



News

General News

Commonwealth Science Council

The Federal Government has announced the formation of the Commonwealth Science Council as a replacement for the Prime Minister's Science Engineering and Innovation Council, which last met in June 2013 (<http://www.pm.gov.au/media/2014-10-14/lifting-australias-competitiveness-through-science-0>).

Chaired by the Prime Minister, the Science Council will now be the pre-eminent body for advice on science and technology, advising the Government on areas of national strength, current and future capability and on ways to improve connections between Government, research organisations, universities and business.

Professor Nalini Joshi is one of five eminent scientists and five business leaders appointed to the Science Council.

Our congratulations to Nalini on her appointment!

Mathematicians in the Media

Nalini Joshi appeared on the ABC program Q&A on 20 October. The program can be viewed or downloaded at <http://www.abc.net.au/tv/qanda/txt/s4088125.htm>.

Prehistory of the Solar System

A team led by Dr Maria Lugaro and Professor Alexander Heger of the Monash Centre for Astrophysics have published an article on the prehistory of the Solar System in the journal *Science*, Vol. 345, no. 6197, pp. 650–653. Read the Monash news article at <http://monash.edu/news/show/step-closer-to-birth-of-the-sun> or download the paper from <http://arxiv.org/pdf/1408.2050v1.pdf>.

Journal of the Australian Mathematical Society

The *Journal of the Australian Mathematical Society* has moved to a new tracking system for submissions and peer review, Scholar One. Papers are now only accepted from the Scholar One site: <http://mc.manuscriptcentral.com/jaz>.

Completed PhDs

Monash University

- Dr Yanfei Kang, *Detection, classification and analysis of events in turbulence time series*, supervisors: Kate Smith-Miles and Danijel Belusic.

- Dr Stephen McCormick, *The phase space for the Einstein–Yang–Mills equations, black hole mechanics, and a condition for stationarity*, supervisors: Todd Oliynyk and Robert Bartnik.
- Dr Carolyn Doherty, *Evolution, nucleosynthesis and final fates of super and massive asymptotic giant branch stars*, supervisor: John Lattanzio.
- Dr George Angelou, *On the role of doubly-diffusive mixing in low-mass red giant branch stars*, supervisor: John Lattanzio.
- Dr Eriny Azmy, *Exact solution of inverse kinematic problem of 6R serial manipulators using Clifford algebra: applications of Clifford algebra in robotics*, supervisor: Alan Pryde.

Queensland University of Technology

- Dr Su Yun Kang, *Bayesian models for spatio-temporal assessment of disease*, supervisor: Kerrie Mengersen.
- Dr Zaiton Mat Isa, *Mathematical modelling of fumigant transport in stored grain*, supervisor: Troy Farrell.

University of Melbourne

- Dr Drew Heard, *Morava modules and the $K(n)$ -local Picard group*, supervisors: Craig Westerland and Nora Ganter.
- Dr Yi Huang, *Moduli spaces of surfaces*, supervisor: Paul Norbury.
- Dr David Lazaridis, *Mixed-effects models with penalized fixed effects*, supervisor: Andrew Robinson.

University of New South Wales

- Dr Julie Wood, *The circulation on the continental shelf of south-eastern Australia from 2009 to 2013*, primary supervisor: Moninya Roughan.

University of Sydney

- Dr Inga Samonenko, *Nonparametric permutation test statistics and their saddlepoint approximations*, supervisor: John Robinson.
- Dr Duncan Sutherland, *Numerical study of vortex generation in bounded flows with no-slip and partial slip boundary conditions*, supervisor: Charlie Macaskill.

Awards and other achievements

Australian National University

- Emeritus Professor Richard Brent FAA has been awarded the 2014 Moyal Medal. The Moyal Medal is awarded annually by Macquarie University for research contributions to mathematics, physics or statistics, the areas of research of the late Professor José Enrique Moyal who was Professor of Mathematics at Macquarie University from 1973 to 1977. See

<https://maths.mq.edu.au/medal/medallists.html> for a list of previous winners and <https://maths.mq.edu.au/medal/lecture2014.html> for details of this year's Moyal Lecture, which has just taken place.

Monash University

- As reported briefly in the last issue, Professor Kate Smith-Miles was awarded one of the ARC's prestigious 2014 Australian Laureate Fellowships. Prof Smith-Miles received \$2.83 million for her research project entitled 'Stress-testing algorithms: generating new test instances to elicit insights'. The project aims to develop a new paradigm in algorithm testing, creating novel test instances and tools to elicit insights into algorithm strengths and weaknesses. Professor Smith-Miles is also one of the two female researchers to receive a Georgina Sweet Australian Laureate Fellowship, which will see her take an ambassadorial role to promote women in research in addition to her research project.

University of Sydney

- The London Mathematical Society has announced that Professor Nalini Joshi is the Special LMS Hardy Fellow for 2015. She will undertake a lecture tour of the UK in the (English) summer which will end with the Hardy Lecture at the Society Meeting on Friday 3 July in London. Visit <http://www.lms.ac.uk/events/lectures/hardy-lectureship> for further details.
- The first Mrs Elva Rae Talented Mathematics Student Award has been awarded to Karen Leung for her project 'Impulsive control of the twisting somersault', to be undertaken under the supervision of Holger Dullin.

Appointments, departures and promotions

Griffith University

- Dr Hoda Rahmati, from Iran, has been awarded a Keizo/Obuchi Postdoctoral Research Fellowship by the United Nations, and is now working with Dr Anand Tularam on Modelling the level of water security in Asia and its long term implications for Australia.

Monash University

- Dr Padraig O'Cathain has commenced as Research Fellow. Padraig's research interests are in algebraic design theory, compressed sensing and computational algebra.

University of Melbourne

Appointments

- Dr Michael Wheeler

Departures

- Dr Guangjun Xu

University of New South Wales

These staff members have been promoted to Associate Professor at UNSW (effective 1 January 2015).

- Dr Daniel Chan
- Dr Francis Kuo
- Dr Bill McLean
- Dr Moninya Roughan
- Dr Chris Tisdell

University of Newcastle

- Dr Ohad Giladi has been appointed as Research Associate working with Laureate Professor Jon Borwein and CARMA.

University of Sydney

- Oded Yacobi was appointed as Lecturer in the School of Mathematics and Statistics.

New Books**Federation University**

Bagirov, A., Karmita, N. and Mäkelä, M. M. (2014). *Introduction to Nonsmooth Optimization: Theory, Practice and Software*. Springer International, Switzerland. <http://www.springer.com/business+%26+management/operations+research/book/978-3-319-08113-7>

University of New South Wales

Donovan, P. and Mack, J. (2014). *Code Breaking in the Pacific*. Springer International, Switzerland. <https://www.maths.unsw.edu.au/news/2014-09/code-breaking-pacific-peter-donovan-john-mack>

Conferences and Courses

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

EVIMS 2: Effective use of Visualisation in the Mathematical Sciences workshop

Date: 21–23 November 2014

Venue: Australian National University

Web: <http://maths.anu.edu.au/events/effective-use-visualisation-mathematical-sciences-evims-2>

For more information, please see the website, or *Gazette* 41(4), p. 263.

New Directions in Fractal Geometry workshop

Date: 24–28 November 2014

Venue: Australian National University, Kioloa Coastal Campus

Web: <http://maths.anu.edu.au/events/new-directions-fractal-geometry>

For more information, please see the website, or *Gazette* 41(4), pp. 263–264.

Sequences and Their Applications (SETA) 2014

Date: 24–28 November 2014

Venue: University of Melbourne

Web: people.eng.unimelb.edu.au/udaya/seta14/

For more information, please see the website, or *Gazette* 41(4), p. 264.

The Biarri Applied Mathematics Conference

Date: 25–26 November 2014

Venue: RMIT, Melbourne

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

BAMCONF 2014, MATHS EVERYWHERE. Now more than ever maths is pervading every nook and cranny of science, industry commerce and government. The BAM Conference this year will highlight the breadth of places where the mathematical sciences are making a difference, perhaps even where you might least expect: from the burgeoning analytics sphere to bioinformatics, telecommunication network design, disaster modelling, climate science, sport and finance. Over two days BAMConf will showcase mathematical tools and techniques used to solve problems in the real world, through case studies and in-depth talks. From this you will also get a glimpse of the many and diverse career paths that mathematics offers.

CTAC 2014

Date: 1–3 December 2014

Venue: Australian National University

Web: <http://maths.anu.edu.au/events/ctac-2014>

For more information, please see the website, or *Gazette* 41(3), p. 200.

BioInfoSummer 2014

Date: 1–5 December 2014

Venue: Monash University (Caulfield Campus), Melbourne

Web: <http://www.amsi.org.au/index.php/higher-education/bioinfosummer>

For more information, please see the website, or *Gazette* 41(3), pp. 200–201.

Australasian Applied Statistics Conference

Date: 1–5 December 2014

Venue: Port Lincoln Hotel, Eyre Peninsula

Web: <http://www.aasc.org.au/>

For more information, please see the website, or *Gazette* 41(4), pp. 264–265.

38th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing

Date: 1–5 December 2014

Venue: Victoria University of Wellington, New Zealand

Web: <http://msor.victoria.ac.nz/Events/38ACCMC>

All registration will close on Monday 10 November.

For more information, please see the website, or *Gazette* 41(3), p. 201.

International mathematical conference at the University of Goroka, PNG

Date: 1–5 December 2014

Venue: University of Goroka, PNG

Web: <http://icpam-goroka2014.blogspot.com/>

For more information, please see the website, or *Gazette* 41(3), pp. 201–202.

Careers in Bioinformatics

Date: 2 December 2014, 6.30–7.30 pm

Venue: Lecture Theatre K309, Building K, Monash University, Caulfield

Web: <http://bis14.amsi.org.au/events/careers-bioinformatics/>

Love science, but are unsure about career paths and interested in exploring new and exciting areas? Bioinformatics is an emerging area; it sounds pretty cool, but what is it and where can it take you? Come along to this free public panel discussion and find out.

Speakers include Professor Chris Overall (University of British Columbia), Professor Kate Smith-Miles (MAXIMA) and Dr Mark Cowley (Garvan Institute).

Differential Geometry, Lie theory and Complex Analysis

Date: 5–7 December 2014

Venue: La Trobe University, City Campus, Melbourne

Web: <http://purebyteslab.com/workshop/>

Invited overseas speakers

- Carolyn Gordon (Dartmouth College, USA)
- Kang-Tae Kim (POSTECH, Korea),
- Dmitry Millionschikov (Moscow University, Russia)
- Tracy Payne (Idaho University, USA)

Registration

Registration is now open, but closes on 23 November. There is no registration fee.

The workshop is a satellite event of the 8th Australia New Zealand Mathematics Convention.

Organisers: Yuri Nikolayevsky (La Trobe University), Grant Cairns (La Trobe University), Gerd Schmalz (University of New England), Vlad Ejev (Flinders University).

Contact person: Yuri Nikolayevsky (y.nikolayevsky@latrobe.edu.au).

For further information, please see the website, or Gazette 41(4), p. 265.

AustMS/NZMS Early Career Workshop

Date: 6–7 December 2014

Venue: Melbourne Parkview Hotel

Web: <http://www.austms2014.ms.unimelb.edu.au/early-career-workshop/>

The Early Career Workshop of the Australian Mathematical Society will take place in Melbourne on the weekend of 6–7 December 2014. This is immediately prior to the Australia–New Zealand Mathematics Convention (ANZMC).

The workshop will focus on useful career advice for early career researchers in the mathematical sciences. It is an excellent opportunity to learn about your career pathways, discuss issues facing early career researchers, and meet lots of amazing people!

Start at 2:00pm on Saturday 6 December 2014.

Finish at 2:00pm on Sunday 7 December 2014.

Afterwards, participants will have time to make their way to the opening reception of the ANZMC.

8th Australia–New Zealand Mathematics Convention

Date: 8–12 December 2014

Venue: University of Melbourne

Web: <http://www.austms2014.ms.unimelb.edu.au/>

For more information, please see the website, or *Gazette* 41(3), pp. 202–203.

Applied Statistics and Public Policy Analysis Conference

Date: 11–12 December 2014

Venue: Charles Sturt University

Web: www.csu.edu.au/faculty/business/comp-math/home

For more information, please see the website, or *Gazette* 41(4), p. 266.

2015 AMSI Summer School

Date: 5–29 January 2015

Venue: University of Newcastle

Web: <http://www.ss15.amsi.org.au>

Registration is now open for the 2015 AMSI Summer School. Course information is now online. For more information, and to apply, go to the website.

Second-round registration closes on 20 November.

Mathematics in Industry Study Group (MISG) 2015

Date: 27–31 January 2015

Venue: Queensland University of Technology

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

For more information, please see the website, or *Gazette* 41(4), pp. 266–267.

ANZIAM 2015

Date: 1–5 February 2015

Venue: Gold Coast

Web: <http://anziam15.com/>

Registration for the ANZIAM 2015 conference is now open. Early-bird registration and abstract submission closes on 9 January 2015. Availability of accommodation at the Outrigger Surfers Paradise is not guaranteed after 9 December 2014. For a complete description of the conference dates, venue, invited speakers, registration details, etc., please see the conference website.

There is an associated one-day workshop on mathematical biology on 6 February 2015 at QUT in Brisbane.

Please direct any questions to anziam15@qut.edu.au.

Algebraic, Number Theoretic and Graph Theoretic Aspects of Dynamical Systems

Date: 2–6 February 2015

Venue: University of New South Wales

Web: http://web.maths.unsw.edu.au/~jagr/ADS_NT_GT.html

Early registration closes 15 November. For more information, please see the website, or *Gazette* 41(4), p. 267.

South Pacific Continuous Optimization Meeting (SPCOM) 2015

Date: 8–12 February 2015

Venue: University of South Australia

Web: carma.newcastle.edu.au/meetings/spcom/

For more information, please see the website, or *Gazette* 41(4), pp. 267–268.

Symmetries and Spinors: Interactions Between Geometry and Physics

Date: 13–17 April 2015

Venue: University of Adelaide, Conference Room 7.15

Web: www.iga.adelaide.edu.au/workshops/April2015/

For more information, please see the website, or *Gazette* 41(4), p. 268.

ICIAM mini-symposium

Date: 10–14 August 2015

Venue: Beijing, China

Web: <http://www.iciam2015.cn/>

For more information, please see the website, or *Gazette* 41(3), p. 203.

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 David Allen; Edith Cowan; 1 August 2014 to 31 July 2015; stats; USN; Shelton Peiris

Prof Pere Ara; Universitat Autònoma de Barcelona; 2–14 November 2014; non-commutative algebra; UWS; Roozbeh Hazrat

Dr Dzmitry Badziahin; Durham University; 21 October to 7 November 2014; metric Diophantine approximation; UNC; Wadim Zudilin

Associate Professor Ruth Baker; University of Oxford; 29 September 2014 to 3 October 2014; QUT

Mogens Bladt; IIMAS-UNAM; 1–15 November 2014; applied probability; SMP at UQ; Leonardo Rojas-Nandayapa

- José Blanchet; Columbia University; January 2015; applied probability; SMP at UQ; Leonardo Rojas-Nandayapa
- Mr Emeric Bouin; École Normale Supérieure de Lyon; 23 October 2014 to 10 November 2014; applied; Peter Sehoon Kim
- Dr Vincent Calvez; École Normale Supérieure de Lyon; 23–29 October 2014; applied; Peter Sehoon Kim
- A/Prof Xiyu Cheng; Lanzhou University, China; February 2014 to February 2015; nonlinear analysis; UNE; Yihong Du
- Prof Timofei Dokchitser; Bristol University; 1 October to 15 December 2014; MAGMA; USN; John Cannon
- Prof Vyacheslav Futorny; University of São Paulo; 30 October to 30 November 2014; pure; USN; Alexander Molev
- Dr Ganes Ganesalingam; Massey University, NZ; 1 July 2014 to 30 June 2015; statistics; USN; Shelton Peiris
- Prof Terry Gannon; University of Alberta; 31 October to 10 November 2014; ANU; Scott Morrison
- Dr Tom Hirschowitz; French National Centre for Scientific Research, Le Bourget-du-Lac, France; November to December 2014; theoretical computer science and category theory; MQU; Richard Garner
- Prof Derek Holt; University of Warwick; 28 September to 5 December 2014; MAGMA; USN; John Cannon
- A/Prof Xian-Jiu Huang; Nanchang University, China; 1 October 2014 to 30 September 2015; ANU; Xu-Jia Wang
- Mr Jesper Ipsen; Bielefeld University; 28 September to 22 October 2014; UOM; Peter Forrester
- Prof Jesper Jacobsen; Laboratoire de Physique Theorique de Ecole Normale Supérieure; 13–24 October 2014; UOM; Tony Guttmann
- Prof Monique; e Jeanblanc Université d'Evry; 15–22 December 2014; fin maths; Marek Rutkowski
- Dr Zhong Jin; Shanghai Maritime University; August 2014 to August 2015; optimisation; FedUni; David Gao
- Yangjin Kim; 12 January to 26 February 2015; applied; USN; Peter Sehoon Kim
- Prof Satoshi Koike; Hyogo University, Japan; 8–23 September 2014; pure; USN; Laurentiu Paunescu
- A/Prof Simon Kristensen; Aarhus University, Denmark; 19–28 October 2014; analytical number theory; UNC; Wadim Zudilin
- A/Prof Sunil Chandran Leela; Indian Institute of Science; 3–23 November 2014; computer science and automation; UOM; Sanming Zhou
- Prof Martin Liebeck; Imperial College; 2 October to 10 November 2014; UWA; Cheryl Praeger
- A/Prof Si Mei; Shanghai Jiaotong University, China; 9 August 2014 to 8 August 2015; pure; USN; Andrew Mathas
- A/Prof Sylvie Monniaux; Université Aix-Marseille; 15 October 2014 to 15 July 2015; ANU; Pierre Portal
- Dr Pol Naranjo Barnet; Interdisciplinary Higher Education Centre (CFIS), Spain; 20 August to 11 November 2014; UMB; Lawrence Reeves

- A/Prof Alicia Nieto-Reyes; University of Cantabria, Spain; 20 October to 2 December 2014; UOM; Peter Hall
- Tim Penttila; Colorado State University, USA; 12–23 January 2015; geometry; UWA; Cheryl Praeger
- Dr Alvaro Pelayo; University of California; 12 September to 4 October 2014; UOM; Peter Forrester
- Prof Somyot Plubtieng; Naresuan University, Thailand; December 2014; optimisation; FedUni; Alex Kruger
- Prof Aixia Qian; Qufu Normal University, China; December 2013 to December 2014; nonlinear analysis; UNE; Yihong Du
- Dr Eric Ragoucy-Aubezon; Theoretical Physics Laboratory; 24 October to 3 December 2014; pure; USN; Alexander Molev
- Prof Vladimir Rittenberg; Bonn University, Germany; 16 October to 1 December 2014; UOM; Jan de Gier
- Dr Natalia Rozhkovskaya; 1–26 November 2014; pure; USN; Alexander Molev
- Professor Matías Salibián-Berrera; The University of British Columbia; 7–28 September 2014; ANU; Alan Welsh
- Ms Thidaporn Seangwattana; Naresuan University, Thailand; 20 September to 20 December 2014; optimisation; FedUni; Alex Kruger
- A/Prof Mei Si; Shanghai Jiaotong University; 28 August 2014 to 8 August 2015; pure; USN; Andrew Mathas
- Prof Mihai Tibar; Lile University 1; 25 November to 12 December 2014; pure; USN; Laurentiu Paunescu
- Prof Vladimir Vatutin; Steklov Mathematical Institute, Moscow; 3 November to 3 December 2014; UOM; Kostya Borovkov
- A/Prof Jerome Vetois; Univeristte de Nice; 14 October to 7 December 2014; pure; USN; Florica Cirstea
- Dr Qian Wang; University of Oxford; 1 March to 31 December 2014; ANU; Markus Hegland
- A/Prof Lei Wei; Jiangsu Normal University, China; February 2014 to February 2015; nonlinear partial differential equations; UNE; Yihong Du
- A/Prof Dongsheng Wu; University of Alabama, USA; 17 August to 15 November 2014; stats; USN; Qiying Wang
- Dr Fan Yang; Jiangsu University of Science and Technology, China; 1 October 2014 to 30 September 2015; UOM; Sanming Zhou
- Mr Panu Yimmuang; Naresuan University, Thailand; 20 September to 20 December 2014; optimisation; FedUni; Alex Kruger
- Prof Konstantin Zarembo; Nordita Stockholm; 1 October to 12 November 2014; ANU; Vladimir Bazhanov
- Assoc Prof Jin-Xin Zhou; Beijing Jiaotong University; 16 November 2013 to 16 November 2014; UWA; Cai Heng Li
- Prof Wu Ziku; Qingdao Agricultural University, China; 1 October 2014 to 1 March 2015; applied; UNS; Georg Gottwald
-