



News

General News

G.S. Watson Annual Lecture, 2009

'Do Australian parents want both a son and a daughter?', presented by Dr Rebecca Kippen (Australian Demographic and Social Research Institute, Australian National University), Thursday, 20 August 2009, 4.30pm to 5.30pm, Room 3.03, Applied Science 1 Building, Department of Mathematics and Statistics, La Trobe University Bendigo.

Research internationally has found that parents in many countries hold strong preferences when it comes to the sex of their children. In general, sons are preferred in India and China, while in Europe and English-speaking countries there is a bias towards at least one boy and one girl.

Using analysis of Australian survey and census data, Dr Kippen investigates whether Australian parents want 'one of each', whether women prefer daughters and men prefer sons (or vice versa), and what Australians think about sex-selection technology including the hypothetical 'blue' and 'pink' pills.



About the Presenter: Rebecca Kippen completed a Bachelor of Business at La Trobe University, Bendigo, before undertaking postgraduate study in Demography at the Australian National University. She is now a Fellow in the Australian Demographic and Social Research Institute at the Australian National University.

Rebecca's research interests include fertility modelling, Australian population futures and historical demography. Her work with Professor Peter McDonald and others has contributed significantly to the public debate in areas such as population growth and immigration. The research discussed in this lecture was funded by the Australian Research Council under grant DP0558818 and was carried out with Ann Evans and Edith Gray.

More information: www.latrobe.edu.au/math/watson/

Australian Learning and Teaching Council Project

The ALTC (Australian Learning and Teaching Council, formerly the Carrick Institute) is funding the \$215 000 project 'A national discipline-specific professional development programme for lecturers and tutors in the mathematical sciences', submitted in the Leadership for Excellence category. This initiative is supported by the AustMS, will commence mid-2009 and be completed by mid-2011.

The project aims to develop a suitable program of induction and professional development, systematically embedding knowledge and learning and teaching skills for early- or mid-career academics and inspiring experienced academics to use new ideas. The project is lead by Dr Leigh Wood (Macquarie University), and supported by team members Professor Nalini Joshi (Sydney University), Dr Birgit Loch (University of Southern Queensland), Associate Professor Diane Donovan (University of Queensland), Professor Walter R. Bloom (Murdoch University), Dr Matt Bower (Macquarie University), Dr Natalie Brown (University of Tasmania) and Jane Skalicky (University of Tasmania).

Australian National University

Professor Vladimir Bazhanov will be a plenary speaker at the XVI International Congress of Mathematical Physics to be held in Prague, 3–8 August 2009, where he will give a talk on ‘Quantum Geometry’. For further information, see the ICMP09 web site at <http://www.icmp09.com>.

Bulletin of the Australian Mathematical Society

Students and colleagues are reminded that the *Bulletin of the Australian Mathematical Society* publishes ‘Abstracts of Australasian PhD Theses’.

The *Bulletin* will accept abstracts of up to three pages (which may include references), and the submission may be the abstract included in the thesis itself. All the mathematical sciences are covered, including pure and applied mathematics, probability and mathematical statistics, mathematical physics and mathematical computer science.

Complete details can be found on the Bulletin page of the Society’s web site at <http://www.austms.org.au/Bulletin>.

Students who have recently completed their PhD are encouraged to consider publication in the Bulletin.

University of Ballarat

- Alex Kruger has taken over from Prabhu Manyem as local correspondent for the *Gazette*. The *Gazette* thanks Prabhu for his time as correspondent.
- Professor Jon Borwein, Visiting Conjoint Professor Laureate in Mathematics, University of Newcastle, is coming to Ballarat on 9 November to give the Alexander Rubinov Memorial Lecture for 2009: ‘Computer as Crucible’.

University of New South Wales: Scholarships in Mathematics and Statistics 2009

Scholarships in Mathematics and Statistics for 2009 were awarded at the Faculty of Science Presentation Evening on the 22 April. Congratulations to all the recipients, who were:

- Trevor Rose, SAS Institute Scholarship;
- Oliver Nunn, H.C. & M.E. Porter Memorial Scholarship;

- Georgia Tsambos, Faculty Undergraduate Scholarship;
- Matthew Brassil, Bundilla Scholarship;
- Harley Scammell, Bundilla Scholarship;
- Timothy Yip, Alma Douglas Scholarship for Statistics;
- Dominic Catsaras, School of Mathematics & Statistics Award;
- Corey Lewis, School of Mathematics & Statistics Award;
- Jennifer Dang, Girls Do The Maths Scholarship;
- Daniel Floyd, School of Mathematics & Statistics Rural Scholarship;
- Matthew Perrett, School of Mathematics & Statistics Rural Scholarship;
- Sen Lin, School of Mathematics & Statistics Scholarship;
- Anthony Morris, School of Mathematics & Statistics Scholarship;
- Jiaqi Chen, School of Mathematics & Statistics Teacher's Scholarship;

University of New South Wales: School of Mathematics and Statistics Prizegiving 2009

The School of Mathematics and Statistics Prizegiving was held on Friday 3 April 2009. Congratulations to all the prizewinners:

- School of Mathematics and Statistics Prize 1: for best performance in MATH-1131 Mathematics 1A or MATH1141 Higher Mathematics 1A, and MATH1231 Mathematics 1B or MATH1241 Higher Mathematics 1B in a Bachelor program: Anthony Morris
- School of Mathematics and Statistics Prize 2: for best performance in the core Level 2 Higher Mathematics Units in a Bachelor Program: Chin Pin Wong
- Head of School's Prize: for excellence in four or more mathematics units in Year 2 in a Bachelor Degree Program. Shared by: Stephen Sanchez, Kieran Leong and Timothy Yip
- The C.H. Peck Prize: for best performance in Year 2 Mathematics by a student proceeding to Year 3 in the School of Mathematics and Statistics: Chin Pin Wong
- J.R. Holmes Prize: for excellence in Level 3 Pure Mathematics courses in a Bachelor Degree Program: Michael Abbott
- J.R. Holmes Prize: for excellence in at least four pass-level Pure Mathematics Level 3 Units: Gregory Chung
- Applied Mathematics Prize: for excellence in Level 3 Applied Mathematics courses in a Bachelor Program: Adrian Nicholas
- The Michael Mihailavitch Erihman Award for the best performance in examinations in a mathematics major offered by the School of Mathematics and Statistics in any one year. Shared by: Chin Pin Wong and Anthony Morris
- Department of Employment and Workplace Relations Prize for Statistical Methods in Social and Market Research: Timothy Harrold
- The Alma Douglas prize for Statistics for the best performance in Statistics courses in the School of Mathematics and Statistics: Gordana Popovic
- Weather Company Prize: for the best performance in MATH3261 Fluids, Oceans and Climate: Matthew Perrett
- Weather Company Prize: for the best performance in MATH2240 Introduction to Oceanography and Meteorology: Ian Coghlan

- The SAS Institute Australia Pty Ltd Prize: for the best performance in MATH-2871 — Data Management for Statistical Analysis: William Yung
- George Szekeres Award for a student entering final year Pure Mathematics Honours: Oliver Nunn
- The Buchwald Award in Applied Mathematics for a student entering the final year of the Honours Course in Applied Mathematics: Matthew Perrett

Completed PhDs

Monash University

- Dr Gareth Kennedy, *Problems in stellar and planetary dynamics*, supervisor: Dr Rosemary Mardling.
- Dr Hamed Moradi, *Local helioseismology of magnetic activity*, supervisors: Professor Paul Cally and Dr Alina Donea.

University of Ballarat

- Dafik, *Study of graphs close to the Moore bound*, supervisors: Mirka Miller and Joe Ryan.
- Dr Karim Mardaneh, *Information technology and risk management*, supervisors: Adil Bagirov and Musa Mammadov.
- Dr Evgeni Sharikov, *Conditions for global minimum through abstract convexity*, supervisors: Alex Kruger, Sid Morris and David Yost.
- Dr Jakub Teska, *Graphs with bounded degree*, supervisors: Mirka Miller and Joe Ryan.

University of Melbourne

- Norman Do, *Intersection theory on moduli spaces of curves via hyperbolic geometry*. supervisors: Paul Norbury and Craig Hodgson.
- Andrew Downes, *Boundary crossing probabilities for diffusion process and related problems*, supervisor: Kostya Borovkov.
- Maya Muthuswamy, *Micromechanics of force transmission in dense, cohesionless granular assemblies*. supervisor: Antoinette Tordesillas.

University of New South Wales

- Patrick Costello, *The mathematical structure of the BRST constraint method*, supervisor: Hendrik Grundling.

University of Queensland

- Dr Benjamin R. Smith, *Decompositions of generalised complete graphs*, supervisor: Elizabeth Billington, Associate supervisors: Nicholas Cavenagh and Barry Jones.

University of Sydney

- Dr Tony Vassallo, *New models for pricing credit derivatives*, supervisor: Associate Professor Peter Buchen.

Awards and other achievements

Australian National University

- Xu-Jia Wang has been elected to the Australian Academy of Sciences.

Griffith University

Associate Professor Al Gabric and Dr Anand Tularam have won mathematics teaching awards in their school this semester 2009. The best lecturer award went to Al and the best course to Anand as voted by students attending Applied Mathematics Courses at Griffith University, and thus improving the first-year learning experience of mathematics students at the university.

Dr Anand Tularam has won the best lecturer and best course for first-year applied mathematics for a number of years now as he attempts to improve the first-year students beliefs about mathematics. Only now are the first-year students learning to appreciate the importance of mathematical applications to real life especially in the environment/engineering sciences and related courses at Griffith University. This can only be great for mathematics overall as the graduates complete their degrees and gossip about mathematics in terms of how useful and applied it can be.

The mathematics teaching team at Griffith School of Environment have made it their duty to improve the beliefs of first-year and other mathematics students so that they promote the learning of mathematics to their children as a longer term goal in this venture.

Monash University

- Congratulations to Professor Christian Jakob on being awarded another three-year grant from the Department of Energy, Washington DC, in the amount of US\$427 000K (A\$660K). The research project is entitled 'The relationship between large-scale and convective states in the tropics: towards an improved representation of convection in large-scale models'.
- Congratulations to Professor Michael Reeder on being awarded a research grant of US\$316 000 (A\$407K) from the Office of Biological and Environmental Research, Department of Energy, Washington DC, for a research project entitled 'The role of gravity waves in the formation and organisation of clouds during TWPACE'.

University of Ballarat

- Dr A. Bagirov and Professor J.L. Yearwood jointly with Professor W. Moran (University of Melbourne) and Dr A.F. Barton (GWM Water), won an ARC

Linkage grant ‘Integrating dynamic and optimization models for efficient pipeline system operations in an evolving water and energy market’.

University of Sydney

- In the Queen’s Birthday Honours, Associate Professor Terry Gagen has received an AM, for services to higher education.
 - Anthony Henderson was awarded a Faculty of Science Citation for Excellence in Teaching.
-

Appointments, departures and promotions

Monash University

- Dr Leo Lopes commenced 25 May 2009 as Research Fellow in the School of Mathematical Sciences. His research interests are in applied optimisation under uncertainty, and in applied computational optimisation, especially decision support systems.

University of Ballarat

- Dr Prabhu Manyem, Dr Bing Du and Dr Lynne Gleeson have resigned, effective from about the end of Semester 1, 2009.

University of Newcastle

- Dr Con Lozanovski, formerly a Mathematics Research Fellow at Swinburne University of Technology, has taken up a position as a Mathematics Lecturer.
- Dr Jeff Hogan has been appointed as a Senior Lecturer in Mathematics.
- Dr Wadim Zudilin has been appointed as Associate Professor in Mathematics.
- George Willis has been promoted to Professor in Mathematics.

University of New South Wales

- Dr Josef Dick joined the Applied Department as Lecturer in January this year.

University of Queensland

- Dr Hao Yin has been appointed as a Postdoctoral Research Fellow working with Min-Chun Hong on his ARC project ‘Geometric partial differential systems and their applications’ from 3 August.
- Mr Zdravko Botev has been appointed as an Associate Lecturer from 14 September to 31 December. His research interests include applied statistics, non-parametric kernel density estimation, Monte Carlo simulation of Rare events, Markov Chain Monte Carlo methods, stochastic search algorithms and stochastic differential equations.

- Dr Stephan Tillmann has been appointed Lecturer in Pure Maths commencing 1 July.
- Dr Pee Choon Toh has been appointed as a Research Fellow working with Ole Warnaar from 20 July.
- Dr Gary Griffith has been appointed as a Postdoctoral Research Fellow working with Anthony Richardson/Hugh Possingham commencing 3 August.

University of Southern Queensland

- Dr Trevor Langlands has joined the Department of Mathematics and Computing as a lecturer. He came from UNSW where he was a senior research associate. Trevor's current research interests include modelling anomalous sub-diffusion using continuous time random walk theory and fractional calculus differential operators with applications in nerve signal propagation in spiny dendrites and plaque formation in Alzheimer's Disease.

University of Sydney

- Oya Selma Klanten, research associate with Jean Yang.
- Penghao Wang, research associate with Jean Yang.

University of Western Australia

- Dr John Bamberg has joined the School as a Research Assistant Professor.
- Dr Edward Cripps has joined the School as a Lecturer.
- Dr Steve Su has joined the School as a Lecturer.

New Books

University of New South Wales

Jeyakumar, V. and Luc, D.T. (2008). *Nonsmooth Vector Functions and Continuous Optimization*, Vol. 10, 280 pp. Springer Series on Optimization and its Applications. Springer, New York.

Conferences and Courses

Conferences and courses are listed in order of the first day.

AMSI-ANU Workshop on Spectral Theory and Harmonic Analysis

Date: 13–17 July 2009

Venue: The Australian National University, Canberra

Web: <http://www.maths.anu.edu.au/events/SpectralTheory09/>

Future models for energy and water management under a regulated environment

Date: 20–22 July 2009

Venue: Queensland University of Technology, Brisbane

Web: <http://www.amsi.org.au/energy.php>

Mini Winter School on Geometry and Physics

Date: 20–22 July 2009

Venue: Institute for Geometry and its Applications, University of Adelaide

Web: <http://www.iga.adelaide.edu.au/workshops/winterschool2009.html>

Groups St Andrews 2009 in Bath

Date: 1–15 August 2009

Venue: University of Bath, Bath, UK

Web: <http://www.groupsstandrews.org/2009/>

IMST 2009-FIM XVIII

Date: 2–4 August 2009

Venue: Jaypee University of Information Technology, Waknaghat/ Shimla, India

Web: http://www.juit.ac.in/IMSTFIM2009/imst_fim_2009.htm

Dresden 2009 Conference

Date: 11–17 September 2009

Venue: Dresden, Saxony, Germany

Web: [http://www.informatik.htw-dresden.de/~paditz/SecondAnnouncement
Dresden2009.doc](http://www.informatik.htw-dresden.de/~paditz/SecondAnnouncementDresden2009.doc)

Email: alan@rogerson.pol.pl

Third Japanese/Australian workshop on real and complex singularities

Date: 15–18 September 2009

Venue: The University of Sydney (Medical Foundation Auditorium)

Web: <http://www.maths.usyd.edu.au:8000/u/laurent/RCSW>

AustMS 2009 Early Career Researchers Workshop

Date: 27 September 2009

Venue: Mt Lofty House, Adelaide Hills

Web: <http://www.unisa.edu.au/austms2009/earlycareer/>

Organisers: Bronwyn Hajek (Bronwyn.Hajek@unisa.edu.au),
Anthony Henderson (anthonyh@maths.usyd.edu.au)

53rd AustMS Annual Conference, 2009

Date: 28 September – 1 October 2009

Venue: University of South Australia, City West Campus, Adelaide

Web: <http://www.unisa.edu.au/austms2009/>

E-mail: Austms09@unisa.edu.au

The early-bird registration has been extended until Friday 17 July 2009.

Please note the following amendment: On the night of Friday 2 October 2009, the Royal Institution of Australia is organising a Reception at Adelaide Town Hall, featuring a public lecture ‘Cosmic Distance Ladder’ by Terence Tao, to which the participants of the AustMS 2009 conference are cordially invited. Please extend your travel arrangements accordingly if you plan to attend this event.

9th Engineering Mathematics and Applications Conference (EMAC2009)

Date: 6–9 December 2009

Venue: University of Adelaide, South Australia

Web: <http://www.maths.adelaide.edu.au/emac2009/>

Contact: Andrew Metcalfe (andrew.metcalfe@adelaide.edu.au)

AMSI workshop: new directions in geometric group theory

Date: 14–18 December 2009

Venue: The University of Queensland, Brisbane

Web: <http://sites.google.com/site/ggtbrisbane/>

NZIMA/NZMRI Summer Workshop

Date: 3–10 January 2010

Venue: Hanmer Springs, New Zealand

Web: http://www.math.auckland.ac.nz/wiki/2010_NZMRI_Summer_Workshop

AMSI ICE–EM 2010 Summer School

Date: 11 January – 5 February 2010

Venue: La Trobe University

Contact: Grant Cairns, Director (G.Cairns@latrobe.edu.au)

Call for Contributions:**Educational Interfaces between Mathematics and Industry**

Date: 19–23 April 2010

Venue: Lisbon, Portugal

Web: <http://www.cim.pt/eimi/>

Contact: Gail FitzSimons (gail.fitzsimons@education.monash.edu.au)

International Congress of Mathematicians: ICM2010

Date: 19–27 August 2010

Venue: Hyderabad International Convention Centre, Hyderabad, India

Web: www.icm2010.org.in

Preparations for the Congress are now underway. Some information about the city of Hyderabad, pre-registration, registration, some practical information about visiting India, et cetera, can be found at our website. A list of satellite conferences that are being planned is also available at the website.

Detailed instructions for registration, financial aid programs, as well as information on hotel accommodation, list of invited speakers, lecture program, cultural program etc. will be put on the website as and when they are finalised.

On-line pre-registration will start on 15 May 2009 at the ICM 2010 website. It does not involve any payment. The pre-registered participants will be apprised of new developments by e-mail and will receive reminders of upcoming deadlines. Please do pre-register if you intend to participate: it will be of great help to us in our planning the event.

We look forward to your participation at the ICM 2010 in Hyderabad.

There are posters for ICM2010 at <http://www.icm2010.org.in/posters.php>. Feel free to print them out and display them at appropriate locations.

Visiting mathematicians

Visitors are listed in alphabetical order and details of each visitor are presented in the following format: name of visitor; home institution; dates of visit; principal field of interest; principal host institution; contact for enquiries.

Dr Barbara Brandolini; University of Naples ‘Federico II’; 5 to 28 August 2009; mathematical analysis; USN; F. Cirstea

Jose Burillo; Universitat Politècnica de Catalunya, Barcelona, Spain; 20 July 2009 to 20 August 2009; geometric group theory, Richard Thompson’s groups, amenability; UQL; Dr Murray Elder

Ms Corrie Jacobien Carstens; University of Amsterdam, The Netherlands; 23 February to 15 August 2009; –; UMB; Dr Craig Westerland

Prof Suhyoung Choi; KAIST, Dept of Mathematical Sciences; 28 February to 31 August 2009; –; UMB; Craig Hodgson

Dr Florica Cirstea; University of Sydney; 14 July 2008 to 14 July 2011; applied and nonlinear analysis; ANU; Neil Trudinger

Dr Robert Clark; University of Wollongong; 1 July 2008 to 1 July 2011; statistical science; ANU; Alan Welsh

Ms Zajt Daugherty; University of Wisconsin; 25 May to 16 August 2009; –; UMB; Prof Arun Ram

- Prof Zengji Du; School of Mathematical Sciences, Xuzhou Normal University; 22 October 2008 to 22 October 2009; differential equations; UNSW; Chris Tisdell
- Prof David Eisenbud; University of California at Berkeley; 11 to 17 July 2009; algebraic geometry; USN; J.J. Cannon
- Prof Michael Finkelberg; Independent University of Moscow; 1 to 30 November 2009; algebra; USN; A.I. Molev
- Zhao Guohui; Dalian University of Technology, China; until August 2009; –; CUT
- Prof Zongming Guo; Henan Normal University, China; October to December 2009; nonlinear PDE; UNE; Prof Yihong Du
- Dr Rainer Hollerbach; Applied Mathematics, Leeds; 9 February to 28 August 2009; nonlinear simulation of magneto-shear tachocline instabilities in the sun; MNU; Prof Paul Cally
- Prof Tien-Chung Hu; National Tsing Hua University; 24 February to 31 July 2009; Convergent results for sums of dependent random variables, with possible applications to V-Statistics; USN; N.C. Weber
- Mr Alan Huang; –; 1 June to 15 September 2009; statistics; USN; N.C. Weber
- Wei Jin (student); Central South University, China; 20 September 2008 to September 2010; –; UWA; Cheryl Praeger
- Dr Gwenael Joret; Universite Libre de Bruxelles; 30 March to 24 July 2009; –; UMB; David Wood
- Prof Phan Quoc Khanh; International University, Vietnam National University; August 2009; variational analysis; UBR; Alex Kruger
- Prof Satoshi Koike; Hyogo University of Teacher Education; 30 August to 30 September 2009; Lipschitz properties of subanalytic sets; USN; L. Paunescu
- Mr Gye-Seon Lee; KAIST, Korea; 26 February to 1 September 2009; –; UMB; A/Prof Craig Hodgson
- Prof. Zhigui Lin; Yang Zhou University, China; August to September 2009; nonlinear PDE; UNE; Prof Yihong Du
- Prof C.C. Lindner; Auburn University, USA; 11–25 July 2009; combinatorics; UQL; Elizabeth Billington
- Prof Zhaoli Liu; Capital Normal University, China; July to August 2009; nonlinear PDE; UNE; Prof Yihong Du
- Kek Sie Long; University Tun Hussein Onn, Malaysia; May 2009 to November 2009; –; CUT; –
- Dr Kamal Khuri-Makdisl; –; 15 August to 15 September 2009; MAGMA; USN; J.J. Cannon
- Prof James Meiss; University of Colorado at Boulder; 22 June to 8 August 2009; applied maths; USN; H. Dullin
- Hu Ming; Jiangsu University of Science and Technology, Zhenjiang, China; May 2009 to October 2009; –; CUT; –
- Prof Christine Mueller; University of Kassel, Germany; 15 October to 24 December 2009; –; UMB; Prof Richard Huggins
- Mr Ege Rubak (student); Aalborg Uni, Denmark; April to November 2009; –; UWA; Adrian Baddeley
- Mr Gye-Seon Lee; KAIST, Korea; 26 February to 1 September 2009; –; UMB; A/Prof Craig Hodgson

- Prof Makato Ozawa; Komazawa University, Japan; 1 April 2009 to 31 March 2011; –; UMB; Prof Hyam Rubinstein
- Dr Eric Ragoucy-Aubezon; –; 11 October to 11 November 2009; algebra; USN; A.I. Molev
- Mr Ege Rubak (student); Aalborg University, Denmark; April to November 2009; –; UWA; Adrian Baddeley
- Dr Leonid Rybnikov; IAS, Princeton University; 1 to 30 November 2009; algebra; USN; A.I. Molev
- Dr Alan Stapleton; University of Michigan; 22 June to 21 August 2009; invariant theory, cellularity and geometry; USN; G.I. Lehrer
- Dr Damien Stehle; Ecole Normale Supérieure, Lyon; 19 July 2008 to 18 July 2009; computational aspects of lattices; USN; J.J. Cannon
- Bijan Taeri; Isfahan Uni Technology, Iran; November 2008 to September 2009; –; UWA; Cheryl Praeger
- Dr Kilkothur Tamizhmani; Pondicherry University; 9 October to 7 November 2009; applied maths; USN; N. Joshi
- Prof Aera Thavaneswaran; –; 1 to 29 August 2009; statistics; USN; M.S. Peiris Moorum Theeraech; Mahidol University, Thailand; until October 2009; –; CUT; –
- Prof Ann Thomas; Cornell University/Oxford University; 10 June to 31 July 2009; geometric group theory; UNSW; Ian Doust
- Dr Cipriam A. Tudor; –; 16 to 28 September 2009; statistics; USN; Q. Wang
- Dr Helena A. van der Waal; –; 3 June to 30 July 2009; MAGMA; USN; J.J. Cannon
- Ms Martha Yip; University of Wisconsin-Madison, USA; 9 March to 20 August 2009; –; UMB; Prof Arun Ram
- Dr Zhitao Zhang; Chinese Academy of Science, Beijing; 15 September to 15 November 2009; nonlinear analysis; USN; E.N. Dancer
- Prof Huansong Zhou; Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences; October to November 2009; nonlinear PDE; UNE; Prof Yihong Du
-