The 2007 ICE-EM Australian Graduate School in Mathematics

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The 2007 ICE-EM Australian Graduate School in Mathematics (IAGSM) was the third in the series. As in previous years, the IAGSM was held at The University of Queensland, Brisbane, in July, during the mid-year break between semesters.

The meeting was officially opened on 2 July by Professor Stephen Walker, Executive Dean of the UQ Faculty of Engineering, Physical Sciences and Architecture (EPSA). Professor Walker gave a 10–15 minute talk about the importance of mathematical research, based on his own experiences with medical and environmental mathematics, and also his administrative roles with ARC and EPSA. Speakers on behalf of UQ included Professor Mark Gould, President of the Academic Board, and Professor Halina Rubinsztein-Dunlop, Head of the School of Physical Sciences. ICE-EM was represented by Director Professor Garth Gaudry, who also gave a short welcoming speech.

This year's IAGSM attracted a record number of 65 applications, with a final number of 59 attendees from 14 Australian and four overseas universities, chosen on academic merit.

The AMSI/ICE-EM Advanced Coursework Committee which planned the courses, consisted of Professor Neil Trudinger (Chair), Professor Nalini Joshi, Professor Matt Wand, Professor Kathy Horadam, Dr Markus Hegland, Professor Mike Eastwood and Professor Garth Gaudry.

As in previous years, two courses were offered in each of three streams. This year the chosen streams were Statistics, Lie Theory, and Algebra & Combinatorics. Seven distinguished international mathematics researchers were invited to present the six courses, each consisting of 15 hours of lectures, as follows:

Statistics (2 July – 13 July)

Likelihood theory: Professor Anthony Davison, Institute of Mathematics, Ecole Polytechnique Federal de Lausanne, Lausanne, Switzerland.

Statistical analysis of multivariate and longitudinal data: Professor Louise Ryan, Chair, Department of Biostatistics, Harvard School of Public Health, Boston, USA.

Lie theory (2 July – 20 July)

Methods and applications of invariant theory: Professor Nolan Wallach, Department of Mathematics, University of California, San Diego, California, USA.

Differential operators on homogeneous spaces: Professor Leticia Barchini & Professor Roger Zierau, Department of Mathematical Sciences, Oklahoma State University, Stillwater, Oklahoma, USA.

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Algebra & combinatorics (2 July − 20 July)

Designs, code, cryptography: Professor Alexander Pott, Institut für Algebra und Geometrie, Otto-von-Guericke-Universität, Magdeburg, Germany.

Topics in graph theory: Professor Nick Wormald, Department of Combinatorics and Optimization, University of Waterloo, Waterloo, Canada.

The courses were supplemented by a range of social events: a welcome BBQ, a conference dinner and a fish 'n' chips night.

During the meeting, well-known mathematician and media identity Dr Clio Cresswell gave a public Lecture on *Mathematics and Sex*, which was well-attended.

Most attendees stayed at St Leo's College on campus, and all attendees and lecturers were invited to take lunch there each day of the meeting, to encourage interaction and discussion.

Overall, the event was a great success. Feedback from surveys conducted of both attendees and presenters indicated a high level of satisfaction with the courses and the event in general. By all accounts, the presenters found the IAGSM enjoyable and rewarding, and the attendees benefited both mathematically and socially.

Members of this year's Local Organising Committee based at UQ in Brisbane were Professor Tony Bracken (Chair), Professor Peter Adams (Deputy Chair) and Ms Lynda Flower (Coordinator).

For more details, see the IAGSM website: http://www.maths.uq.edu.au/IAGSM/ .