineering Education and the Impacts on Gender Diversity</b><br>Alison Stoakley, Jennifer Turner and Nick Brown |  |              |  |
| 2.15pm                          | <b>Transitional Issues Affecting the First Year Engineering Experience</b><br>Suzanne Walker and Llewellyn Mann  | <b>Increasing Safe Design Practice within the Engineering Curriculum</b><br>Bernadette Foley, Prue Howard, Yvonne Toft and Mike Hurd | <b>Implementing Active Learning Approaches to Enhance Learning for Students with Diverse Backgrounds in a First Year Engineering Course</b><br>Hassan Karampour, Benoit Gilbert, Hong Guan, Shanmuganathan Gunalan and Simon Howell |   |  |              |  |
| 2.30pm                          | <b>Classes to pass: Is class attendance a determinant of grades in undergraduate engineering subjects?</b><br>Timothy Anderson, Chris Whittington and Xue Jun Li | <b>Developing Engineering Sense through Holistic Engineering Education</b><br>Lisa Hansberry and Scott Smith                         | <b>Impact of Creating Critical Mass Classrooms for Females</b><br>Natalie Lloyd and Jolanta Szymakowski   |   |  |              |  |
| 2.45pm                          | <b>Using practice architectures theory to compare consecutive offerings of the same subject</b><br>Anne Gardner, Rosalie Goldsmith and Kirk Vessalas             | <b>Discussion</b>  | <b>Enhancing global mindsets</b><br>Justine Lawson, Roger Hadgraft and Patricia McLaughlin  |   |  |              |  |
| 3.00pm                          | <b>Discussion</b>  |  |   |   |  |              |  |
| 3.15pm - 3.45pm                 | <b>Afternoon Tea</b>   |  |   |   |  |              |  |

**Monday 5th December - Continued**

| 3.45pm - 5.15pm |   | Presentation 7<br>Facilitator - Colin Kestell<br><i>Marina Room</i>  |                                     | Presentation 8<br>Facilitator - Mark Symes<br><i>Harbour Room</i> |  | Presentation 9<br>Facilitator - Roger Hadgraft<br><i>Jetty Room</i> |   | Workshop 5<br><i>Sapphire Room</i> |  | Workshop 6<br><i>Crystal Room</i> |  |
|-----------------|---|--|-------------------------------------|---|--|---|---|------------------------------------|--|-----------------------------------|--|
| 3.45pm          | Optimising Problem Solving: student and tutor perceptions of problem solving within mechanical engineering<br>John Willison, Dorothy Missingham, Mel Cheong, Tayesha Papa, Raja Baksi, Siddharth Shah and Gianni Severino | Evaluation of Blended Learning Strategies from Exam Outcomes<br>Lauren Kark, Ross Odell and Robert Nordon  | Alternative Learning Environments   |   | Using a Taxonomy of Engineering Education Research to select key words and increase citation<br>Anne Gardner and Les Dawes |   | Tools for Embedding Safe Design Principles into Engineering Curricula |                                    |  |                                   |  |
| 4.00pm          | Validating Student-led Learning Initiatives in Problem Solving: a cross institutional case study<br>Dorothy Missingham, Mel Cheong, Luke Serfas, Deepika Phadke and Mark Symes  | Project Design and Scaffolding for Realising Practitioner Learning in a Large First Year Flipped Classroom Course<br>Carl Reidsema, Lydia Kavanagh and Julie McCredden                 | Blended Learning                    |   | Flipped Classroom and Project Based Learning<br>Surendra Shrestha  |   |   |                                    |  |                                   |  |
| 4.15pm          | Perceptions of computer and pen-and-paper based learning environments for engaging in creative problem solving activities<br>Andrew Valentine, Jouri Belski and Margaret Hamilton   | Exploring the quality and effectiveness of online, focused peer discussions using the MOOC chat tool<br>Carl Reidsema, Lydia Kavanagh, Emmi Ollila, Stephanie Otte and Julie McCredden | Problem Solving and Decision Making |   | Flipping the Classroom in an Engineering Design Unit<br>Scott Wordley, Lim Jen Nee, June, Matt Taylor and Ashlee Pearson   |   |   |                                    |  |                                   |  |
| 4.30pm          | Collabor8 and disrupt: Identifying influencers on STEM subject choices<br>Bronwyn Holland, Melissa Ronca Catherine Raffaele and Maya Marcus   | Student response to a technology enhanced learning space<br>Surendra Shrestha, Harry Wang and Carol Russell  |                                     |   | Creating a Learning Environment using Game Development<br>Simon Cavenett   |   |   |                                    |  |                                   |  |
| 4.45pm          | Statistical Analysis of Global Online Watch Data<br>Ronald Hugo and Alexandra Meikleham   | Challenges of Teaching Engineering Analysis Software to Distance Education Students<br>Wama Karunasena and Alexander Kist  | Discussion                          |   | Discussion   |   |   |                                    |  |                                   |  |
| 5.00pm          | Discussion  | Discussion   |                                     |   |  |   |   |                                    |  |                                   |  |
| 5.30pm - 7.00pm | Optional Tour - Solitary Islands Aquarium   |  |                                     |   |  |   |   |                                    |  |                                   |  |

(sign up at the registration desk)

## Tuesday 6th December 2016

|                          |  |                  |
|--------------------------|--|------------------|
| <b>Opens 8.15am</b>      | <b>Conference Registration and Information Desk</b>  | Conference Foyer |
| <b>9.00am - 10.30am</b>  | <b>Plenary Session</b>   | The Reef Room    |
| Keynote Presentation:    | <b>Professor Michael Prosser</b><br><i>Research into Student Learning in Higher Education: Implications for the Education of Engineers</i><br>Chair - Tom Goldfrinch   |                  |
| Panel Session:           | <i>Theme - Futuring engineering education</i><br><i>Members -</i><br><b>Stephen Durkin</b> , Engineers Australia<br><b>Anne Gardner</b> , University of Technology Sydney<br><b>Doug Hargreaves</b> , Australian Council of Engineering Deans<br><b>Trudy Harris</b> , Waikato Institute of Technology<br><b>Robin King</b> , Australian Academy of Technology and Engineering<br><i>Facilitator - Prue Howard</i> |                  |
| <b>10.30am - 11.00am</b> | <b>Morning Tea</b>   | Island Court     |









## Wednesday 7th December 2016

|  |  | Conference Registration and Information Desk   |  | Conference Foyer  |  |
|--|--|--|--|---|--|
|  |  | Plenary Session  |  | The Reef Room   |  |
| <p><b>Opens 9.00am</b></p> <p><b>9.30am - 10.30am</b></p> <p>Panel Session:</p> <p>Theme - <i>Toward parity within and beyond engineering education</i><br/>           Members - <b>Jade Kennedy</b>, University of Wollongong - <b>Sally Male</b>, University of Western Australia - <b>David Pointing</b>, Engineers Australia - <b>Jenny Turner</b>, Engineers Without Borders Australia<br/>           Facilitator - <b>Llewellyn Mann</b></p> |  |  |  |   |  |
| <p><b>10.30am - 11.00am</b></p> <p><b>Morning Tea</b></p>  |  |  |  | Island Court  |  |
| <p><b>11.00am - 12.30pm</b></p> <p><b>Workshop 13</b><br/>Marina Room</p>  |  | <p><b>Presentation 19</b><br/>Facilitator - Justine Lawson<br/>Harbour Room</p> <p><b>Analysis of Biomedical Engineering Programs in Twelve Universities</b><br/>Abbas Kouzani, Scott Adams and Ian Gibson</p> <p><b>The Geothermal Postgraduate Course at the University of Auckland: A Ten Years Retrospective</b><br/>Sadiq Zarrouk</p> <p><b>The Comparison of College Students' Engineering Training Education Between United States and China</b><br/>Yun Lin, Chao Wang and Qidi Wu</p> <p><b>Pedagogical differences in Engineering Education at Taiwanese and Australian universities</b><br/>Shaun Chen and Lydia Kavanagh</p> <p><b>Don't blame the student, it's in their mind: Helping engineering students to grasp complex concepts</b><br/>Julie E McCredden, Peter O'Shea, Philip Terrill and Carl Reidsema</p> |  | <p><b>Workshop 14</b><br/>Sapphire Room</p> <p><b>Using DACUM Job Analysis to Align Curriculum with Industry Needs</b></p> <p><b>Using DACUM Job Analysis to Align Curriculum to Align Industry Needs</b><br/>Md Afabuzzaman and Adil Abbas</p> |  |
| <p>11.00am</p> <p>11.15am</p> <p>11.30am</p> <p>11.45am</p> <p>12.00pm</p> <p>12.15pm</p>  |  | <p><b>Workshop 15</b><br/>Crystal Room</p> <p><b>Contextual Factors: Preparing Students for Professional Practice</b><br/>Hansani Thebawana, Roger Hadgraft and Firoz Alam</p>   |  |   |  |
|  |  | <p><b>Presentation 20</b><br/>Facilitator - Anne Gardiner<br/>Jetty Room</p> <p><b>Assessment of Credit Arrangements towards Engineering Programs/Courses</b><br/>Kall Prasad Nepal</p> <p><b>Influence of Prior Knowledge on Students' Performance in Idea Generation: Reflection on University Entry Requirements</b><br/>Iouri Belski and Regina Belski</p> <p><b>Rube Goldberg Machines as a Transition to University Tool</b><br/>Reza Mahinroosta and Euan Lindsay</p> <p><b>#UONinspire: Reinventing Orientation</b><br/>Bill McBride, Natalie Downing and Ruth Pring</p> <p><b>Redefining the Teaching of Enthalpy and Entropy in Thermodynamics</b><br/>Meng Wai Woo</p>  |  | <p><b>Curriculum</b></p> <p><b>Discussion</b></p>   |  |
|  |  | <p><b>Programs</b></p> <p><b>Creating a Learning Environment using Game Development</b><br/>Simon Cavenett</p>   |  | <p><b>Discussion</b></p>  |  |

