ANZIAM 2009
The 45th Applied Mathematics Conference

Peter Johnston*

The 45th annual ANZIAM Conference was held in Caloundra on Queensland's Sunshine Coast from Sunday 1 February to Thursday 5 February. This lovely destination was chosen in keeping with the theme that the conference should be held away from major cities. However, access was easy with shuttle bus services running from both Brisbane and Sunshine Coast airports. The venue was also within easy walking distance of some of Queensland's best beaches and waterways. We thought that we were in for a repeat of last year's wet weather, with our traditional Sunday evening barbecue again forced indoors due to rain on previous days and forecast evening rain. Despite this initial setback the weather remained warm and humid for the remainder of the conference.

Professor Jim Hill opens the 45th ANZIAM Conference

The conference was opened bright and early on Monday morning by Professor Jim Hill from the University of Wollongong, the winner of the 2008 ANZIAM medal. Following Jim's address, the conference heard presentations covering the gamut of applied mathematics. In total, 114 contributed talks were presented, each of 15 minutes duration and covering three parallel sessions. This year, students contributed 46 talks, comprising over one-third of the presentations. Overall, there were a total of 131 registrations at the conference.

The broad spectrum of applied mathematics on show at the conference was also evident in the talks presented by the invited speakers:

- Jim Hill (University of Wollongong) (ANZIAM medallist, 2008), 'Geometry and mechanics of carbon nanotubes and gigahertz nano-oscillators';
- Graham Weir (Industrial Research Ltd, NZ), 'New developments in mathematical models of geothermal fields';
- Ian Turner (Queensland University of Technology), 'Error bounds for least squares gradient estimates';
- Guy Latouche (Université Libre de Bruxelles, Belgium), 'Structured Markov chains: applied probability and numerical analysis';
- Philip Maini (Oxford University, UK), 'Modelling aspects of cancer growth';

*School of Biomolecular and Physical Sciences, Griffith University, Nathan, Qld, 4111.
Email: P.Johnston@griffith.edu.au

- Natashia Boland (University of Newcastle), 'Solving industry problems with integer programming: recent experience and challenges';
- Jerzy Filar (University of South Australia), 'Controlled Markov chains, graphs and Hamiltonicity';
- Kerrie Mengersen (Queensland University of Technology) 'Interpreting images: Blending expertise from statistics and computational mathematics'.

All speakers gave entertaining talks, each providing an overview of their recent research.

Students attending this year's conference were the first to take advantage of the Student Support Scheme created under the sponsorship of CSIRO. The scheme was created to help students attend conferences and be exposed to a wide variety of applied mathematics and applied mathematicians. This year, 16 students were supported by the scheme, on average receiving $500 each.

As usual, the social aspects of the conference were a highlight, particularly on Tuesday's free afternoon. The main activity was an Australia versus the Rest of the World volleyball match organised by Mark McGuinness (Victoria University, Wellington). Remarkably, after three matches, played on three different afternoons, the result was a tie! (I think we really need Mark to explain that one.)

The conference dinner was also a highlight of the conference. We were privileged to have Jill Pillow as a guest at the dinner to present the inaugural A.F. Pillow Applied Mathematics Top-up Scholarship to Christopher Lustri from Queensland University of Technology. This scholarship is sponsored by the A.F. Pillow Applied Mathematics Trust and is valued at $10 000 per annum for up to three years. The aim of the scholarship is to increase the quantity and quality of postgraduate students in the field of applied mathematics in Australia. Jill gave a wonderful speech, recalling many aspects of Fenton's life, not all related to mathematics.

Mrs Jill Pillow presents Chris Lustri with the inaugural A.F. Pillow Applied Mathematics Top-up Scholarship as ANZIAM Chair. Professor Phil Howlett looks on.

Winner of the 2009 J.H. Michell medal, Scott McCue, listens as Mick Roberts reads the citation.

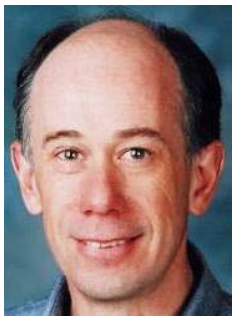
Also at the conference dinner, the J.H. Michell medal for the outstanding young researcher was awarded to Scott McCue from Queensland University of Technology. The citation for Scott was read by Mick Roberts, the Chair of the Michell Medal committee. The T.M. Cherry Prize for the best student presentation was won by Samuel Cohen from The University of Adelaide. Chair of the Cherry panel, Mark Nelson, commended the record number of student speakers on the outstanding overall quality of their talks. In light of this, the committee awarded Honourable Mentions to Jennifer Flegg (QUT), Michael Haythorpe (UniSA), Roselyn Hickson (ADFA), Giang Nguyen (UniSA) and Aaron Thornton (Wollongong). In addition to Mark, the other T.M. Cherry Prize committee members were Bob Anderssen (CSIRO), Alona Ben-Tal (Massey), Bronwyn Hajek (UniSA), Frank de Hoog (CSIRO), Phil Howlett (UniSA), Kerry Landman (Melbourne), Scott McCue (QUT), Mark McGuinness (Victoria, NZ), Graeme Wake (Massey) and Songping Zhu (Wollongong). Our thanks go to this hard-working committee for their efforts in fostering and rewarding the research efforts of the next generation of applied mathematicians. Another highlight of the evening was the presentation of the Cherry Ripe award selected by the students and chaired by Melanie Roberts. This award went to Phil Maini from Oxford, reflecting the quality of the invited speakers. Finally, Graeme Hocking (Murdoch) also won a consolation prize for yet again having his talk scheduled on the final morning of the conference, thereby precluding him from the competition for the main prize.

Mark Nelson (right) congratulates Samuel Cohen on winning the 2009 T.M. Cherry Prize.

In conclusion, I would like to thank the many people I worked with to stage this event and without whose hard work and dedication it would not have happened.

Firstly, the local organising committee of Troy Farrell (treasurer), Scott McCue (secretary) and Graeme Pettet (registrations) (all from QUT) made the day-to-day lead-up to the conference very easy. Tony Roberts (who began locally at USQ, but moved back to Adelaide midway through the organisation) did a great job of looking after the conference web site and producing the book of abstracts. Thanks must also go to Hugh Possingham (UQ) and his committee for producing an excellent group of invited speakers covering a wide range of applied mathematics topics. Finally, the organising committee gratefully acknowledges our major sponsor, Griffith University, for a donation of $4000 towards the general running of the conference.

For those interested in the conference or those who might like to see a photo of themselves, Mark McGuinness has created a web site containing photos from the conference (see http://homepages.ecs.vuw.ac.nz/~markm/ANZIAM09).



Peter Johnston began his mathematics career with an Honours Degree from the University of Tasmania. He subsequently obtained a PhD from the University of Queensland. This was followed by several years working in industry with BHP Research in Melbourne. He returned to Tasmania to study inverse problems in the Medicine Department at the University of Tasmania. The beginning of the millennium saw Peter move to Griffith University where he is currently an Associate Professor and Head of Applied Mathematics. He has research interests in numerical analysis, numerical and computational techniques and modelling electrophysiological phenomena of the human heart.