

## ANZIAM 2016

**Harvi Sidhu\***

The 52nd ANZIAM Conference was held from 7–11 February 2016 at the QT Canberra Hotel, Australia. The conference was well attended with a total of 202 delegates which resulted in a full programme of eight plenary presentations, and 168 contributed talks of which 76 were student presentations. The conference had numerous highlights including the eight invited talks, the Early Career Workshop, the Women in Mathematics Lunch, a special Mathematics Education Workshop for school teachers, a student event on the evening of Monday 8 February, a popular wine tour on the talk-free afternoon, and the Conference Dinner and Awards Ceremony. Furthermore, members of the organising committee ensured that all of the conference highlights were communicated via social media!

The eight plenary talks included presentations by the 2015 J.H. Michell and E.O. Tuck Medallists:

- Barry Cox (University of Adelaide — 2015 J.H. Michell Medallist): ‘Various models for graphitic nanostructures’;
- Edmund Crampin (University of Melbourne): ‘Mathematical modelling of calcium signalling in heart cells: from ion channels to whole cell models’;
- Jim Denier (Macquarie University): ‘The delightfully complex dynamics of some unsteady fluid flows’;
- John Dold (University of Manchester): ‘A Selective History of Combustion Modelling’;
- Troy Farrell (Queensland University of Technology — 2015 E.O. Tuck Medallist): ‘Mathematical Modelling of Li-ion Battery Cathodes’;
- Vivien Kirk (University of Auckland): ‘Making good use of time’;
- Petra Kuhnert (CSIRO, Adelaide): ‘Assimilating modelled catchment loads with monitoring data to estimate sediment loads to the Great Barrier Reef: a Bayesian approach’;
- Karen Willcox (Massachusetts Institute of Technology): ‘Multifidelity Methods for Design and Uncertainty Quantification’.

Details of all talks, including short biographies of the invited speakers, are available on the conference website <http://anziam2016.com/>. The organising committee is grateful to members of the invited speakers committee for the above excellent selection of invited speakers: Peter Taylor (Chair); Boris Baeumer; Sanjeeva Balasuriya; Richard Clarke; Markus Hegland; James McCaw; Kerrie Mengersen; Mary Myerscough; Jason Sharples; Harvi Sidhu and Natalie Thamwattana.

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School of Physical, Environmental and Mathematical Sciences, UNSW Canberra, ACT, Australia. Email: [h.sidhu@adfa.edu.au](mailto:h.sidhu@adfa.edu.au)

The Early Career Workshop was held at the QT Canberra Hotel on the afternoon of 6 February and the morning of 7 February, immediately before the main ANZIAM Conference. This is the second time that such a workshop has taken place during the period of the ANZIAM Conference, the first being at ANZIAM 2014. (This workshop alternates between the AustMS and ANZIAM Conferences.) There were 23 registered participants, which was a little disappointing considering there were no registration costs associated with the workshop. However, the feedback from participants was very positive. There were six invited speakers and panellists: Peter Taylor, University of Melbourne; Steve Barry, Airservices Australia; Jane Sexton, Geoscience Australia; Michael Plank, University of Canterbury; Adelle Coster, UNSW and Alexandra Hogan, ANU. The organising committee (Melanie Roberts, IBM; Roslyn Hickson, IBM; Leesa Sidhu, UNSW Canberra), together with the invited speakers formed a very lively panel during the Q&A sessions. The meeting finished off with lunch at the QT Hotel. The organisers would like to thank ANZIAM, AustMS and AMSI for their financial support for this important workshop.

On the Monday evening, around 40 of the student cohort gathered at PJ O'Reilly's pub for a social event organised by Rachael Quill and Alexandra Hogan. Students were able to meet and socialise in the less formal setting and chat over some finger food provided by ANZIAM. The students voted to put Laura Karantgis forward as the incoming Student Representative on the ANZIAM Executive, and it was also an opportunity to promote the Cherry Ripe Prize.

The Women in Mathematics Lunch was held on the Tuesday, with 58 participants (including 12 males). The lunch was chaired by Adelle Coster from the UNSW, and the panel consisted of Karen Willcox, Vivien Kirk and Petra Kuhnert. The panel discussion at the lunch was positive, focussing on the role of teaching and service in academic careers, academic leadership and encouraging young women to consider mathematical careers. The ANZIAM 2016 organisers thank ANZIAM, the Women in Mathematics Special Interest Group of the AustMS and the Australian Research Council through Professor Nalini Joshi's Georgina Sweet Australian Laureate Fellowship for supporting this event.

The inaugural Mathematics Education Workshop was run on the Tuesday afternoon, as a satellite event to this year's ANZIAM conference. The program consisted of two sessions of two hours, each with six speakers. The second session received Teacher Quality Institute accreditation for primary and secondary school teacher professional development. The event proved to be popular, with more than 100 people registering, including 50 mathematics teachers from ACT schools. The speakers covered a wide range of topics, from tips and techniques for improving mathematics education, to initiatives for increasing contact between tertiary and secondary mathematics teachers. The feedback from the school teachers was overwhelmingly positive, which is a testament to the importance of keeping in touch with the teacher community. Videos of all talks may be found at <http://tinyurl.com/zr22uxe>. The organisers would like to thank Associate Professor Chris Tisdell (Associate Dean, Faculty of Science, UNSW), and Professor Warrick Lawson (Head of School, School of Physical, Environmental and Mathematical Sciences, UNSW Canberra) for providing financial support.

Also on the talk-free afternoon, 20 delegates went on a wine tour to Mount Majura Vineyard, led by Alexandra Hogan. Mount Majura is well known in Canberra for its Tempranillo. The participants tasted 12 different red and white wines (all ‘very nice!’), accompanied by local cheeses and regional delicacies. Following the tasting, they were given a tour of the grape pressing and wine-making facilities. A late afternoon stroll through the grapevines was topped off by spotting some kangaroos, who were kind enough to pose for a photograph.

The venue for the Conference Dinner and Awards Ceremony was the National Museum of Australia, located on the shores of the beautiful Lake Burley Griffin. The Museum’s stunning architecture greeted the delegates after their short walk from the conference venue on the evening of Wednesday 10 February. During the course of the evening, delegates enjoyed their meal and drinks in a relaxed atmosphere. The main highlight of the evening was the announcement of several special ANZIAM awards. The following awards were announced:

- The 2016 ANZIAM Medal: Dr Frank de Hoog (CSIRO). The ANZIAM Medal is the premier award offered by ANZIAM. It is presented biennially. Full citations for the ANZIAM and Michell Medals appear in the preceding article.
- The 2016 J.H. Michell Medal: Associate Professor Joshua Ross (University of Adelaide). The J.H. Michell Medal is awarded annually by ANZIAM to at most one outstanding new researcher who has carried out distinguished research in applied and/or industrial mathematics within Australia and New Zealand.
- The 2016 A.F. Pillow Applied Mathematics Top-up Scholarship: Mr Alexander Tam (University of Adelaide). This award is for a PhD student in applied mathematics.



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Left: Robert McKibbin congratulating Frank de Hoog for being awarded the ANZIAM Medal. Right: Yvonne Stokes with the recipient of the J.H. Michell Medal, Joshua Ross.

This year, the committee decided to break from tradition and announce both the T.M. Cherry Prize and the Cherry Ripe Prize after the last talk of the conference on Thursday afternoon as part of the closing ceremony of the conference.

The T.M. Cherry Prize is awarded for the best student talk at the ANZIAM conference. With 76 excellent student talks to judge, the T.M. Cherry committee



Mark Nelson congratulating the joint winners David Arnold (left), and Adrienne Jenner (right).

certainly had their hands full! Indeed, the standard of student talks was so high in 2016, that the committee were unable to distinguish between the top two students. Mark Nelson, the Chair of the T.M. Cherry Prize Committee, announced the winners:

- Mr David Arnold (University of Adelaide) for his talk ‘Flow in spiral channels with arbitrary cross-section’;
- Ms Adrienne Jenner (University of Sydney) for her talk ‘Mathematical modelling of viral oncolysis: A PEG-modified adenovirus conjugated with herceptin’.

We are grateful to Mark and all of the members of his committee for their time and effort in judging all student talks.

On registration at ANZIAM 2016, students were informed of the Cherry Ripe Prize and were provided with voting slips. A few votes were submitted throughout the conference, with a surge on the last day once students had the opportunity to see as many non-student talks as possible. A meeting took place at morning tea on Thursday to allow students the opportunity to give more detailed feedback. The meeting was attended by approximately 15–20 students. A variety of speakers were nominated for the prize and given high praise by the students. Adelle Coster, Mark Nelson and Larry Forbes were given Honourable Mentions. The winners of the 2016 Cherry Ripe Prize were Melanie Roberts, who clearly showed her passion for her work, and Matthew Simpson, who ‘nailed it’!

Social Media formed an important part of ANZIAM this year! A lively Twitter discussion took place throughout the week with hashtag #ANZIAM2016, reaching as far as the International Centre for Mathematical Sciences in Edinburgh, UK. A Facebook page was also used to advertise the conference and associated events, as well as to publish many of the photos taken by Mark McGuinness and a number of conference attendees.

The ANZIAM conferences are important fora for students to attend and present their research. However, this involvement is only possible when suitable funding is available for students. Hence we would particularly like to acknowledge the CSIRO Student Support Scheme which assisted 32 students to attend ANZIAM 2016.

We also would like to thank all our sponsors: UNSW Canberra; College of Science and Mathematical Sciences Institute, ANU; School of Physical, Environmental and Mathematical Sciences, UNSW Canberra; ABARES, Department of Agriculture; Canberra Convention Bureau Inc; PDE Solutions Inc; LEAP Australia Pty Ltd; TECHNIC Pty Ltd and Overleaf. The financial and in-kind support have certainly made a huge difference in our ability to organise ANZIAM 2016 and all associated activities successfully.



The organising committee looking relaxed after the conference on Thursday.

I personally wish to thank the conference organising committee: Tristram Alexander (UNSW Canberra); Rowena Ball (ANU); Alexandra Hogan (ANU); Zlatko Jovanoski (UNSW Canberra); Rachael Quill (UNSW Canberra); Jason Sharples (UNSW Canberra); Leesa Sidhu (UNSW Canberra); Isaac Towers (UNSW Canberra) and Edward Waters (The University of Notre Dame Australia) for all their hard work in making this a successful conference. I would also like to acknowledge the assistance of Matthew Simpson and Scott McCue who provided useful advice and feedback from ANZIAM 2015, and Julia Piantadosi for always being there to offer helpful suggestions and support. Finally, many thanks to Mark McGuinness for all his hard work to ensure that we have a great photographic record of ANZIAM 2016!