# ACSME CONFERENCE 2018

Flinders University
South Australia

| Day 1 Wednesday 26 September 2018 | | |
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| 8.30am - 9.00am | Registration | Physical Sciences - 0006, 0007, 0008 Anchor Court |
| 9.00am - 9.05am | Housekeeping | South Theatre 1 & 2 |
| \[00 mc,;lAKCX MZ:la5D';;;;; | Opening | South Theatre 1 & 2<br>*Professor Colin Stirling Vice Chancellor, Flinders University* |
| 9.15am - 10.15am | Keynote Speaker | South Theatre 1 & 2<br>*Dr John Debs* |
| 10.15am - 10.45am | Morning Tea | Anchor Court / 0008 |
| 10.45am – 12.30pm | Parallel sessions | |
| | Session 1A: WIL<br>Rm: 0008 | Future of work: innovation skills as the missing link for employability<br>*Giselle Camille Rampersad, Vlatka Zivotic-Kukuloj*<br>Preparing science students for the workplace through employer based projects<br>*Dylan James Irvine, Karen Burke da Silva, Ingo Köper, Rebecca Phyland*<br>Investigating the longitudinal effect of large scale implementation of inquiry and industry based laboratories on students<br>*Stephen Robert George-Williams, Angela Ziebell, Christopher Thompson, Tina Overton*<br>Using student self-reflection to improve learning outcomes and ensure work-ready biology graduates<br>*Charlie Huveneers, Karen Burke Da Silva, Guido J Parra*<br>WIL-ing participants: Supporting science students' participation in work-integrated learning<br>*Joanne Elliott, Trina Jorre de St Jorre, Elizabeth Johnson* |
| | Session 1B: Assessment<br>Rm: South 1 | Consistency of grading using a rubric versus a traditional marking scheme in statistics<br>*Anthony Morphett, Vasileios Giagos, Sharon Gunn, Jackie Reid*<br>Mastery Learning: Assessment for the Future?<br>*Danica Solina, Mary Patricia Coupland, Elaine Huber*<br>Designing curricula and assessments for quality learning in the school of earth and environmental sciences<br>*Simon B Bedford*<br>Development and validation of a chemistry critical thinking skills test<br>*Stephen Danczak, Chris Thompson, Tina Overton*<br>Innovative Strategies for Engaging First-Year Engineering Students<br>*Sharmil Randhawa* |

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| | Session 1C: Curriculum<br><br>Rm: South 2 | "They help you realise what you're actually gaining": using static badges to enhance skill recognition and value amongst science undergraduates<br>*Michelle A Hill, Tina Overton, Rowan Brookes, Russell Kitson*<br><br>Innovation to improve learning: what are we missing?<br>*Ian Paul Johnson*<br><br>Bunny Ears, Balloons or Flat Disks! Combining multimodal visual resources in blended learning environments<br>*Paris Renzella, Kim Nichols, Gwendolyn Angela Lawrie*<br><br>Complexity in curriculum design: Surfing at the edge of chaos<br>*Pauline Mary Ross, Philip Poronnik*<br><br>Future learning: Students creating a molecular virtual reality project<br>*Philip Poronnik, Christopher Hammang, Weber Liu, Eric Jiang, Jim Cook, Pauline Ross* |
| 12.30pm - 1.30pm | Lunch | Alere Function Center or Terrace |
| 1.30pm - 3.10pm | Parallel sessions | |
| | Session 2A: Communication<br><br>Rm: 0008 | Harmonising the teaching of scientific communication skills through the development of an e-learning tool<br>*Amber Jane Willems-Jones, Jiang-Li Tan, Nicole Kountouri, Joanne Russell*<br><br>Student Perception of Science Communication Pre- and Post-Completion of a Communicating Science Course<br>*Natalie Williamson, Heather Bray*<br><br>A project on communicating disease to non-scientists: do third year human pathophysiology students think this is an important task and what was the nature of the student experience?<br>*Brianna L Julien, Brian Grills, Louise Lexis*<br><br>The Living Data Project: Collecting, Visualising and Communicating Science<br>*Phillip Gough* |
| | Session 2B: Assessment<br><br>Rm: South 1 | What do first year students think about assessment and do staff agree with them?<br>*Yvonne Hodgson, Loretta Garvey, Josie Tighe*<br><br>Assessment of student reasoning through online synchronous concept chats<br>*Gwendolyn Lawrie, Efpraxi Kartsonaki, Renee Cole, James Li, Philip Waller, Carl Reidsema*<br><br>Improving essay writing in large classes<br>*Rebecca Hull, Alexander Zarebski, Robert Russo, Jen Martin, Robert Day*<br><br>Student and tutor perspectives of self, peer and tutor assessments for learning<br>*Nirma Anandi Samarawickrema* |
| | Session 2C: Curriculum<br><br>Rm: South 2 | Curriculum design to build capacity of industry professionals: a Masterclass in Horticulture 2860<br>*Alistair Gracie, Tina Acuna, Claire Knowles, David Monckton, Dugald Close, Mark Boersma*<br><br>Lessons Learned from Challenged-Based approaches to teaching in 1st year Chemistry and Physics<br>*Jamie Quinton, Ingo Köper* |

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| | | Steam: is it all just a load of hot air?<br>*Christopher Thompson*<br><br>An effective in-curriculum model for undergraduate students' development of transferable skills<br>*Chris Thompson, Tina Overton* |
| 3.10pm - 3.40pm | Afternoon tea | Anchor Court/0008 |
| 3.40pm - 4.40pm | Poster bites | Online tools adapted from industry for teaching agricultural science at university<br>*Tina Acuna, Beth Penrose, Oliver Roberts, Richard Rawnsley, Amy Cosby*<br><br>Problems of science teacher education and the effect on the objectives of sustainable development goals in Ebonyi state of Nigeria<br>*Stellamaris Ofoke*<br><br>Disparate development of student understanding and execution of the conventions of scientific writing<br>*Judit Kibedi, Kay Colthorpe, Jia Dai Mi*<br><br>Student choice of assessment type to demonstrate research skills in plant science<br>*Amanda Able, Beth Loveys*<br><br>Age, Time and Opportunity reigniting STEM participation<br>*Catherine Anne Burgess, Heath Jones, Murray Sciffer, Jennifer Irwin, Colin Waters*<br><br>Staff and student perceptions of feedback within biomedical science teaching<br>*Scott Clarke, Jessica Gibbons*<br><br>Influences shaping biomedical science students' graduate destination<br>*Christian Panaretos, Kay Colthorpe, Judit Kibedi, Louise Ainscough, Tracey Langfield*<br><br>Modern Chemistry: challenge-based curriculum design<br>*Ingo Koeper, Joe Shapter*<br><br>Are science academics on the same page as society for a new future of work?<br>*Jo-Anne Chuck, Felicity Blackstock, Thomas Millar, Christopher Jones*<br><br>Investigating the effects of object-based learning activities- a pilot study in polymer chemistry<br>*Nada Yahia Majhali, Maria Parappilly, Justin Chalker*<br><br>Systematic review of the association between lecture attendance and academic outcomes for science students, and the effect of lecture recordings<br>*Sheila Doggrell*<br><br>Determining and developing student self-assessment capabilities<br>*Victor Hasa, Tracey Langfield, Louise Ainscough*<br><br>No association between attending lectures or accessing recordings and academic outcomes for medical laboratory science students<br>*Sheila Doggrell, Frances Breen, Sally Schaffer*<br><br>'Let's not keep it private': schooling background and student preparedness transitioning into university<br>*Izaak Rutenberg, Louise Ainscough, Kay Colthorpe, Tracey Langfield, Judit Kibedi*<br><br>Gender Bias in NSW HSC Physics: Past, Present and Future<br>*Vicki Keast* |

Constructive alignment: Creating a quantitative approach to review science learning outcomes
*Elisa Kate Bone, Pauline Mary Ross*

Assessment design for a course/unit: data driven decision making vs. Academic views
*Lesley Lluka, Mark Williams, Prasad Chunduri*

Gender differences in first year undergraduate chemistry multiple choice question assessments
*Jacob Rhys Marchant, Natalie Williamson, Simon Pyke*

How do students deal with difficult physiological knowledge?
*Kay Colthorpe, Haruna Abe, Louise Ainscough*

Applying dispositional learning analytics to cluster learners by behaviours and performance
*Richard Leung, Louise Ainscough, Kay Colthorpe, Tracey Langfield*

The health science toolkit: a confident start to university
*Ranjna Kapoor*

Jindaola, an aboriginal way: embedding knowledges and perspectives across the curriculum
*Tracey Kuit, Karen Fildes, Jade Kennedy*

Augmented Reality in Science Communication
*Michael Gladys*

Rolling Over 1st Year Physics Labs
*Michael Gladys*

Motivating 1st year students to do practice tests increases both practice test uptake and assessment grades
*Stuart Marlin, Anita Gray*

An inquiry-based learning module to foster critical thinking in a second-year biochemistry practical class
*Amber Jane Willems-Jones, Izabela Orval, Wenjing Hu*

Three stories of science teaching and reflective practice – collaborating in teaching and learning scholarship
*Julia Savage*

Blended vs face-to-face comparison in delivering 1st year statistics
*Mitra Jazayeri, Premnadh Kurup, Xia Li*

Precursor or product: the blended learning environment in first year chemistry
*Erica Smith, Jeffery Kirkland*

The changing nature of mathematics support
*Lyn Armstrong, Donald Shearman*

Collective polymer lab learning: the UoN approach
*Clovia Holdsworth*

Structured media communication projects for students of the life sciences
*Christopher John Hammang, Scott Byrne, Geraldine O'Neill*

Investigating factors that influence STEM interest and attitudes
*Alexandra Yeung, Kimberley Phoon*

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| 5.00pm – 7.00pm | Poster Session | Posters as above |

| Day 2 – Thursday 27 September 2018 | | |
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| 8.30am - 9.00am | Registration | Physical Sciences - 0006, 0007, 0008 Anchor Court |
| 9.00am - 10.30am | Concurrent Workshops | |
| | Workshop 1 | Digitising chemistry teaching – workshop<br>*Magdalena Wajrak* |
| | Workshop 2 | TPACK: Unpacking how we approach online teaching<br>*Shannan Maisey, Reyne Pullen* |
| | Workshop 3 | Expectations about university study – how explicit are we and how well does student behavior align with staff expectations of students?<br>*Fiona Bird* |
| 10.30am – 11.00am | Morning Tea<br>Anchor Court/0008 | |
| 11.00am – 12.30pm | Parallel session 3 | |
| | Session 3A: Practicals<br>Rm: 0008 | Delivery of science practical classes in an intensive mode: staff and student perceptions<br>*Elaine Huber, Yvonne C. Davila, Alexandra C. G. Thomson, Peter C. Meier*<br>Embedding Inquiry-Based learning in practical laboratories using an assessment matrix<br>*Emma Thompson, Les Kirkup, Pauline Ross*<br>Feeling the heat: exploring emotional engagement of students with experiments<br>*Aesha Piyush Bhansali, Manjula Sharma*<br>A new model for assessing laboratory work<br>*Helen Johnston, Manjula Sharma* |
| | Session 3B: Creativity<br>Rm: South 1 | The performing sciences<br>*Ruth Aston, Terrence Damian Mulhern, Rinske Ginsberg, Sarah French*<br>How can we foster creativity in science education?<br>*Alice Minji Kim, Caroline Jane Speed, Janet Olwyn Macaulay*<br>Science through different cultures<br>*Angela Ziebell, Tyson Yunkaporta, Stephen George, Christopher Thompson, Tina Overton*<br>Developing deeper learning strategies to prepare STEM students for future careers<br>*Danica Mira Solina, Elaine Huber, Mary Coupland, Kate Crawford* |
| | Session 3C: Curriculum<br>Rm: South 2 | Supporting active learning through collaboration and problem solving in large subjects<br>*Hayley Elise Bugeja*<br>Engaging students with multiple pathways for problem solving<br>*Elizabeth Yuriev, John Burton, Kimberly Vo, Sheryl Maher, Christopher Thompson, Martin Scanlon*<br>Riddles and Reflection: The Question Matters.<br>*Petr Maximovich Lebedev, Manjula Devi Sharma*<br>Experiences of Undergraduate Health Sciences Students in a Biochemistry Unit: A Basis for Context-based Instruction<br>*Katherine Fernandez, Tina Overton, Christopher Thompson, Nirma Samarawickrema* |

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| 12.30pm – 1.30pm | Lunch | Alere Function Center or Terrace |
| 1.30pm – 3.00pm | Parallel session 4<br><br>Session 4A:<br>Maths Learning & Teaching<br><br>Rm: 0008 | Influence of prior schooling on undergraduate biology students' attitudes to mathematics and academic performance<br>*Nikola Stephen Markovina*<br><br>Student perceptions of a contextualised intervention in nursing numeracy<br>*Jim Pettigrew, Annette Stunden, Susan McGlynn*<br><br>First-year diagnostic mathematics tests<br>*Leanne Jill Rylands, Don Shearman*<br><br>An analysis to investigate students' deficiency in tertiary mathematics and statistics<br>*Gizem Intepe* |
| | Session 4B:<br>The Big Picture<br><br>Rm: South 1 | A new age of teaching: Teacher focussed, future focused<br>*Anthea Leigh Fudge*<br><br>Beyond 'the scientific method': what science in practice can teach students about the nature and process of science<br>*Robyn Yucel, Liz Johnson*<br><br>Enhancing academic engagement and delivery of innovative, high quality teaching in science courses through a grassroots learning and teaching community of practice<br>*Karina Riggs, Beth Loveys*<br><br>Revolutionising the first year in block mode<br>*Kathy Tangalakis, Samuel Howe* |
| | Session 4C:<br>Student Perspectives<br><br>Rm: South 2 | Skills development in undergraduate mathematics<br>*Penny Vervoorst, Deb King*<br><br>Undergraduate science-based courses - Issues affecting student progression<br>*Jared Ogunde*<br><br>Mathematics support – who needs it, why do they need it, and how should we deliver it?<br>*Deborah Cheryl Jackson*<br><br>Partners in protein science: students as co-creators in curriculum content and assessment<br>*Christopher Anthony Love, Julie Crough* |
| 3.00pm – 3.30pm | Afternoon tea | Anchor Court/0008 |
| 3.30pm – 4.30pm | Closing Panel | TBA |
| 6.30pm<br>(for 7.00pm start) | Conference Dinner | National Wine Centre Adelaide<br>*Dinner speaker: Corey Bradshaw* |

| **Day 3 Friday 28 September 2018 – Discipline Day** | | |
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| 7.45am - 8.30am | Travel | |
| 9.00am - 1.00pm | Discipline Day | |
| 1.00pm - 2.00pm | Lunch | |
| 2.00pm - 3.00pm | Wine Tasting | |
| 3.00pm | Departure | Return to Adelaide – Flinders University |
| 3.00pm | Departure | Travel to Cape Jarvis |