Australian Mathematical Sciences Student Conference

Australian National University
15 –17 July, 2013

The AMSSC 2013 Organising Committee*

The second Australian Mathematical Sciences Student Conference (AMSSC) was held at the Australian National University (ANU) from 15 to 17 July. The aim of the conference was to provide a relaxed environment in which graduate students of the mathematical sciences, from all over Australia, had a chance to meet and share their work, and to provide a platform for possible future collaboration.

AMSSC 2013 participants (photos by Lashi Bandara)

The event attracted 75 student participants from across the country, with attendees from as far as Perth, Adelaide, Toowoomba and Hobart. The 61 student presentations covered a broad range of topics, from invariants of supermanifolds to the effect of climatic and oceanographic variables on penguin survival. The organisers were impressed with the volume of material that included original research. While most of the attendees were PhD students, there were 20 honours and masters students at the conference, many of whom also presented talks.

Several academics were generous in giving their time to support the conference, particularly our guest speakers Assoc. Prof. Mary Myerscough (University of Sydney), Prof. Mathai Varghese (University of Adelaide), and Dr. Marty Ross (Mathematical Nomad), all of whom took time out of their busy schedules to make the trip to the bush capital. Mary gave a presentation of her work in modelling the

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*Email: amssc@anu.edu.au.

Plenary lectures given by Assoc. Prof. Mary Myerscough and Dr. Marty Ross

behaviour of social insects; Mathai talked about index theory and his work developing fractional index theory; and Marty gave an entertaining exposition on the art of communicating mathematics. In addition, as part of the 2013 year of the Mathematics of Planet Earth, a public lecture was delivered on the Monday evening by Dr. Steve Roberts (ANU). Steve described the mathematical modelling of floods and tsunami waves, and at the same time gave insights into his experiences as a leading developer of the hydrodynamic modelling software ANUGA.

Women in mathematics drinks

Recently, a Women in Mathematics group was founded, as part of the AustMS, to promote gender equality in the mathematical sciences. On the Tuesday afternoon of the conference, an informal gathering between members of the group and conference participants was held. The group discussed gender issues as well as potential paths to solutions. The general discussion covered a broad range of issues,

and while it was widely accepted that a substantial shift, both inside and outside of the mathematics community, will be required to overcome the gender divide in mathematics, it is clear that some basic efforts can be made to improve the situation in the here and now. About 20–25 people attended; the overall sentiment was that the discussion had been fruitful and interesting.

Matthew Tam receiving one of the best talk awards

At the end of the conference, three participants were awarded prizes for presenting excellent talks. One of the prizes was dedicated to the best talk from the special stream 'Mathematics of Planet Earth', and the other two prizes were awarded to the best talks from the remaining participants. Billie Ganendran (ADFA) was awarded the Mathematics of Planet Earth prize for her talk entitled 'Effect of climate and oceanographic variables on survival of Little Penguins in South-Eastern Australia', while Matthew Tam (University of Newcastle) and Daniel Mansfield (UNSW) were awarded the remaining prizes for their respective talks 'Douglas–Rachford for Combinatorial Optimisation' and 'Non-singular dynamics and average return time'. Each of the award winners received a prize of $250, sponsored by the Modelling and Simulation Society of Australia and New Zealand. Congratulations to Billie, Matthew, and Daniel!

Finally, the organisers would like to thank our sponsors: AMSI, AustMS, CSIRO, Mathematics of Planet Earth Australia, the Modelling and Simulation Society of Australia and New Zealand, the ANU College of Physical and Mathematical Sciences, and the ANU Mathematical Sciences Institute. Without their generous assistance, the conference would not have been possible. We especially thank the Australian Mathematical Society for their valuable financial and technical support. While this is only the second instalment of the AMSSC, the organisers sincerely hope that this event will become a regular addition to the Australian mathematical sciences calendar. We hope that the success of this year's conference will help to attract similar support for next year's organisers.

The AMSSC 2013 Organising Committee: Alex Amenta, Lashi Bandara, Rachel Blakers, Chris Bourne, Koen van den Dungen, Mat Langford, Stephen McCormick, Matthew Randall, Chaitanya Shettigara, Griff Ware.