



News

General News

Choose Maths Travel Grants for Women

Building professional networks and research collaborations are vital for an academic career. AMSI and the BHP Billiton Foundation are pleased to announce the Choose Maths Grants, which are designed to provide full or partial support for Australian female mathematical sciences students and early career researchers to participate in the AMSI Flagship programs. The grants support women to build and extend their skills and professional networks by providing financial support for:

- Participation in AMSI Summer School, Winter School, BioInfoSummer and Vacation Research Scholarships (including support for second time attendees) Partner and child travel and/or accommodation support Caring responsibility support (for example childcare or temporary respite)
- Funding of up to \$3,000 is available per application, in addition to the costs of participating in the program. The Awards are funded by BHP Billiton Foundation and are an initiative of the Choose Maths Project.

<http://research.amsi.org.au/choose-maths-grants/>

Choose Maths will work with students, parents and teachers over five years through a program of professional development, awareness and reward to turn around community attitude to participation in mathematics, especially for girls and young women.

Mathematics by Inquiry Initiative

Senator The Honourable Simon Birmingham, Minister for Education and Training, announced on 20 October that the Australian Government will provide \$6.4 million from the Mathematics by Inquiry initiative to support the Australian Academy of Science and the Australian Association of Mathematics Teachers to develop and promote new maths resources for Foundation to Year 10 students, teachers and school leaders.

For details see <http://www.senatorbirmingham.com.au/Media-Centre/Media-Releases/ID/2860/Bringing-maths-into-the-real-world-for-students>.

Applied Probability Special Interest Group

The AustMS Council has recently approved the formation of an Applied Probability Special Interest Group (APSIG). Members of the AustMS with a research interest in Applied Probability, are invited to join a Google Groups page, which has been created to facilitate interaction amongst members, by visiting <https://groups.google.com/forum/#!forum/appliedprobability>.

To become a member of the APSIG, you will need to choose this option when you next renew your AustMS membership. A fee (<\$14) is associated with this, of 10% of the AustMS membership fee, but this money will be available for the APSIG to support its objectives. At this stage, APSIG is looking to use the funds to support a biennial Applied Probability Workshop and, depending upon membership numbers, might be able to support other initiatives, in which case we look forward to your suggestions.

If you have any questions, please email Josh Ross (joshua.ross@adelaide.edu.au).

Number Theory Special Interest Group

In recent years there have been conferences, workshops, seminars, and visitors brought to Australia, so number-theoretic (and related fields) research is demonstrably alive and kicking. Recently, the AustMS recognised these efforts by declaring ‘Number Theory Down Under’ as a special interest group. Dr Mumtaz Hussain, as general secretary of this group, is planning to compile a database of Australian researchers who have an interest, either directly or indirectly, in number-theoretic research. Please send an email to mumtaz.hussain@newcastle.edu.au if you would like to be kept informed of upcoming activities and news items.

AF Pillow Applied Mathematics Trust annual ‘top-up’ scholarship

The AF Pillow Applied Mathematics Trust offers an annual ‘top-up’ scholarship to a student holding either an Australian Postgraduate Award (APA) or equivalent award for full-time research in Applied Mathematics leading to the award of a PhD. The aim of the AF Pillow Applied Mathematics Top-up Scholarship is to increase the quantity and quality of postgraduate students in the field of applied mathematics in Australia. The scholarship top-up is awarded for up to three years and consists of up to a \$10 000 annual stipend for a full time applicant, to supplement a basic postgraduate scholarship (e.g. an APA or equivalent award). As a full-time scholarship top-up award, it is non-taxable. An allowance of up to \$1500 per annum (maximum \$4500) will be available and payable to the student on production of receipts for reasonable expenses associated incurred for economy airfares and registration fees to attend the ANZIAM national annual conference. In each year, one top-up scholarship will be awarded.

Closing date: 4 December 2015.

Guidelines, application form and a historical lecture can be obtained by from the ANZIAM website: <http://www.anziam.org.au/The+A+F+Pillow+Applied+Mathematics+Top-up+Scholarship>.

Completed PhDs

ANU

- Dr Yao (Pauline) Ding, *Analysis of longitudinal data with multiple levels of variation*, supervisor: Alan Welsh.

- Dr Matthias Wong, *Theory of the sparse grid combination technique*, supervisor: Markus Hegland.

Macquarie University

- Dr Mitchell A. Buckley, *Three studies in higher category theory: fibrations, skew monoidal structures and excision of extremals*, supervisors: Dominic Verity and Dr Richard Garner.
- Dr Joshua Grahame Peate, *Riesz transform estimates in the absence of a preservation condition and applications to the Dirichlet Laplacian*, supervisor: Xuan Duong.

RMIT University

- Dr Pritheega Magalingam, *Complex network tools to enable identification of a criminal community*, supervisors: Asha Rao and Stephen Davis.

University of Melbourne

- Dr Rami Tabbara, *Generalised directed walker models of adsorption and gelation*, supervisor: Aleks Owczarek.
- Dr Chu Wu, *Studying deformable systems through experimental and theoretical approaches*, supervisor: Derek Chan.
- Dr Peter Hickey, *The statistical analysis of high-throughput assays for studying DNA methylation*, supervisors: Terry Speed and Peter Hall.

University of Newcastle

- Dr Michael Rose, *Expectations over deterministic fractal sets*, supervisors: Jonathan Borwein and Brailey Sims.

University of New South Wales

- Dr Nguyen Hong Le, *Four-fold symmetry in universal triangle geometry*, supervisor: Norman Wildberger.
- Dr Randell Heyman, *Topics in divisibility; pairwise coprimality, the GCD of shifted sets and polynomial irreducibility*, supervisor: Igor Shparlinski.
- Dr Yu-Heng Ting, *Diagnosing ocean transport using a maximum-entropy method*, supervisor: Mark Holzer.

University of Wollongong

- Dr Mitch Hawkins, *Applications of compact topological graph C^* -algebras to noncommutative solenoids*, supervisors: Aidan Sims and Nathan Brownlowe.
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Awards and other achievements

Australian National University

- Dr Boris Buchmann, Professor Ross Maller and Professor Dr Alexander Szimayer have been awarded an ARC Discovery grant worth \$228 703 to continue an ongoing theoretical study into continuous-time stochastic processes.
- Dr Pierre Portal, Professor Andrew Hassell, Dr Adam Sikora, Professor Dr Johannes van Neerven and Associate Professor Colin Guillarmou have been awarded an ARC Discovery grant worth \$445 118 to explore new perspectives in harmonic analysis.
- Dr Scott Morrison has been awarded an ARC Discovery grant worth \$455 992 to study fundamental examples of higher categories in dimensions 2, 3, and 4, with the goal of understanding their essential features and building appropriate tools and theoretical frameworks for working with them.
- Dr David Ridout, Dr Simon Wood, Professor Peter Bouwknegt and Associate Professor Thomas Creutzig have been awarded an ARC Discovery grant worth \$444 516 to expand our knowledge of logarithmic theories. Conformal field theory provides powerful methods for attacking problems in theoretical physics and furnishes beautiful connections between seemingly disparate branches of pure mathematics. Advancing these theories is crucial to progress in statistical mechanics, string theory and various mathematical disciplines.
- Dr Timothy Trudgian and Dr David Platt have been awarded an ARC Discovery grant worth \$343 101 to verify the Riemann hypothesis to a record height and apply this verification to the distribution of prime numbers.

CSIRO

- Dr Paul Cleary has recently been made a Fellow of the Australian Academy of Technological Sciences and Engineering. His citation states
 Dr Cleary is an outstanding talent in computational modelling and has delivered major impact through novel modelling methodologies, software tools and application to numerous industrial applications. His research standing has been built through novel developments in particle-based computational modelling and in using these to create fundamental insights into the flow of particles, fluids, solids and bubbles in complex multiphase systems. His research has had a significant impact on the development and worldwide adoption of particle-based methods for modelling fluid and particles flows.

Curtin University of Technology

- Dr Lorenzo Ntogramatzidis has been awarded an ARC Discovery grant worth \$275 000 to develop and test new mathematical techniques for the improvement of transient performance in tracking control systems.
- Professor Jie Sun, Dr Honglei Xu and Emeritus Professor R.T. Rockafellar have been awarded an ARC Discovery grant worth \$396 765 to develop

theory and methodology in optimisation which take advantage of recent progress in understanding and treating risk in decision making.

Federation University Australia

- Associate Professor Alexander Kruger, Professor Jiri Outrata, Professor Michel Théra, Professor Dr Marco López Cerdá, Professor Assen Dontchev and Dr Rene Henrion have been awarded an ARC Discovery grant worth \$199 215 to advance a new mathematical theory of variational analysis. The emphasis will be on extensions of regularity concepts appropriate for studying stability of solutions to optimisation problems.

La Trobe University

- Professor Philip Broadbridge, Dr Andriy Olenko, Adjunct Professor Vo Anh and Professor Nikolai Leonenko have been awarded an ARC Discovery grant worth \$324 686 to investigate and model spherical random fields which are described as solutions of stochastic differential equations on a sphere or a ball.

Macquarie University

- Professor Xuan Tinh Duong, Associate Professor Lesley Ward, Dr Ji Li, Professor Michael Lacey and Professor Jill Pipher have been awarded an ARC Discovery grant worth \$363 100 to study advanced harmonic analysis concerning multiparameter theory and related topics.
- Emeritus Professor Ross Street, Professor Dominic Verity, Associate Professor Stephen Lack and Dr Richard Garner have been awarded an ARC Discovery grant worth \$580 900 to develop a theory of generalised monoidal structures with applications to combinatorics, representation theory, algebraic geometry, topology, theoretical physics and computer science.

Monash University

- Associate Professor Jessica Purcell and Dr Daniel Mathews have been awarded an ARC Discovery grant worth \$448 294 to broaden our understanding of three-dimensional spaces, including spaces that arise in engineering, microbiology and physics. The project aims to find new relationships between hyperbolic geometry and quantum invariants, advancing our understanding of both areas.
- Professor Nicholas Wormald and Dr Pu Gao have been awarded an ARC Discovery grant worth \$403 694 to create new methods to generate networks.

University of Melbourne

- PhD student Angus McAndrew was recently awarded the Best Student Poster Prize at ‘Number Theory Down Under’, the annual international number theory workshop.
- Professor Peter Hall, was recently elected to be a Fellow of the Academy of Social Sciences in Australia. Peter must be only one of a small number

who has been elected to be a Fellow of both the Academies of Science and Social Sciences.

- Professor Doreen Thomas, Associate Professor Marcus Brazil, Dr Charl Ras and Professor Dr Martin Zachariassen have been awarded an ARC Discovery grant worth \$350 557 to construct a mathematical framework for the design of minimum-cost networks that are robust and avoid obstacles. This project aims to develop geometric design methods using variable ‘Steiner points’, leading to fast algorithms for optimally solving these problems.
- Dr Nora Ganter and Professor Matthew Ando have been awarded an ARC Discovery grant worth \$225 000 to develop a new conceptual framework for the representations and characters of categorical groups.
- Professor Aleksander Owczarek has been awarded an ARC Discovery grant worth \$334 000 to develop new understanding of key topologically driven behaviour in complex polymers such as DNA. The project aims to explain how topological constraints and changes disturb key polymer behaviour.
- Professor Joachim Rubinstein, Associate Professor Craig Hodgson and Dr Stephan Tillmann have been awarded an ARC Discovery grant worth \$334 000 to develop practical methods for finding geometric and discrete structures on manifolds in both low and high dimensions and advancing our understanding of the information that physics is providing about these spaces.

The University of Newcastle

- PhD student Matt Tam was a winner of the 2015 Bernhard Neumann Prize, given for the best student talk at the annual meeting of the Australian Mathematical Society, and was awarded on Wednesday 30 September. There were 48 talks in the competition.
- CARMA Director, Jonathan Borwein, has been elected a Fellow of the Royal Society of New South Wales. ‘The Society is the oldest learned society in the Southern Hemisphere, tracing its origin to the Philosophical Society of Australasia, founded in Sydney in 1821.’ It initiated a Fellows Program in 2013.
- Professor Jonathan Borwein, Dr Jeffrey Hogan and Professor Dr Russell Luke have been awarded an ARC Discovery grant worth \$564 979 to further develop the non-linear convergence theory, and to provide problem-specific implementations. The project also plans to provide heuristics to help explain why an algorithm performs well on one class of applications but fails on another.
- Dr Murray Elder, Dr Laura Ciobanu and Professor Volker Diekert have been awarded an ARC Discovery grant worth \$417 773 to focus on a major problem at the intersection of algebra, logic and computer science, concerning equations over free groups and free monoids.

University of New South Wales

- Professor Trevor McDougall has been elected as a Fellow of the Royal Society of NSW. His accolades and awards have been steadily building over

the course of his career, and this year alone has also seen him collect an Australian Academy of Science Jaeger Medal for Research in Earth Sciences, his election as Vice President of the International Association for the Physical Sciences of the Oceans, and his selection as one of only 15 recipients of a prestigious Australian Laureate Fellowship. A world-leading oceanographer who was appointed a Fellow of the Royal Society of London in 2012, he was awarded the Royal Society of Tasmania Medal last year. His appointment as Fellow of the Royal Society of NSW has been described by Head of School Bruce Henry as a ‘wonderful honour’, and we warmly congratulate Trevor for his latest achievement.

- Josef Dick has been appointed a Senior Editor of the Journal of Complexity. He joins Ian Sloan in that role. With Frances Kuo also on the editorial board, UNSW has a substantial footprint in that journal.
- Associate Professor Scott Sisson and Dr David Nott have been awarded an ARC Discovery grant worth \$404 000 to develop new statistical methods for the analysis of computationally intractable models.
- Associate Professor Thanh Tran, Professor Beniamin Goldys, Professor Zdzislaw Brzezniak, Professor Dr Andreas Prohl, Professor Dr Ernst Stephan and Associate Professor Salim Meddahi have been awarded an ARC Discovery grant worth \$329 377 to develop novel mathematical theories and numerical methods for problems affected by uncertainty in input data.

University of Queensland

- Dr Jorgen Rasmussen and Professor Mark Gould have been awarded an ARC Discovery grant worth \$305 500 to develop a systematic approach to the study and application of indecomposable representations in pure mathematics and mathematical physics. Examples of important contexts considered are diagram algebras and finite and infinite-dimensional Lie algebras including the Virasoro algebra underlying conformal field theory.
- Professor You-Gan Wang has been awarded an ARC Discovery grant worth \$305 500 to develop novel statistical tools for more accurate prediction by taking account of model complexity and uncertainties associated with the fitting procedure. The project also plans to develop a novel shrinkage approach via new penalty functions to avoid over-fitting and asymptotic properties.

University of South Australia

- Emeritus Professor Philip Howlett, Dr Amie Albrecht, Professor Jerzy Filar and Dr Konstantin Avrachenkov have been awarded an ARC Discovery grant worth \$388 294 to deepen understanding of how complex systems may be significantly changed by incremental changes to ambient conditions. It plans to use these algorithms to solve systems of equations, calculate generalised inverse operators, examine perturbed Markov processes, and estimate exit times from meta-stable states in stochastic population dynamics.

University of Sydney

- Associate Professor Mary Myerscough, Associate Professor Charles Macaskill and Dr Christina Bursill have been awarded an ARC Discovery grant worth \$342 200 to use systems of ordinary differential equations, partial differential equations with non-standard boundary conditions, and bifurcation theory to find how nonlinear processes shape plaque growth. The expected results may demonstrate the importance of bifurcations, dynamics and nonlinear systems in plaque growth and provide new models to interpret biological data.
- Professor John Cannon and Professor Derek Holt have been awarded an ARC Discovery grant worth \$305 500 to develop new algorithms for analysing large matrix groups.
- Professor Nalini Joshi and Professor Kenji Kajiwara have been awarded an ARC Discovery grant worth \$495 700 to solve long-standing problems in discrete dynamical systems that are of particular interest to physics, by using reflection groups.
- Professor Gustav Lehrer, Associate Professor Anthony Henderson and Dr Geordie Williamson have been awarded an ARC Discovery grant worth \$519 300 to generalise the recent work of Elias and Williamson to complex unitary reflection groups, with potentially dramatic consequences in number theory, representation theory and topology.

The University of Western Australia

- Associate Professor Michael Giudici and Professor Cheryl Praeger have been awarded an ARC Discovery grant worth \$334 000 to improve our understanding of the structure of groups by studying their factorisations and the structure of certain subgroups and elements.

University of Western Sydney

- Dr Roozbeh Hazrat, Professor Dr Pere Ara and Professor Gene Abrams have been awarded an ARC Discovery grant worth \$377 600 to focus on Leavitt path algebras, which are structures that naturally arise from movements on directed graphs.

University of Wollongong

- Professor Brian Cullis is a recipient of the 2015 IBS-AR ALF [E A (Alf) Cornish] award, which was initiated in 2011 to recognise Australasian Region members who have made substantial and sustained contributions to both Biometrics and the International Biometric Society. In his congratulatory email, the President of the Australasian Region Biometrics Society, Dr Ross Darnell, acknowledged that Brian's 'contribution to delivering impact to industry with respect to the use of biometry and service to the Society has been outstanding'.
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Appointments, departures and promotions

Australian National University

Staff departures:

- Dr Dennis The departed on 10 August 2015.
- Dr Hoel Queffelec departed on 1 September 2015.
- Dr Feida Jiang departed on 7 August 2015.
- Dr Paul Bryan departed on 6 October 2015.
- Mr Lance Gurney departed on 28 August 2015.

Staff arrivals:

- Mr Christopher Bourne, Postdoctoral Fellow, arrived on 20 August 2015.
- Dr Jesse Burke, Research Fellow, arrived on 21 September 2015.
- Dr Bregje Pauwels, Postdoctoral Fellow, arrived on 21 September 2015.
- Dr Paul Bryan, Research Fellow, arrived on 7 August 2015 Research Fellow
- Mr Jan Vysoky, Postdoctoral Fellow, arrived on 2 September 2015.
- Mr Thomas Harding, Postdoctoral Fellow, arrived on 1 August 2015.
- Dr Stephen Morgan, Research Fellow, arrived on 1 September 2015.

Charles Sturt University

- Dr Azizur Rahman has been promoted to Senior Lecturer.

Federation University

- Dr Musa Mammadov has returned to Ballarat, as a Research Fellow with the Capital Markets Cooperative Research Centre.

Macquarie University

New staff

- Professor Jim Denier arrived as Head of Department at the beginning of October 2015.

Monash University

New staff

- Professor Andreas Ernst
- Associate Professor Gregoire Leoper
- Dr Eren Elci
- Dr Kevin Leckey
- Dr Anita Liebenau
- Dr Ozge Ozcakir

RMIT University

- Dr Vera Roshchina joined the School of Mathematical and Geospatial Sciences at RMIT University, in June 2015, as a Research Fellow (DECRA) for three years, and will be continuing as Lecturer from June 2018. Her

research interests include structure and geometry of finite dimensional optimisation problems.

Vera received her PhD in Mathematics in 2009 at City University of Hong Kong. She subsequently worked as a Ciência Researcher at the Research Centre for Mathematics and Applications, University of Évora, Portugal (June 2009 to March 2012); a Research Fellow in Collaborative Research Network at Federation University Australia, formerly University of Ballarat, (April 2012 to August 2014); and then a Research Fellow in Department of Electrical and Electronic Engineering, The University of Melbourne (August 2014 to June 2015).

Dr Fabricio Oliveira joined the School of Mathematics and Geospatial Sciences in October as a Research Fellow. He is a part of the team working on an ARC project DP140100985 led by Professor Andrew Eberhard, entitled ‘Decomposition and Duality: New Approaches to Integer and Stochastic Integer Programming’.

Fabricio holds a PhD Degree in Production Engineering (2012) and a Bachelor Degree in Industrial Engineering (2008), both from PUC-Rio. During his PhD, he worked as a Visiting Researcher at the Center of Advanced Process Decision-making (CAPD) at Carnegie Mellon University. He also worked in the Optimisation and Supply Chain Management group in Tecgraf Research Institute, where he acted as project coordinator (2009–2013). More recently, he has worked as an Assistant Professor in the Department of Industrial Engineering (DEI) at PUC-Rio (2013–2015), where he supervised a number of postgraduate students and published results in several high-quality journals. He has experience in production planning and logistics, with an emphasis on optimisation under uncertainty using mathematical programming techniques for oil and gas production and power distribution.

University of Adelaide

- Dr Pedram Hekmati (DECRA and Lecturer in Pure Mathematics) left in August 2015 for a ‘Postdoc of Excellence’ position at the National Institute of Pure and Applied Mathematics (IMPA), Rio de Janeiro, Brazil.

University of Melbourne

New staff:

- Dr Rhys Bowden (Research Fellow).
- Dr Anthony Mays (Tutor).

University of Southern Queensland

- Dr Ravinesh Deo has been promoted from Level B to C.

University of Western Australia

- Michael Small has been appointed as the ERO Chair in Complex Engineering Systems.

University of Wollongong*New staff:*

- Zahra Afsar, Postdoctoral fellow, working in operator algebras.
- Joan Bosa, Postdoctoral fellow, working in operator algebras.

Conferences and Courses

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

ANZIAM, NSW branch meeting

Dates: 25–26th November 2015

Venue: 55 Elizabeth Street, Sydney

Website: <https://www.carma.newcastle.edu.au/meetings/anzi-am-nsw-act-2015/>

The NSW branch of ANZIAM will be holding a two-day meeting on 25 and 26 November 2015 in Sydney, NSW. The venue is the Newcastle University Sydney Campus, 55 Elizabeth Street, centrally located near public transport hubs, Martin Place and the retail heart of Sydney. All details can be found on the website.

Please note that registration will be free and support may be provided for students who have to travel from outside Sydney. There will also be a dinner on Wednesday 25 November which will be subsidised.

The 21st International Congress on Modelling and Simulation (MODSIM2015)

Date: Sunday 29 November to Friday 4 December 2015

Venue: Gold Coast Convention and Exhibition Centre, Broadbeach, Queensland

Web: <http://www.mssanz.org.au/modsim2015/index.html>

For further details see the website or *Gazette* 42(1), p. 56.

 SM^2 Statistical Mechanics of Soft Matter

Dates: 30 November to 1 December 2015

Venue: Swinburne University of Technology

Web: <http://smsq.github.io/>

SM^2 is a recently established series of local discussion meetings on the theme of Statistical Mechanics of Soft Matter. Our aim is to fill a gap in the Australian scientific calendar by providing an informal workshop on the fundamentals and applications of equilibrium and non-equilibrium statistical mechanics relating to simple and complex liquids, polymers, biological materials and other forms of soft matter.

Please contact Dr Federico Frascoli (ffrascoli@swin.edu.au) if you have any queries about the scientific programme.

For other queries please contact Mr Ed Phelps, the administrative officer for this workshop (ephelps@swin.edu.au).

Australian Mathematical Sciences Student Conference

Dates: 30 November to 2 December 2015

Venue: University of Tasmania

Web: <http://www.amssc.org/2015/>

The Australian Mathematical Sciences Student Conference is an annual conference for Australian postgraduate and honours students of mathematical sciences. The conference aims to bring students together, enabling them to communicate their work, facilitating dialogue, and encouraging collaboration, within a friendly and informal atmosphere.

The deadline for registration and abstract submission is 15 November 2015.

Confirmed Invited Speakers include Associate Professor Ben Burton (University of Queensland) and Dr Jaci Brown (CSIRO).

Further speakers to be announced.

Victorian Algebra Conference

Dates: Monday 30 November to Wednesday 2 December 2015

Venue: Western Sydney University

Web: <http://vac2015.ltumathstats.com/>

This is only the second time the conference has been held outside Victoria, in its history spanning over 30 years. We would especially like to encourage researchers based in Sydney and surrounding cities to attend.

More detailed information (including a list of invited speakers) is available at the conference website, where you may register and submit an abstract.

There has always been a strong student presence at the conference, and the Gordon Preston Prize of \$200 is awarded for the best student talk. Students from interstate may apply for a small payment towards their travel costs (the exact amount depends on numbers).

Important notice

We can now confirm that registration is free for all participants.

Important dates

- Friday 13 November: abstract submission closes
- Friday 20 November: abstract editing closes
- Friday 27 November: registration closes

Engineering Mathematics and Applications Conference (EMAC)

Date: 6–9 December 2015

Venue: UniSA, City West Campus Adelaide

Web: <https://emac2015.unisa.edu.au/>

Note that refereed proceedings will be published after the conference in the Electronic Supplement of the ANZIAM Journal.

The William Finlay Blyth Prize will be awarded to the best student presentation. Also, ASES (Maple) will offer a prize for the best student talk that uses Maple.

A Maple workshop will be held on Wednesday afternoon following the conclusion of the conference.

For additional information, see the website or *Gazette* 42(4) p. 256.

KOZWaves 2015

Date: 6–9 December 2015

Venue: The University of Adelaide

Web: <http://www.maths.adelaide.edu.au/kozwaves2015/index.html>

The second international Australasian conference on wave science: see *Gazette* 42(1) p. 56 or the website for further details.

Guttman 2015: 70 and Counting

Dates: 7–8 December 2015

Venue: Noahs on the Beach, Newcastle

Web: <http://www.guttman2015.org/>

This conference is a celebration of Professor Tony Guttman's 70th birthday, an acknowledgment of his enormous contribution to Mathematics in Australia and of his field of research: Critical Phenomena in Statistical Mechanics. Amongst Professor Guttman's many contributions to Australian Mathematics was his initial contribution to the founding of AMSI. Attending this conference are several international and national leaders in the field of Critical Phenomena, Enumerative Combinatorics, Algebraic Combinatorics and Computational Algorithms. These are fields of mathematics that all play a significant part in the mathematical understanding of Critical Phenomena.

This is immediately prior to the Fourth Annual ANZAMP meeting, and at the same venue. See below.

For further details please see the website, which contains a link to the registration page, and further information such as the list of confirmed speakers.

We also make a general call for submissions to a special issue of *Journal of Physics A* entitled 'Combinatorics of lattice models: a special issue in honour of Tony Guttman's 70th birthday'. This special issue is completely independent of participation in the conference, and articles submitted for publication in this special issue

will undergo the usual review process of *J. Phys. A*. Please contact Nathan Clisby (nclisby@unimelb.edu.au) if you are interested in contributing to this special issue.

Seventh China-Australia Workshop on Optimization: Theory, Methods and Applications and The Second International Conference on Optimization and Control

Date: 7–10 December 2015

Venue: Chongqing Normal University, the University Town, Chongqing 401331

Website: <http://icoco2015.csp.escience.cn>

The Second International Conference on Optimization and Control (ICOCO 2015) will be held in Chongqing, China, 7–9 December 2015. The Seventh China-Australia Workshop on Optimization: Theory, Methods and Applications (CAWO 2015) will be held at the same venue immediately following the ICOCO2015 on 10 December 2015.

The First International Conference on Optimization and Control was held in Guiyang, China during 18–23 July 2010. The previous six China-Australia Workshops on Optimization: Theory, Methods and Applications were held in Shanghai University, Shanghai, China and Federation University Australia, Ballarat, Australia alternatively in 2003, 2004, 2007, 2009, 2011 and 2013.

As the continuations of the ICOCO and the CAWO, the ICOCO2015 and CAWO-2015 aim to bring researchers and practitioners around the world on optimization and optimal control together to exchange ideas and approaches, to present research findings and state-of-the-art solutions, to share experience and future research development on theory, methods and applications for optimization and optimal control.

The topics of the conference and the workshop include all areas of optimization, optimal control and their applications.

39th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing

Date: Monday 7 December to Friday 11 December 2015

Venue: University of Queensland

Web: <http://39accmcc.smp.uq.edu.au/>

For further information, see the website or *Gazette* 42(4) p. 257.

BioInfoSummer 2015

Date: 7–11 December 2015

Venue: The University of Sydney

Website: <http://bis15.amsi.org.au/>

The BIS symposium introduces bioinformatics as well as mathematical and computational biology to students, researchers and professionals. If you work in mathematics or statistics, information technology or complex systems analysis, any computer science field, or you're biological, chemical or medical sciences engineer, stay ahead with BIS.

The 2015 program features:

- Introduction to biology and bioinformatics
- Epigenomics
- Translational genomics
- Proteomics and metabolomics
- Systems biology, networks and data integration.

Registration closes on 27 November 2015.

Fourth ANZAMP Meeting

Dates: 9–11 December 2015

Venue: Noahs on the Beach, Newcastle

Web: <http://www.anzamp.austms.org.au/meetings/current/>

This is the Fourth Annual Meeting of the Australian and New Zealand Association of Mathematical Physics (ANZAMP), and the first since ANZAMP became a Division of AustMS.

Please register ASAP as we cannot guarantee speaking slots, and it will be a case of first in, best dressed. This year's ANZAMP meeting will have a particularly full program, due in part to the proximity of the satellite conference in honour of Tony Guttman's 70th birthday which is being held at the same venue from 7–8 December.

For further details please see the website or *Gazette* 42(4) pp. 258–259.

Conference on Geometric and Categorical Representation Theory

Dates: 14–18 December 2015

Venue: Mantra Hotel, Mooloolaba, Queensland

Web: <https://sites.google.com/site/masoudkomi/mooloolaba>

The registration deadline is 27 November.

Confirmed speakers include Pramod Achar (LSU), Tsao-Hsien Chen (Northwestern), Emily Cliff (Oxford), Ben Elias (MIT), Peter Fiebig (Erlangen), Nora Ganter (Melbourne), Sam Gunningham (Austin), Anthony Henderson (Sydney), Michael Hopkins (Harvard), Martina Lanini, Chul-hee Lee (Queensland), Elizabeth Milicevic (Haverford College), Ivan Mirkovic (Amherst), Justin Noel (Regensburg), You Qi (Yale), Arun Ram (Melbourne), Daniel Sage (Louisiana), Peng Shan (Orsay), Pablo Solis (CalTech), Monica Vazirani (UC Davis), and Geordie Williamson (Bonn).

2016 AMSI Summer School

Dates: 4–29 January 2016

Venue: RMIT University

Web: <http://ss16.amsi.org.au/>

A reminder that final registration closes on 25 November 2015. For further details please see the website or *Gazette* 42(4) pp. 259.

Gromov–Witten Theory, Gauge Theory and Dualities

Date: 6–15 January 2016

Venue: ANU/Kioloa

Web: <http://maths.anu.edu.au/events/gromov-witten-theory-gauge-theory-and-dualities>

For further details please see the website or *Gazette* 42(4) pp. 260-261.

Mathematics in Industry Study Group (MISG) 2016

Dates: 1–5 February 2016

Venue: University of South Australia, City West campus

Web: <http://mathsinindustry.com>

Registration (free) is now open for one of the worlds longest running mathematics think-tanks: the five-day intensive Mathematics-In-Industry Study Group. As usual, we expect four to six exciting industry projects for participants to work on; details will be progressively added to the website. The workshop is an ideal opportunity to make contact and forge partnerships with Australian and New Zealand industries, and to collaborate with other mathematicians, scientists and engineers.

Early Career Workshop

Dates: 6–7 February 2016

Venue: QT Hotel, Canberra

Web: <http://goo.gl/forms/eoQQVijnRU>

An early career workshop will be held on Saturday 6 (from 1 pm) and Sunday 7 (until 2 pm) February, in conjunction with the ANZIAM conference (see next item).

The workshop is open to research student and early career mathematicians who are members of ANZIAM. Early career is defined as being within five years of conferral of your PhD.

Thanks to funding from ANZIAM, AMSI and AustMS there is no fee to register for the conference, with afternoon tea and dinner provided on Saturday, and morning tea and lunch provided on the Sunday. Participants are responsible for transport and accommodation costs of attending.

The number of places are limited, and preference will be given to early registration. Please register via the form at the website above.

ANZIAM 2016

Date: Sunday 7 February 2016 to Thursday 11 February 2016

Venue: QT Canberra Hotel, Canberra

Web: <http://anziam2016.com/>

Registration for the 2016 Australian and New Zealand Industrial and Applied Mathematics (ANZIAM) Conference is now open. Abstract submission and early-bird registration both close on 8 January 2016.

To register, submit an abstract, or to find out further details, please visit the website.

An early career workshop will be held in conjunction with the ANZIAM conference, at the same venue: see previous item.

Monash Workshop on Numerical PDEs

Dates: 15–19 February 2016

Venue: Monash University

Web: <http://monashpde.eventbrite.com.au>

This workshop is an event in the Monash Summer Visitor Program, and most of the speakers in this and the following workshop have been invited for several weeks at Monash in February.

The deadline for registration is 15 December.

A broad selection of topics will be covered, including, among others: multilevel methods, CFD, finite elements, mimetic schemes, virtual finite elements, numerical relativity, and HPC.

Registration for this workshop is free, and limited financial support will be available for students. Early registration is strongly recommended as the total number of participants is limited.

Workshop on Analysis, Geometry and Mathematical Relativity

Dates: 22–26 February 2016

Venue: Monash University

Web: <http://agmr.eventbrite.com.au>

The deadline for registration is 22 December 2015.

This workshop is not only an event in the Monash Summer Visitor Program but also an occasion to celebrate Robert Bartnik's 60th birthday. In line with Robert's research interests, the focus will be on topics in analysis, geometry, and mathematical relativity. The workshop is open to anyone with an interest in analysis, geometry or general relativity.

Registration for this workshop is also free, and limited financial support will be available for students. Early registration is strongly recommended as the total number of participants is limited.

Capital Number Theory

Dates: 8–9 April 2016

Venue: The Australian National University

Web: <http://amsi.org.au/events/event/capital-number-theory-2/>

This conference, which has a heavy emphasis on student talks, will be an autumn meeting for the Australian number theory community. Building on the success of other conferences (Number Theory Down Under in September, and the Special

Sessions at the AustMS in December), Capital Number Theory will bring together number theorists in Australia and attract international experts.

The focus of this conference is the intersection of number theory with computation. Many results are often known ‘for all sufficiently large integers’: we aim, at this conference, to address issues concerning the remaining cases — relatively small integers. This often requires pushing theoretical arguments, and computations, to their limits.

Mathematical Methods for Applications

Date: 11–14 November 2016

Venue: Hangzhou, China

Further information: Phil Broadbridge (P.Broadbridge@latrobe.edu.au)

This is a joint meeting of ANZIAM and ZAPA, the Zhejiang Applied Mathematics Association.

Vale

University of Canberra

We regret to announce that Dr Ian Geoffrey Lisle of the University of Canberra passed away on 27 September after a long battle with cancer.

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.

A/Prof Pramod Achar; Louisiana State University; 8–11 December 2015; pure; USN; Anthony Henderson

Prof Dmitri Alekseevsky; Russian Academy of Sciences; 4–14 October 2015; homogeneous Riemannian geometry, Lie groups and algebras; LTU; Yuri Nikolayevsky

Prof David Allen; Edith Cowan; 1 August 2015 to 31 July 2016; stats; USN; Shelton Peiris

Dr Joel Andersson; Stockholm University; 1–31 October 2015; pure; USN; Leo Tzou

Dr Alhaji Akbar Bachtiar; 15–30 November 2015; applied; USN; David Ivers
Paul Baird; Laboratoire de Mathématiques, De Bretagne Atlantique; September to December 2015; UWA; Lyle Noakes

Dr Elizabeth Beazley; Haverford College, USA; 1 August 2015 to 31 January 2016; UMB; Arun Ram

- Prof Lynne Billard; University of Georgia, Athens, USA; 4–20 December 2015; UMB; Aurore Delaigle
- Dr Raphael Boll; Technische Universität Berlin; 25 November to 8 December 2015; applied; USN; Nalini Joshi
- A/Prof Barbara Brandolini; University of Naples Federico II; 15 November to 5 December 2015; pure maths; USN; Florica Cirstea
- Dr Huy Qui Bui; University of Canterbury, Christchurch, NZ; 9–22 November 2015; harmonic analysis; Macquarie University; Xuan Duong
- A/Prof Yixiong Cao; University of Science and Technology of China; 1 November 2015 to 30 April 2016; UMB; Guoqi Qian
- Dr Emma Carberry; University of Sydney; 23 November 2015 to 29 February 2016; UMB; Paul Norbury
- Prof Jon Carlson; University of Georgia; 10–28 November 15; MAGMA; USN; John Cannon
- Mr Emre Cimen; Anadolu University, Eskisehir, Turkey; 6 October 2015 to 20 February 2015; optimisation; FDU; Adil Bagirov
- Prof Louis Chen; National University of Singapore; 10–19 September 2015; UMB; Aihua Xia
- Dr Lisa Orloff Clark; University of Otago; 15–21 November 2015; UOW
- Prof Stephane Crepey; 15–25 December 2015; fin maths; USN; Marek Rutkowski
- Dr Yohan Davit; Institute of Fluid Mechanics of Toulouse, France; 9–28 November 2015; UMB; James Osborne
- Mr Sayed Ahmadreza Raeisi Dehkordi; University of Isfahan, Iran; 16 January to 15 July 2016; optimisation; FDU; Adil Bagirov
- Dr Wei Deng; Shanghai Maritime University, China; 15–14 December 2016; optimisation; FDU; David Gao
- Ms Soodabeh Asada Dezaki; Shahrekord University, Iran; 20 January to 20 July 2016; optimisation; FDU; Adil Bagirov
- Prof Persi Diaconis; Stanford University, USA; 3–15 December 2015; UMB; Arun Ram
- Mr Adnane Ez-Zizi; University of Bristol, UK; 1 September to 1 December 2015; UWA; Ed Cripps
- Dr Dane Flannery; National University of Ireland, Galway; 4 November to about 16 December 2015; algebraic design theory and linear groups; RMIT; Kathy Horadam
- Prof Stephen Garrett; University of Leicester; 4–22 January 2016; pure; Sharon Stephen
- Dr Claire Gilson; University of Glasgow; 22 November to 6 December 2015; applied; Nalini Joshi
- Mr Jochen Glueck; Ulm University; 8–22 November 2015; pure; USN; Daniel Daners
- Louis Guillot; Ecole Normale Supérieure; 1–16 September 2015; UMB; Richard Huggins and James McCaw
- A/Prof Jianyu Han; Anhui University, PRC; 1 August 2015 to 31 July 2016; UMB; Dr Guoqi Qian
- Mr Cheng Hu; Shandong University; 20 November 2015 to 19 May 2016; statistics; Qiying Wang

- Dr Genggeng Huang; Shanghai Jiao Tong University; 10 October 2015 to 9 October 2016; ANU; Xu-Jia Wang
- Mr He Huang; Peking University; 1 September 2015 to 31 August 2016; UMB; Sanming Zhou
- Prof Anatoli Ivanov; Pennsylvania State University; 10 December 2015 to 9 January 2016; optimisation; FDU; Zari Dzalilov
- Prof Monique Jeanblanc; Universite d'Evry; 1–23 December 2015; financial maths; USN; Marek Rutkowski
- Dr Bernt Jensen; Gjøvik University College, Norway; 24 July 2015 to 9 January 2016; representations of algebras; UNS; Jie Du
- Dr Napsu Karmita; Turku University, Finland; 2 January to 24 December 2016; optimisation; FDU; Adil Bagirov
- Prof Johannes Kellendonk; Universite Claude-Bernard (Lyon); 8–21 November; mathematical physics; UOW
- Prof Satoshi Koike; 7 October to 7 November 2015; pure; USN; Laurentiu Paunescu
- Dr Roald Koudenburg; University of Sheffield; 15 September to 11 November; category theory; MQU; Richard Garner
- Dr Ryszard Kozera; Warsaw University of Life Sciences; 6 December 2015 to 16 January 2016; UWA; Lyle Noakes
- Prof Tony Krzesinski; University of Stellenbosch, South Africa; 20 November to 22 December 2015; UMB; Peter Taylor
- Prof Shrawan Kumar; University of North Carolina; 16 July to 15 December 2015; pure; USN; Gus Lehrer
- Dr Martina Lanini; University of Erlangen-Nuremberg, Germany; 18 December 2015 to 7 January 2016; UMB; Arun Ram
- Dr Vittorio Latorre; Sapienza University, Rome; 20 October 2015 to 17 January 2016; optimisation; FDU; David Gao
- Prof Yuri Latushkin; 8–20 December 2015; applied; USN; Robert Marangell
- Prof Tony Lawrance; University of Warwick, UK; 6–20 October 2015; UWA; Michael Small
- A/Prof Jingjian Li; Guangxi University P.R. China; September 2015 to September 2017; UWA; Cai Heng Li
- Zhe Liu; Zhejiang University; 1 April 2015 to 31 March 2016; UWA; Cai Heng
- Dr Davide Masoero; University of Lisboa; 16 November to 5 December 15; applied; USN; Nalini Joshi
- Ms Lilith Mattei; École Polytechnique Fédérale de Lausanne, France; 15 September 2015 to 15 January 2016; topos theory; MQU; Richard Garner
- A/Prof Mengbo Hou; Shandong University of China; February 2015 to February 2016; cryptography; USA; Raymond Choo
- Dr Djordje Milicevic; Bryn Mawr College, Pennsylvania; 1 August 2015 to 31 January 2016; UMB; Arun Ram
- Prof Pierre Milman; University of Toronto; 15 October to 15 November 2015; pure; USN; Laurentiu Paunescu
- Dr Samuel Muller; University of Sydney; 22–27 November 2015; UWA; Centre for Applied Statistics

- Reza Naserasr; Universite Paris-Sud; 13–21 November 2015; UWA; Gordon Royle and Irene Pivotto
- Dr Simona Paoli; University of Leicester, UK; 1 August to 31 December 2015; higher category theory; MQU; Ross Street
- Dr Gareth Peters; 15 December 2015 to 1 January 2016; stats; Jennifer Chan
- Mr Sven Pistre; Zurich; 19 September to 19 November 2015; ANU; Ben Andrews
- Federico Poloni; University of Pisa; 22 September to 22 November 2015; numerical linear algebra; UAD; Giang Nguyen
- Prof Nicolas Privault; Nanyang Technological University; 10–20 December 2015; fin maths; USN; Marek Rutkowski
- Dr Jiangyan Peng; University of Electronic Sc and Tech China; 15 October 2015 to 14 October 2016; stats; Qiying Wang
- Mr James Reoch; Adelaide; 3 August 2015 to 31 December 2017; applied; USN; Peter Sehoon Kim
- Prof Louis-Paul Rivest; Université Laval, Canada; 28 September to 25 November 2015; UWA; Berwin Turlach
- Prof Steve Rosenberg; Boston University; August 2015 to June 2016; differential geometry in finite and infinite dimensions, particularly with applications to/from mathematical physics; UAD; srmathbu@gmail.com
- Prof Ildar Sadeqi; Sahand University of Technology, Iran; 1 January to 1 September 2016 tbc; optimisation; FDU; Alex Kruger
- Dr Hemanth Saratchandran; 14 April to 31 December 2015; pure; USN; Stephan Tillmann
- A/Prof Alistair Savage; University of Ottawa, Canada; 22 November to 2 December 2015; UMB; Arun Ram
- Mr Landir Saviniec; University of Sao Paulo, Brazil; 1 November 2015 to 31 October 2016; UMB; Alysson Costa
- Mr Muhamad Shoaib; Higher Education Commission, Pakistan; 1 May to 30 November 2015; statistics; USN; Shelton Peiris
- Alexander Stolin; University of Gothenburg, Sweden; 7–18 August 2015; quantum groups, quantum Lie algebras, Lie bialgebras; LTU; Yuri Nikolayevsky
- A/Prof Lianta Su; Quanzhou Normal University, PRC; 1 August 2015 to 31 January 2016; UMB; Guoqi Qian
- Dr Xiuping Su; University of Bath; 24 July 2015 to 9 January 2016; representations of Algebras; UNS; Jie Du
- A/Prof Kaibiao Sun; Dalian University of Technology, P.R. China; August 2015 to August 2016; biological system modeling, biological cybernetics, optimization theory; SUT; Tonghua Zhang
- Ms Ying-Ying Sun; Shanghai University; 9 September 2015 to 1 September 2016; applied; Nalini Joshi
- Prof Anatoliy Swishchuk; University of Calgary; 9–13 December 2015; probability theory and financial mathematics; LTU; Andriy Olenko
- Prof Yoshitsugu Takei; Kyoto University; 9–21 November 2015; applied; USN; Nalini Joshi
- Dr Garth Tarr; 1 March 2015 to 31 December 2015; ANU; Alan Welsh
- Dr Dennis The; Universität Wien; 10 August to 31 December 2015; ANU; Peter Bouwknegt

- A/Prof Yuan Tian; Dalian University of Technology, P.R. China; August 2015 to August 2016; mathematical biology; SUT; Tonghua Zhang
- Prof Claude Viallet; U Pierre et Marie Curie; 1–14 December 2015; applied; USN; Nalini Joshi
- Ms Jun Wang; University of Science and Technology of China; 1 October 2015 to 1 March 2017; ANU; Ben Andrews
- Mr Marcus Webb; Cambridge; 11 January to 9 April 2016; applied; USN; Sheehan Olver
- Prof Ruth Williams; Univeristy of California, San Diego; 9–27 September 2015; statistics; UMB; Peter Hall
- Dr Jeroen Wouters; 25 February 2015 to 24 February 2017; applied; USN; Georg Gottwald
- Mr Wei Wu; UNSW; 30 July 2012 to 31 May 2016; financial maths; USN; Ben Goldys
- Dr Binzhou Xia; Beijing International Center for Mathematical Research, P.R. China; 1–30 November 2015; UWA; Cai Heng Li
- Dr Ying Xu; Hefei University of Technology; 1 September 2015 to 31 August 2017; pure; USN; Ruibin Zhang
- Dr Dongyong Yang; University of Xiamen, Xiamen, China; July 2015 to June 2016; harmonic analysis; MQU; Xuan Duong
- A/Prof Hengyun Yang; Shanghai Maritime University; 16 January 2016 to 15 January 2017; pure; USN; Ruibin Zhang
- Prof Da-jun Zhang; Shanghai University; 23 November to 5 December 2015; applied; USN; Nalini Joshi
- Dr Junyong Zhang; Beijing Institute of Technology; 1 September 2015 to 31 August 2016; ANU; Andrew Hassell
- Mr Yang Zhang; Uni of Science and Technology, China; 1 October 2015 to 30 September 2017; pure; USN; Ruibin Zhang
- Hui Zhou; Peking University, PRC; September 2015 to March 2017; UWA; Cheryl Praeger, Alice Devillers and Michael Giudici
- Dr Jacek Zienkiewicz; Wroclaw University, Poland; 15 October to 25 November 2015; quantum tunnelling and quantum barriers for Schrodinger propagator; MQU; Adam Sikora
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