



AMSI News

Geoff Prince*

The AMSI year in review

As this is the last *Gazette* of 2013, I thought you might like to see the AMSI year in hindsight.

Mathematics of Planet Earth 2013 has been our largest sustained theme program to date, one truly worthy of the national mathematical sciences institute.

- AMSI led the Australian effort in the international year of MPE www.mope.org.au with 18 partner organisations. It has been one of the largest national MPE efforts.
- Our MPE website has had 50 000 visitors from 150 countries to date (mid-October).
- We ran or sponsored 17 MPE scientific events with 200 international speakers.
- MPE was opened by Ian Chubb, the MPE Australia Patron, followed by the first of the international Simons Foundation lecture series (the Simon Levin Public Lecture).
- The MPE Conference in July attracted more than 100 delegates, opened by Ian Chubb and with dinner speaker, Alex Zelinsky, Chief Defence Scientist. Strong participation from ABS, BoM, Geoscience Australia, DSTO and CSIRO made the event an outstanding success.

Accelerate Australia was held on 6 February at the National Convention Centre, Canberra in support of AMSI Intern <http://amsiintern.org.au/>.

- Keynote by Arvind Gupta, delivering an inspiring address on Mitacs Accelerate.
- Other speakers included Ian Chubb, Aidan Byrne, Eileen Doyle, Leonie Walsh, and Patricia Kelly.
- The internship showcase featured a variety of industry internship projects.
- Meetings with ministers, shadow ministers and the ARC, resulted in an application, with the Business Higher Education Round Table, to the ARC for an Industrial Research Training Centre to supply 150 interns over three years.
- AMSI Intern has now placed over 80 interns and is supported by the Australian Industry Group, the CRC Association and BHERT. The program has been praised by the Chief Scientist as a 'shining example'.
- Placements with Melbourne Storm, NBN Co., Planet Innovation, CSL, municipal councils.

*Australian Mathematical Sciences Institute, Building 161, c/- The University of Melbourne, VIC 3010, Australia. Email: director@amsi.org.au

Membership growth

- University of Newcastle moved from associate to full membership.
- Griffith University and the University of Tasmania have joined AMSI's associate membership.
- DSTO is joining in 2014.
- We now have 35 members — 11 full, 18 associate universities, 7 societies and government agencies.

Access Grid Room network

- National Seminar Series established with AustMS, ANZIAM, SSAI, ANZMP and ASOR <http://www.amsi.org.au/index.php/research-mainmenu/national-seminar-series>.
- Short courses and honours courses delivered nationally <http://www.amsi.org.au/index.php/research-mainmenu/access-grid/agabout>.

Schools

Our work in Australian schools continues to grow in influence with grants for teacher PD in clusters of schools in metropolitan and regional Australia. Our national curriculum work has set a gold standard.

- *Supporting Australian Mathematics* — materials for middle and senior years launched in July. It includes videos giving context to the curriculum: www.amsi.org.au/mathsdelivers.
- Buckland Foundation, Victorian and Commonwealth governments and Boeing funding to deliver Professional Development for mathematics teachers in school clusters nationally.
- In conjunction with our members and BHP-Billiton we submitted an application (under consideration) for an Australian Mathematics and Science Partnership Project grant, *Choose Maths*, to create a professional identity for those working in and with the mathematical sciences.

Research and higher education

- 120 registrations for the 2013 AMSI Summer School, held at the University of Melbourne, including *Letters & Numbers* quiz night hosted by Board member Lily Serna. Sponsorship by AustMS and ANZIAM.
- 50 Vacation Research Scholarships awarded to undergraduates in 2013/14.
- 2013 Graduate Winter School at the University of Queensland.
- 2013 BioInfoSummer held at the University of Adelaide and sponsored by EMBL and BioPlatforms Australia.
- 20 scientific workshops held around Australia.
- AMSI–ANZIAM Lecturer Stephen Boyd (Stanford).
- Mahler Lecturer Akshay Venkatesh (Stanford) supported by AMSI.
- See <http://www.amsi.org.au/index.php/higher-education/about>.

Advocacy and engagement

AMSI continues to be the principal public voice for the mathematical sciences. We maintain high-level contacts with government and stakeholder groups and we are routinely invited to provide submissions and policy advice. Our annual discipline

profile and policy documents are influential and widely quoted. See <http://www.amsi.org.au/index.php/publications-mainmenu>.

The organisation

We have grown significantly over the last 18 months with new staff in all portfolio areas and new external members on the AMSI Board. AMSI has a new Research and Higher Education Committee which coordinates programs and policy. See www.amsi.org.au. Two of our former staff were recognised this year, Michael Evans was awarded an AMSI Distinguished Service Medal for his outstanding work in school education and Jan Thomas was awarded an Order of Australia Medal for her services to the mathematical sciences.

Challenges ahead

Retention of students into intermediate and advanced school mathematics subjects and then onto university continues to be the most significant challenge. However, we have put it on the agendas of the Chief Scientist and Australian governments. As part of the STEM discipline group the mathematical sciences have a high profile and this is a first step to substantive policy measures. Related to this is the appalling statistic that more than 30% of Australian secondary maths classes are without a qualified maths teacher and we must all, not just AMSI, continue to bring this to light. Women and girls are significantly under-represented throughout the education and career pipeline, and in this matter every mathematical scientist must reflect on their role.

Finally, and particularly for the AMSI director, there is the opportunity to engage with the new federal government to seek fresh policy measures for our perennial challenges.



I was a Monash undergraduate and took out a La Trobe PhD in 1981 in geometric mechanics and Lie groups. This was followed by a postdoc at the Institute for Advanced Study in Dublin. I've enjoyed teaching at RMIT, UNE and La Trobe. My research interests lie mainly in differential equations, differential geometry and the calculus of variations. I'm a proud Fellow of the Society, currently a Council and Steering Committee Member. I became AMSI director in September 2009.