



# News

## General News

### Paul Erdős Award for David Hunt

David Hunt was presented with a Paul Erdős Award from the World Federation of National Mathematics Competitions at a ceremony in Hamburg on 30 July 2016, during the 13th International Congress of Mathematics Education (ICME13).

The Paul Erdős Award was established by the World Federation of National Mathematics Competitions to recognise contributions of mathematicians who have played a significant role in the development of mathematical challenges at the national or international level and which have been a stimulus for the enrichment of mathematics learning.

The full citation for David can be found at <http://www.wfnmc.org/erdhunt.html>.

### Eureka Prize awarded to University of Melbourne staff

Associate Professor James McCaw of the University of Melbourne is part of a team led by Professor Leann Tilley that has just won the 2016 Eureka Prize for Infectious Disease Research. The full team also includes Dr Nick Klonis from the Department of Biochemistry and Molecular Biology and Associate Professor Julie Simpson from the School of Population and Global Health.

Malaria kills nearly half a million children each year, and the emergence of resistance to the first-line antimalarial drug, artemisinin, is looming as a major global health crisis. Professor Tilley and her team have made a number of key scientific discoveries leading to insights into how artemisinin resistance may be overcome.

James appears at the end of the video that the team put together at <https://www.youtube.com/watch?v=i-Nb0Rc3Llk&feature=youtu.be>.

### Mathematics in the media

An article by Mark Liu about the applications of mathematics, science and coding to the fashion industry appeared recently in The Conversation: <https://theconversation.com/why-stem-subjects-and-fashion-design-go-hand-in-hand-63649>.

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## Completed PhDs

### Curtin University

- Dr Francois Grobler, *Optimised decision making under grade uncertainty in surface mining*, supervisor: L. Caccetta.

- Dr Pawaton Kaemawichanurat, *Connected domination critical graphs*, supervisor: L. Caccetta.

#### Queensland University of Technology

- Dr Fehaid Alshammari, *Mathematical modelling of human corneal oxygenation and cell kinetics in corneal epithelial wound healing*, supervisor: Graeme Pettet.

#### University of South Australia

- Dr Josh Chopin, *New methods and algorithms for image-based plant phenotyping*, supervisors: Stanley J. Miklavcic (UniSA) and Hamid Laga (Murdoch University).

#### University of Western Australia

- Dr Ayham Zaitouny, *Tracking and modelling a multiple objects dynamics in a complex environment (animal behaviour)*, supervisors: Thomas Stemler, Kevin Judd and Michael Small.
- Dr Philip Schrader, *Global analysis of one-dimensional variational problems*, supervisor: Lyle Noakes.

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### Awards and other achievements

#### RMIT University

- Vira Koshkina from RMIT University won the national competition amongst all PhD students attending the AMSI 2016 Winter School on Biological and Environmental Modelling. Vira is being supervised by Dr Yan Wang, Professor Lewi Stone and Dr Ascelin Gordon at RMIT.

#### UNSW Canberra

- PhD student, Rachael Quill, has been awarded the AustMS WIMSIG Cheryl E. Praeger Travel Award to attend the 5th International Fire Behaviour and Fuels Conference, in Melbourne.

#### University of Sydney

- Emma Carberry was awarded a Brown Fellowship.
- Adrienne Jenner won first place in the poster competition at the workshop on Dynamics of Biological Systems (30 May to 11 June) at the University of Alberta, Canada.
- Jean Yang was recognised with a Research Excellence Award from the National Health and Medical Research Council.

- Geordie Williamson was awarded one of the 2016 European Mathematical Society Prizes for outstanding young researchers.
  - Anne Thomas was elected to the Council of the Australian Mathematical Society.
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### **Appointments, departures and promotions**

#### **Australian National University**

- Mr Thomas Harding departed on 18 July 2016.

#### **Curtin University**

##### *New staff:*

- Associate Professor Jo-Anne Morgan from PwC.

##### *Resignations:*

- Dr Christina Kazantzidou left Curtin to take up an appointment at QUT in March 2016.

#### **Monash University**

##### *New Postdoctoral Fellows:*

- TriThang Tran
- Josh Howie
- Trent Marbach

#### **UNSW Canberra**

- Dr Leesa Sidhu has been promoted from Level B to Level C.

#### **University of South Australia**

- Dr Timofei Bogomolov has commenced a three-year teaching position in Mathematical Sciences.
- Dr Zhi Lu as Research Associate (recently of Adelaide University).
- Dr Zohaib Khan as Research Associate (recently of University of Western Australia).
- Dr Josh Chopin as Research Associate (UniSA).
- Dr Pankaj Kumar as Research Fellow (UniSA).
- Associate Professor Kim-Kwang Raymond Choo of the University of South Australia will be joining University of Texas at San Antonio as the holder of the Cloud Technology Endowed Professorship in August 2016.

#### **University of Sydney**

- Dr Milena Radnovic has accepted an ongoing position which will commence on 1 July 2017.

### University of Western Australia

- David Walker commenced as a Senior Lecturer.

### University of Wollongong

- Mr Xinjiang He has been appointed as an Associate Lecturer for three years. His research is in mathematical finance.

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## New Books

### University of Adelaide

Cohen, S.M. and Elliott, R.J. (2015). *Stochastic Calculus and Applications*. Birkhäuser, Basel. <http://www.springer.com/us/book/9781493928668>.

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## Conferences and Courses

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

### Boden Research Conference 2016

Animal, Vegetal, Mineral? Emergence and Function of Complex Shapes in Self-Assembly and Biological Cells

Dates: 19–23 September 2016

Venue: Cave House Hotel, Yallingup, Western Australia

Web: <http://animal-vegetal-mineral.org/>

For further details, please see the website or *Gazette* 43(2), p. 145.

### Number Theory Down Under

Dates: 23–26 September 2016

Venue: The Harbourview Function Centre, Newcastle

Web: <https://carma.newcastle.edu.au/meetings/ntdu4/> Organisers: Michael Coons, Alex Ghitza, Mumtaz Hussain and Tim Trudgian

This year, NTDU will be celebrating Professor Richard Brent's 70th birthday. Many of the lectures will be given by his collaborators, students and colleagues in number theory. Here is a brief biography:

Richard Peirce Brent is a mathematician and computer scientist whose contributions to these fields have spanned number theory, random number generators, numerical analysis, computer arithmetic, algorithmics, analysis and combinatorics. During his long career, Richard has supervised nineteen PhD students to completion, taught undergraduate and postgraduate courses in mathematics and computer science across five universities, and shown himself an able administrator in his stints as a

Head of Department at ANU and Oxford. Richard is currently a Fellow of the Australian Academy of Science, an Emeritus Professor at the ANU, and a Conjoint Professor at the University of Newcastle.

The conference will present an ideal opportunity for students and early career researchers. Should you wish to give a talk please register and submit your title/abstract to Mumtaz Hussain at [mumtaz.hussain@newcastle.edu.au](mailto:mumtaz.hussain@newcastle.edu.au). Some of the confirmed speakers are (in alphabetical order)

- Shi Bai (INRIA, France)
- David Bailey (California, USA)
- Richard Brent (Newcastle, Australia)
- YoungJu Choie (POSTECH, Korea)
- Lassina Dembele (Warwick, UK)
- Karl Dilcher (Dalhousie, Canada)
- Alexander Fish (Sydney, Australia)
- Amy Glen (Murdoch, Australia)
- David Harvey (UNSW, Australia)
- Hidenori Katsurada (Muroran, Japan)
- Simon Kristensen (Aarhus, Denmark)
- Brendan McKay (ANU, Australia)
- Judy-anne Osborn (Newcastle, Australia)
- Alina Ostafe (UNSW, Australia)
- Igor Shparlinski (UNSW, Australia)
- Yohei Tachiya (Hirosaki, Japan)
- Bao-Wei Wang (HUST, China)
- Paul Zimmermann (INRIA, France)

There will be coffee/tea breaks between the talks and a light lunch will also be provided for all participants. There will also be a conference dinner, venue to be decided, on Sunday 25 September.

Registration for this conference is AUD130 for non-NTDU members and AUD100 for NTDU members. The registration link is on the conference website. Since it is an AMSI supported event, all student or early career researchers at AMSI member institutions can apply for financial support from AMSI; follow the link <http://research.amsi.org.au/travel-funding/> for more information.

### **Topological Matter, Strings, K-theory and related areas**

Dates: 26–30 September 2016

Venue: Adelaide

Web: <http://www.iga.adelaide.edu.au/workshops/WorkshopSep2016/>

This workshop is on topological aspects of Condensed Matter physics, whose mathematics has much in common with that used in and stimulated by String Theory.

Featured international speakers include

- Ugo Bruzzo (SISSA, Trieste)
- Krzysztof Gawedzki (École normale supérieure de Lyon)

- Gian Michele Graf (ETH, Zurich)
- Motoko Kotani (Tohoku University, Sendai)

For further details, please see the website.

### **Designing Health Conference**

Dates: 24 and 25 October 2016

Venue: Adelaide

Web: [www.designinghealth.com.au](http://www.designinghealth.com.au)

The organisers of this conference are keen to encourage participation by those interested in operations research.

It's time to think about tackling the health care system problems in a new way!

Cumberland.au is proud to bring you its inaugural Designing Health Conference in Adelaide on 24 and 25 October 2016.

#### *What's this conference all about?*

The conference will bring together health care professionals, operations researchers and designers — all people who are interested in improving our health system. The focus will be on connecting and learning about how we can contribute to improving the health care system through design thinking, systems thinking and operations research.

#### *Who's speaking?*

Professor Terry Young (Cumberland Initiative, UK) and Professor Harrold Nelson (USA) will provide the international perspective, while those already applying these methods from Australia will also feature at the event, including Professor Don Campbell (Monash Health) and Dr Mieke van der Bijl-Brouwer (Designing Out Crime Centre).

#### *Who should attend?*

Anyone looking to help solve health care system problems — doctors, nurses, allied health professionals, designers, mathematicians, engineers, computer scientists — if you're interested in learning more about how design thinking, system thinking and operations research can be used to benefit the way we deliver health care then this is for you!

#### *Can I register now?*

Yes — early bird rates are now available — book soon via the website or miss out! Want to know more? For more information about this exciting event please contact: [mark.mackay@flinders.edu.au](mailto:mark.mackay@flinders.edu.au). A detailed program will be released soon — you will be able to see this on the website. There's also information on the facebook page: <https://www.facebook.com/designinghealthconference>.

### **ATIS 2016, the 7th International conference on Applications and Techniques in Information Security**

Dates: 26–28 October 2016

Venue: CQU, Cairns

Web: <http://www.atis2016.conferences.academy/>

Deakin University and Central Queensland University are jointly organising this conference, the seventh (7th) event in the ATIS series, which started in 2010. As academic research in information security has developed over the last twenty or so years, applications and techniques are being developed to be of specific use in this area. These include wavelets and their applications in digital forensics, classification algorithms for use in malicious software detection, and genetic algorithms custom-made for the cryptographic community.

For further details, please see the website.

### **MSI Workshop on Low-Dimensional Topology & Quantum Algebra**

Dates: 31 October to 4 November 2016

Venue: The Australian National University

Web: <https://tqft.net/web/conferences/Topology2016.html>

This workshop is part of the MSI's Special Year program on Algebra and Topology. Although in the past they have been viewed as separate fields, low-dimensional topology and quantum algebra have recently seen surprising interactions with the development of new topological invariants with deep connections to quantum groups and category theory. These invariants have proven to be effective tools for tackling fundamental problems in manifold and link theory, but they also have generated new research activity in algebra due to their compelling internal structure with close connections to higher categories and higher representation theory. This workshop will focus on recent advances in this developing subject, bringing together researchers from all parts of this vibrant field, and highlighting work of both established experts and exceptional young researchers from inside and outside of Australia.

Participants list (Preliminary; there are some recent outstanding invitations):

- Radmila Sazdanovic, North Carolina State
- Baptiste Chantraine, Nantes
- Yoav Moriah, Technion
- Eli Grigsby, Boston College
- Gwenael Massuyeau, Strasbourg
- Robert Lipshitz, Oregon
- Vera Vertesi, Strasbourg
- Benjamin Burton, Queensland
- Norman Do, Monash
- Zsuzsanna Dancso, ANU
- Anthony Licata, ANU
- Joan Licata, ANU
- Daniel Mathews, Monash

- Scott Morrison, ANU
- Jessica Purcell, Monash
- Hyam Rubinstein, Melbourne
- Stephan Tillmann, Sydney

For further details, please see the website, or contact Joan Licata at [joan.licata@anu.edu.au](mailto:joan.licata@anu.edu.au), or Scott Morrison at [scott.morrison@anu.edu.au](mailto:scott.morrison@anu.edu.au).

### **Alexander Rubinov Memorial Lecture**

Date: 3 November 2016

Venue: Federation University Australia

Web: <https://federation.edu.au/faculties-and-schools/faculty-of-science-and-technology/research/ciao/events/annual-alexander-rubinov-orations>

Professor Rubinov (1940–2006) was the Founding Director of CIAO, the Centre for Informatics and Applied Optimization, at the (then named) University of Ballarat. Under his leadership, CIAO became an extremely successful centre of both national and international repute, recognised especially for its theoretical and applied research in the sophisticated sphere of global and non-smooth optimization. Since 2008, the University has held an annual public lecture in his memory. This year it will be delivered by Laureate Fellow, Professor Nalini Joshi AO from the University of Sydney.

Please contact Helen Wade ([h.wade@federation.edu.au](mailto:h.wade@federation.edu.au), Ph: (03) 5327 6314) for further information.

### **Mathematical Methods for Applications**

Date: 11–14 November 2016

Venue: Hangzhou, China

Web: <http://www.anziam.org.au/ZPAMS>

Registrations close on 1 October 2016. For further details, please see the website or *Gazette* 43(1) p. 68.

### **Phylomania 2016**

Date: 16–18 November 2016

Venue: Hobart

Web: <http://www.maths.utas.edu.au/phylomania/phylomania2016.htm>

Organiser: Michael Charleston ([michael.charleston@utas.edu.au](mailto:michael.charleston@utas.edu.au))

For further details, please see the website or *Gazette* 43(4) pp. 211–212.

### **Workshop on Polytopes at RMIT**

Date: 17 November 2016

Venue: Room 8.9.66 (Access grid room), RMIT City Campus

Web: <http://www.polytopes.rmitopt.org/>

This will be an informal gathering of those interested in the geometry of polytopes.



The confirmed participants are:

- David Kirszenblat (University of Melbourne)
- Michael Payne (Monash University)
- Guillermo Pineda-Villavicencio (Federation University Australia)
- Vera Roshchina (RMIT University)
- Hyam Rubinstein (University of Melbourne)
- David Yost (Federation University Australia)

For more information please visit the website or e-mail [vera.roshchina@rmit.edu.au](mailto:vera.roshchina@rmit.edu.au).

### **International Conference on Nonlinear Partial Differential Equations**

Dates: 21–25 November 2016

Venue: University of New England, School of Science and Technology

Web: <http://sydney.edu.au/science/math/su/PDESeminar/nlpde2016/>

For further details, please see the website or *Gazette* 43(1) p. 68.

### **Computational Techniques and Applications Conference (CTAC) 2016**

Date: 27–30 November 2016

Venue: Monash (Caulfield campus)

Web: <http://www.monash.edu/ctac2016/>

For further details, please see the website or *Gazette* 43(4) pp. 212–213.

### **W-Algebras**

Dates: Monday 28 November 2016 to Friday 2 December 2016

Venue: University of Melbourne

Web: <https://sites.google.com/site/ausrepththeory/workshop2016>

For further details, please see the website or *Gazette* 43(4) p. 213.

### **BioInfoSummer 2016**

Dates: 28 November to 2 December 2016

Venue: The University of Adelaide

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

Early bird registrations close 2 October.

For further details, please see the website or the AMSI Director's report in this issue.

### **MATRIX: Interactions between topological recursion, modularity, quantum invariants and low-dimensional topology**

Dates: 28 November to 23 December 2016

Venue: University of Melbourne, Water Street, Creswick, Victoria

Web: <http://www.matrix-inst.org.au/events/interactions-between-topological-recursion-modularity-quantum-invariants-and-low-dimensional-topology/>

*Associated events:*

- Quantum Invariants and Low-dimensional Topology  
14–17 December 2016
- Topological Recursion and Modularity  
19–23 December 2016

For further details, please see the website or *Gazette* 43(1) p. 69.

**Maths Fest Australia 2016**

Dates: 28 November to 16 December 2016

Venue: Canberra

Web: <http://maths.anu.edu.au/events/austms-meeting-2016>

Incorporating

- Advances in Ergodic Theory, Hyperbolic Dynamics, and Statistical Laws  
Dates: 28 November to 2 December 2016
- 60th Annual Meeting of the Australian Mathematical Society  
Dates: 5–8 December 2016  
Venue: The Australian National University
- Nonlinear and Geometric Partial Differential Equations  
Dates: 9–13 December 2016

Registration for all three events is now open at the website.

Further details and links for these three events are listed here in chronological order.

**Advances in Ergodic Theory, Hyperbolic Dynamics & Statistical Laws**

Dates: 28 November to 2 December 2016

Venue: ANU, Canberra

Web: <http://mathsfest.amsi.org.au/advances-ergodic-theory-hyperbolic-dynamics-statistical-laws/>

A component of Maths Fest Australia 2016. For further details, please see the website or *Gazette* 43(2) p. 148.

**Workshop on Integrable Systems 2016**

Dates: 1–2 December 2016

Venue: University of Sydney

Web: <http://wp.maths.usyd.edu.au/igs/workshops/integrable-systems-2016/>

For further details, please see the website or *Gazette* 43(4) p. 215.

**Early Career Researchers Workshop**

Dates: 3–4 December

Venue: Australian Academy of Science, Canberra

Web: <https://carma.newcastle.edu.au/mcoons/ECW2016.html>

This year, the Early Career Researchers Workshop will precede the AustMS meeting in Canberra. The theme of this year's ECW will be 'Addressing your audience'. See the website for more information.

### **Workshop on Data Assimilation**

Dates: 5–9 December 2016

Venue: Bureau of Meteorology Head Office, Melbourne

Website: <http://www.bom.gov.au/research/workshop/2016/index.html>

The topic for this year's Bureau of Meteorology's R & D Branch Annual Workshop is data assimilation and its various themes of research. The organisers are hoping to get as many people from the math community involved as possible. There is also a student workshop before the actual research workshop which would be a great opportunity for our students to get involved.

The workshop is to be held at the Bureau of Meteorology Head Office, Melbourne, from the 5–9 December, 2016 and will follow a Student Workshop the week prior i.e. 1–2 December 2016 at the same venue. There will also be a student workshop on data assimilation Thursday and Friday beforehand (1–2 December).

The main workshop will bring together Australian experts from the Bureau of Meteorology, CSIRO, the Universities and Research Centres, as well as a number of prominent overseas scientists. Talks will address the status and prospects for improving our understanding of the issues relating to Data Assimilation, particularly as related to advancing our capability to predict high impact weather and climate. Topics include Atmospheric, Ocean, Land and Coupled DA, Reanalysis and Advanced techniques.

The invited speakers include

- Dr Craig Bishop, NRL USA
- Dr Clara Draper and Dr Sujay Kumar, NASA USA
- Dr Jeffrey Anderson, UCAR USA
- Dr Adam Clayton, UKMO
- Dr Mark Buehner, Environment and Climate Change Canada
- Dr Tijana Janjic, Hans-Ertel-Centre for Weather Research, LMU Munich
- Dr Michael Tsyrlunikov, HydroMeteorological Centre of Russia

Registration: Free (registration is required for attendance).

Contact: Ms V Jemmeson [v.jemmeson@bom.gov.au](mailto:v.jemmeson@bom.gov.au).

Scientific Committee: Peter Steinle (Convenor), Jin Lee, Yonghong Yin, Imitaz Dharssi, Pavel Sakov, Ms Val Jemmeson (Bureau of Meteorology), Georg Gottwald (USyd), Terry O'Kane (CSIRO).

**23rd Australian Statistical Conference 2016 in conjunction with 14th Australasian Data Mining Conference (AusDM) and 9th Australian Conference on Teaching Statistics (OZCOTS)**

Dates: 5–9 December 2016

Venue: Hotel Realm, Canberra

Website: [www.asc2016.com.au](http://www.asc2016.com.au)

For further details, please see the website or *Gazette* 43(1) p. 69.

**60th Annual Meeting of the Australian Mathematical Society**

Dates: 5–8 December 2016

Venue: Canberra

Web: <http://maths.anu.edu.au/events/austms-meeting-2016>

Part of Maths Fest Australia 2016. For further details, please see the website or *Gazette* 43(2) pp. 148–149.

**Nonlinear & Geometric Partial Differential Equations**

Dates: 9–13 December

Venue: ANU, Canberra

Web: <http://research.amsi.org.au/mathsfest-australia-2016/>

For further details, please see the website or *Gazette* 43(2) p. 149.

**Differential geometry, Lie theory and Low-dimensional Topology**

Date: 19–21 December 2016

Venue: La Trobe University

Web: coming soon

Organising committee:

- Grant Cairns ([G.Cairns@latrobe.edu.au](mailto:G.Cairns@latrobe.edu.au))
- Ana Hinic Galic ([A.HinicGalic@latrobe.edu.au](mailto:A.HinicGalic@latrobe.edu.au))
- Yuri Nikolayevsky ([Y.Nikolayevsky@latrobe.edu.au](mailto:Y.Nikolayevsky@latrobe.edu.au))

For further details, please see *Gazette* 43(4) p. 216, or contact the organisers directly.

**MATRIX: Hypergeometric motives and Calabi Yau differential equations**

Dates: 8–28 January 2017

Venue: University of Melbourne, Water Street, Creswick, Victoria

Web: coming soon

Organisers:

- Ling Long (Louisiana State University)

- Masha Vlasenko (Institute of Mathematics of the Polish Academy of Sciences)
- Wadim Zudilin (University of Newcastle)

For further details, please see *Gazette* 43(4) pp. 216–217.

### **AMSI Summer School 2017**

Dates: 9 January to 3 February 2017

Venue: The University of Sydney

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

AMSI Summer School registration and grant applications now open. For further details, please see the website or the AMSI Director's report in this issue.

### **ANZAMP 5th annual meeting**

Dates: 1–3 February 2017

Venue: University of NSW

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

More information to come.

### **ANZIAM 2017**

Dates: 5–9 February 2017

Venue: Hahndorf Resort, South Australia

More information to come.

### **HDA2017, 7th Workshop on High-Dimensional Approximation**

Dates: 13–17 February 2017

Venue: UNSW

Web: <http://www.hda2017.unsw.edu.au>

For further details, please see the website or *Gazette* 43(4) pp. 217–218.

### **Applied Probability @ the Rock**

Dates: 17–21 April 2017

Venue: Ayers Rock Resort

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

For further details, please see the website or *Gazette* 43(4) p. 218.

### **MATRIX: Integrability in Low-Dimensional Quantum Systems**

Dates: July 2017

Venue: University of Melbourne, Water Street, Creswick, Victoria

Web: in preparation

Organisers:

- Murray Batchelor (Australian National University)

- Patrick Dorey (Durham University)
- Giuseppe Mussardo (SISSA Trieste)
- Chaiho Rim (Sogang University Seoul)

For further details, please see *Gazette* 43(4) pp. 218–219.

### **Mathematics of Risk**

Date: 20 November to 8 December 2017

Venue: University of Melbourne, Water Street, Creswick, Victoria

Web: in preparation

Organisers:

- Kostya Borovkov (University of Melbourne)
- Kais Hamza (Monash University)
- Masaaki Kijima (Tokyo Metropolitan University)
- Alex Novikov (University of Technology Sydney)
- Peter Taylor (The University of Melbourne)

For further details, please see *Gazette* 43(4) p. 219.

### **Tutte Centenary Retreat**

Dates: 26 November to 2 December 2017

Venue: University of Melbourne, Water Street, Creswick, Victoria

Web: in preparation

Organisers:

- Marston Conder (University of Auckland)
- Graham Farr (Monash University)
- Dillon Mayhew (Victoria University of Wellington)
- Kerri Morgan (Monash University)
- James Oxley (Louisiana State University)
- Gordon Royle (University of Western Australia)

### **AustMS 2017**

Dates: 11–14 December 2017

Venue: Macquarie University

### **Geometric R-matrices**

Dates: 17–22 December 2017

Venue: University of Melbourne, Water Street, Creswick, Victoria

Web: in preparation

Organisers:

- Rick Kenyon (Brown University)
- Andrei Okounkov (University of Columbia)
- Anita Ponsaing (University of Melbourne)
- Paul Zinn-Justin (University of Melbourne)

**Non-equilibrium systems and special functions**

Dates: January 2018

Venue: University of Melbourne, Water Street, Creswick, Victoria

Web: in preparation

Organisers:

- Vadim Gorin (MIT)
- Tomohiro Sasamoto (Tokyo Institute of Technology)
- Ole Warnaar (University of Queensland)
- Michael Wheeler (University of Melbourne)

Scientific Advisors:

- Alexei Borodin (MIT)
- Peter Forrester (University of Melbourne)
- Atsuo Kuniba (University of Tokyo)

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**Vale****Jonathan Michael Borwein**

With great sadness and shock, we inform members that Laureate Professor Jon Borwein passed away suddenly on 2 August in Canada.

Jon's achievements were formidable. His research spanned an enormous range of mathematics—from optimisation to number theory to mathematical finance—and he was a leading proponent of the role of experimental computing in mathematical research. As with everything he did, Jon approached each of these topics with great energy and enthusiasm and produced an enormous body of influential work.

Jon was a great mentor to dozens of graduate students and post-doctoral fellows. He was also very generous and supportive of his colleagues. No-one could work with him for any length of time without learning much.

Jon moved to Australia and to Newcastle in 2008, having previously visited on several occasions. His impact was immediate and far-reaching. He built a new research group in Newcastle, established a national seminar on optimisation, and took on major service responsibilities as Editor of the *Journal of the Australian Mathematical Society* and Chair of the Scientific Advisory Committee of the Australian Mathematical Sciences Institute.

Jon was visiting Canada and close to family as a Distinguished Scholar in Residence at Western University, London Ontario. He suffered a catastrophic heart attack and aneurism after being unwell for a couple of hours.

**Christopher Robin Heathcote**

With regret we inform members of the death of Emeritus Professor Christopher Robin Heathcote on 18 July.

Christopher Robin Heathcote, universally known as Chip, was born in Secunderabad, India on 18 April 1931. He completed his schooling in Perth, a BA at the University of Western Australia (1956) and an MA at the University of Melbourne (1958) before enrolling for a PhD at the ANU. There Chip worked on queuing theory under the supervision of J.E. Moyal in the Department of Statistics in the Institute of Advanced Studies, receiving his PhD in 1962. He was then appointed as a Senior Lecturer and later Reader in the Department of Statistics in the School of General Studies (later the Faculties) at ANU. In 1971, when E.J. Hannan moved to the Institute department, Chip was appointed to the Chair of Mathematical Statistics. (Deane Terrell was appointed Professor of Econometrics in the Department at the same time.) Chip served as Dean of the Faculty of Economics for two separate terms from 1973 and from 1978. Chip held the Chair of Mathematical Statistics until his retirement in 1996; he then became a Visiting Fellow in the Centre for Mathematics and its Applications in what is now the Mathematical Sciences Institute at ANU. Chip was a Fellow of the Institute of Mathematical Statistics and the International Statistical Institute. He was editor of the Australian Journal of Statistics from 1971 to 1973. Chip's research interests included stochastic processes, applied probability, empirical characteristic functions and, later in his career, demography and epidemiology. In the 1990s, Chip introduced the teaching of Actuarial Studies to the Department of Statistics and Econometrics (now part of the Research School of Finance, Actuarial Studies and Statistics) at ANU, a very important innovation. He was a gentle and civilised man who always saw the best in people. Chip was predeceased by his wife Nina; he is survived by his son Robin, and his family, and his daughter Sarah.

**Alwyn Francis Horadam**

With regret we inform members that Alwyn (Horrie) Horadam died in Armidale on 22 July at the age of 93. Before retirement at the end of 1986, he was Associate Professor of Mathematics, Head of the Department of Mathematics, Statistics and Computer Science and Dean of the Faculty of Science, as well as serving as President of the Union and for 18 years as Member of University of New England Council elected by Convocation.

Alwyn was predeceased by his wife Mollie, also a mathematician, and is survived by his sister Marcia and his daughters Kathy, Kerry and Alanna, six grandchildren and one greatgrandchild.

**Alan Gaius Ramsay McIntosh**

With great regret we inform members that Emeritus Professor Alan McIntosh died on 8 August.

Alan completed a BSc (Hons), with the award of a University Medal, at the University of New England in 1962. He was then a graduate student at the University



of California at Berkeley from 1963 to 1966, completing his PhD in operator theory, under the supervision of Frantisek Wolf. During his studies at Berkeley he was greatly influenced by Tosio Kato and that association played a prominent part in his subsequent research career. After a postdoctoral year at The Institute for Advanced Study at Princeton he returned to Australia in 1967 to take up a position in the School of Mathematics and Physics at the newly established Macquarie University. In 1999 he moved to the Australian National University as a Professor in the Centre for Mathematics and its Applications in the School of Mathematical Sciences (now called the Mathematical Sciences Institute), from which he retired in 2014.

Alan is particularly famous for his role in the resolutions of the Calderon conjecture on singular integrals and the Kato square root problem both of which have had a massive impact in harmonic analysis and partial differential equations. He will also be well remembered though for his abundant and natural friendliness with students and colleagues of all levels and the care and inspiration given to his graduate students and postdocs. His research achievements have also been recognised through election to the Australian Academy of Science in 1986, the award of Moyal Medal by Macquarie University in 2002 and the Hannan Medal by the Australian Academy of Science in 2015.

Alan is survived by his wife Evelina and children Debbie, Adrian, Keith and Jennifer.

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### 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.

- Prof Rosemary Bailey; University of St Andrews; 10 September to 7 October 2016; UWA; Michael Giudici
- Thanatporn Bantaojai; Naresuan University; 22 September to 30 November 2016; optimisation; FDU; Alex Kruger
- Dr Barbara Baumeister; Universität Bielefeld; 6–21 October 2016; UWA; Cheryl Praeger/Michael Giudici
- Panatda Boonman; Naresuan University; 22 September to 30 November 2016; optimisation; FDU; Alex Kruger
- Prof Peter Cameron; University of St Andrews; 10 September to 7 October 2016; UWA; Michael Giudici
- Dr Peng Chen; Sun Yat Sen University; 10 July to 10 September 2016; ANU; Andrew Hassell
- Dr Brenton Clarke; Murdoch University; 20 August to 31 December 2016; UWA; Berwin Turlach
- Ms Giulia dal Verme; Università degli Studi di Milano-Bicocca, Milano, Italy; 15 September to 14 December 2016; pure; USN; Jacqui Ramagge

- Dr Wei Deng; Shanghai Maritime University, China; 15 December 2015 to 14 December 2016; optimisation; FDU; David Gao
- Prof Reinier Díaz Millán; Federal Institute of Goias, Goiania, Brazil; 1 January 2016 to 31 December 2016; optimization, variational inequality problem, inclusion problem, splitting methods; USA; Regina S. Burachik
- Asen Dontchev; Mathematical Reviews; 10–22 January 2017; optimisation; FDU; Alex Kruger
- Prof Edwin Galea; University of Greenwich (UK); 24 September to 7 October and 23 November to 3 December 2016; computational emergency engineering; RMIT; Marc Demange
- Dr Zhao Hua Gong; Shandong Institute of Business and Technology; January 2016 to January 2017; optimal control and its applications; CUT; Ph: 92663534
- Mr Cheng Hu; Shandong University; 1 October 2015 to 30 September 2016; statistics; USN; Qiying Wang
- Dr Genggeng Huang; Shanghai Jiao Tong University; 10 October 2015 to 9 October 2016; ANU; Xu-Jia Wang
- Prof Kenji Iohara; Lyon; 14 October to 15 November 2016; pure; USN; Gus Lehrer
- Prof Bertrand Jouve; CNRS (France); 10 November to 6 December; graph theory and complex networks; RMIT; Marc Demange
- Dr Napsu Karmita; Turku University, Finland; 2 January to 24 December 2016; optimisation; FDU; Adil Bagirov
- Dr DE Zhou Kong; Shandong Agricultural University; February 2016 to February 2017; CUT; applied differential equations contact; Ph: 92663534
- Prof Jibin Li; Zhejiang Normal University, Jinhua, China; 25 September to 15 October 2016; SUT; nonlinear science and applications, dynamical systems; Tonghua Zhang
- A/Prof Jingjian Li; Guangxi University P.R. China; January 2016 to January 2017; UWA; Cai Heng Li
- Professor Chong Yang Liu; Shandong Institute of Business and Technology; January 2016 to January 2017; CUT; optimal control and its applications; Ph: 92663534
- Dr Yong Liu; Wuhan University of Science and Technology; June 2016 to June 2017; CUT; applied finance and economics; Ph: 92663534
- Dr Xia Liu; Henan Normal University, China; 1 September 2016 to 31 August 2017; SUT; applied mathematics, dynamical systems; Tonghua Zhang
- Marco Lopez; University of Alicante; 11–26 November 2016; optimisation; FDU; Alex Kruger
- A/Professor De Xiang Ma; North China Electric Power University; March 2016 to March 2017; CUT; applied differential equations; Ph: 92663534
- Prof Walter Mazorchuk; Uppsala University, Sweden; 17–28 October 2016; pure; USN; Andrew Mathas
- Dr Jin Song Meng; University of Electronic Science and Technology China; January 2016 to January 2017; CUT; optimal control and its applications; Ph: 92663534
- Prof R. Joel Moitsheki; University of the Witwatersrand; 12 October to 2 November 2016; symmetry analysis, PDEs; USA; Bronwyn Hajek

- Dr Peter O’Sullivan; University of Sydney; 2 July to 31 December 2016; ANU; Peter Bouwknecht
- Dr Jiangyan Peng; University of Electronic Science and Technology of China; 16 November 2015 to 15 November 2016; stats; USN; Qiying Wang
- Prof Mikhail Prokopenko; School of Civil Engineering, University of Sydney; 26–29 September 2016; UWA; Ed Cripps
- Mr James Reoch; Adelaide; 3 August 2015 to 31 December 2017; applied; USN; Peter Sehoon Kim
- A/Prof Adrian Roellin; National University of Singapore; 22 August to 24 September 2016; UMB; Aihua Xia
- Mr Landir Saviniec; University of Sao Paulo, Brazil; 1 November 2015 to 31 October 2016; UMB; Alysson Costa
- Mr Matthieu Simon; Universite Libre De Bruxelles; 31 August to 30 September 2016; UMB; Peter Taylor
- Mr Moritz Thon; 3 September to 25 November 2016; applied; USN; Mary Myerscough
- Mr Søren Vilsen; University of Aalborg, Denmark; 1 August to 31 December 2016; UMB; David Balding
- Ms Jun Wang; University of Science and Technology of China; 1 October 2015 to 1 March 2017; ANU; Ben Andrews
- Ms Pei Wang; Central South University, China; July 2016 to June 2018; CUT; stochastic optimisation; Ph: 92663534
- Ms Wei Wang; Hunan University of Technology; April 2016 to February 2017; CUT; stochastic optimal control and optimization; Ph: 92663534
- Dr Yezhou Wang; University of Electronic Science and Technology of China; 1 November 2015 to 31 October 2016; MNU; Graham Farr
- Rabian Wangkeeree; Naresuan University; 22–27 September 2016; optimisation; FDU; Alex Kruger
- Dr Simon Wood; 20 August 2016 to 31 December 2017; ANU; Peter Bouwknecht
- Dr Jeroen Wouters; 25 February 2015 to 24 February 2017; applied; USN; Georg Gottwald
- Dr Ying Xu; Hefei University of Technology; 1 September 2015 to 31 August 2017; pure; USN; Ruibin Zhang
- A/Prof Hengyun Yang; Shanghai Maritime University; 16 January 2016 to 15 January 2017; pure; USN; Ruibin Zhang
- A/Professor Yanyan Yin; Jiangnan University, Wuxi, China; March to Dec 2016; CUT; control and optimization of stochastic systems with actuator saturation; Ph: 92663534
- Dr Jin Long Yuan; Dalian University of Technology; January 2016 to January 2017; CUT; optimal control and its application to bio-processes; Ph: 92663534
- Dr Seif Zeinabolsadat; Eram University, Iran; January 2016 to January 2017; CUT; optimisation; Ph: 92663534
- Dr Hong-Bing Zeng; Hunan University of Technology; March 2016 to February 2017; CUT; Sampled-data synchronization control for chaotic neural networks under actuator saturation; Ph: 92663534
- Mr Yang Zhang; Uni of Science and Technology, China; 1 October 2015 to 30 September 2017; pure; USN; Ruibin Zhang

Prof Shitao Zhang; 15–20 November 2016; pure; USN; Daniel Daners

Prof Jiandong Zhao; Ludong University, China; 1 June to 30 November 2016; differential equations and mathematical biology; SUT; Tonghua Zhang

Hui Zhou; Peking University, PRC; September 2015 to March 2017; UWA; Cheryl Praeger, Alice Devillers and Michael Giudici

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