

ANZIAM 2005: The forty-first Applied Mathematics Conference, Napier, New Zealand, 30 Jan–3 Feb 2005

Alfred Sneyd

This conference was held at the War Memorial centre on Marine Parade, Napier. The conference was officially opened by Professor Robert McKibbin. There were 114 non-student registrants and 39 student registrants at the conference and 117 contributed talks. Because of the large number of talks the allotted time was reduced to 20 minutes with five minutes for questions. In addition to the regulars from both Australia and New Zealand, who are the backbone of this community, there were delegates from Fiji, The United States, Korea, Brunei, Canada, England, Japan, Norway, and Spain. There was no central conference theme but biological mathematics and magnetohydrodynamics were well represented.

There were seven invited talks, selected to present as wide an overview of Applied and Industrial mathematical research as possible.

Boris Baeumer from the department of Mathematics and Statistics at the University of Otago gave a talk entitled “A random walk to fractal calculus”.

Sam Howison from the Oxford Centre for Industrial and Applied Mathematics described “challenges and opportunities for mathematicians in the finance industry”.

Robert McLachlan from the Institute of Fundamental Sciences, Massey University spoke on “geometric numerical integration”.

Mark Nelson from the School of Mathematics and Applied Statistics, University of Wollongong talked on “improving the performance of bioreactors”.

Professor Eugene Parker from the University of Chicago spoke on “the singular property of the Maxwell stress tensor and stellar X-ray coronas”.

Charles Pearce from the School of Mathematical Sciences at the University of Adelaide explained mathematical theory of rumours.

Professor J.J. Tyson from the Department of Biological Sciences, Virginia Tech., USA talked on “network dynamics and cell physiology”.

Student presentations were again an important part of ANZIAM 2005. There were 34 student talks, 26 of which were entered for the Cherry Prize. All were well prepared and delivered. The T.M. Cherry Prize for the best student talk was awarded to Jason R. Looker of the Department of Mathematics and Statistics, University of Melbourne, for his talk “Homogenization of the ionic transport equations in periodic porous media”.

Honourable mentions were:

- Emily Duane (who spoke on her honours work).
- P.-J. White (who spoke on undergraduate work).
- Maya Ramakrishnan.
- Jane Thredgold.

The judging panel was:

- Larry Forbes (Tasmania) Chair
- Carlo Laing (Massey)
- Charles Pearce (Adelaide)
- Ken Louie (AgResearch)
- Kerry Landman (Melbourne)
- Aroon Parshotam (LandCare and Massey)
- Yvonne Stokes (Adelaide)
- Robert McLachlan (Massey)

I am most grateful to Prof. Larry Forbes for chairing the prize committee, and to the judging panel for their professional work.

As usual a welcoming barbecue was held on the Sunday evening at the War Memorial Centre. The conference dinner also took

place on Wednesday evening at the Centre. The after-dinner speaker was James Lyness of the Argonne National Laboratory in the USA, and we were treated to some insightful comments on NZ-AU relations, as well as some interestingly unpleasant recipes. A novel feature was the award of a special prize for the best answer to the eternal question — how many mathematicians does it take to change a lightbulb? The prize was judged and awarded by Fiona Sneyd to Professor John Butcher of Auckland University, whose answer was not only the most witty, but also by far the longest.

There was a free afternoon on Tuesday and excursions were organised to the gannet colony at Cape Kidnappers and to local wineries. Unfortunately the weather throughout the conference was miserable — light misty rain. The winery trip was not affected but those who bravely ventured to Cape Kidnappers returned somewhat wet, cold and muddied.

I must thank the organising committee for their tireless, accurate and efficient work.

As convenor I had the easy job, and the real work was done by our Secretary Tim Stokes, Treasurer Rua Murray, Webmaster Stephen Joe, Programme Director Sean Oughton, and Tour Organiser Evan Jones from the Eastern Institute of Technology, Napier. I must also thank the staff of the War Memorial Centre for the excellent venue and facilities, and for the very good barbecue and conference dinner.

Acknowledgements

We gratefully acknowledge our Major sponsor, the Royal Society of New Zealand. The generous grant of \$NZ 4500 allowed us to invite our chosen speakers from the Northern Hemisphere.

We are very grateful to Industrial Research Ltd., Wellington for the funding of the Cherry Prize.

Finally we should also thank Atlas Conferences for the provision of their abstract processing services used in producing the conference booklet.