



AMSI News

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The national forum Canberra 7–8 February 2012

Maths for the future: Keep Australia Competitive was conceived to influence policy makers as part of AMSI's role as an advocate for mathematics and statistics. We wanted to create new alliances with the corporate and government agency worlds to publicise both the state of the discipline and its importance to national productivity growth. It came at a time when AMSI believed that the HECS discount for mathematics, statistics and science would be replaced with more direct measures to encourage enrolments. As it happened the HECS discount was simply cancelled and the funds counted as budget savings. And, as is now well known, Professor Ian Chubb, the Chief Scientist, was commissioned by the Prime Minister to advise on replacement measures by the end of February 2012. So our timing became impeccable! Not only was the roll call of speakers impressive but our discipline's voice was heard loud and clear at a time when policy makers were keen to listen.

Professor Celia Hoyles, former mathematics advisor to the British Government, set the agenda when she spoke about initiatives employed in England that have improved standards, reversed teacher shortages and increased mathematics enrolments. It was Celia's 2010 presentation to the Australian Council of Heads of Mathematical Sciences and her work on the 2010 AMSI Review that convinced many of us that coordinated action on a number of fronts was needed in Australia.

Ron Sandland, the chair of the AMSI Board, gave the forum a profile of the mathematical sciences in Australia in a speech that focused on the indispensable contribution we have made and will make to Australian public, individual and commercial life. Dr Sandland was followed by Professor Chubb who made clear his deep concern for quality of the schoolroom experience in mathematics and science.

Over the next day and a half we heard from senior figures in government agencies, research institutes and private enterprise about the extraordinary impact of mathematics and statistics in areas ranging across weather forecasting, defence projects, disaster management and disease control. A number of these presentations will appear in the public domain over the next month. The range and quality of these talks inspired the forum participants and the level of excitement grew palpably. Associate Professor Kim Beswick, President of the Australian Association of Mathematics Teachers, spoke at the end of the first day about the need to change the perception of mathematics for school students and the challenges that this

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brings to teachers. I was particularly struck by her statement that ‘what we do in classrooms needs to more closely resemble the work of mathematicians’. You will be able to hear and see Kim’s presentation and the others at the AMSI website soon.

The widely reported speech of recent Nobel Prize winner Brian Schmidt at the forum dinner on Tuesday night was a high point. It ranged over statistical uncertainty and climate change, Professor Schmidt’s own mathematical work, and the mathematical core of many professions with examples from his extended family. Most importantly he reflected on education:

We are not there yet — too many of our kids leave school without a core numeracy. Too many of our kids — who are able and willing to excel at maths — are taught by teachers without the level of competency required for the subjects they teach. Solving this skills shortage has to be our highest priority. Our kids cannot afford to have the opportunities lost — that result from having a poor mathematical education — and the nation can ill afford to lose talent which is in such short supply.

Three politicians spoke at the forum: Senator Chris Evans, Minister for Tertiary Education, Skills, Science and Research; Sophie Mirabella, Shadow Minister for Innovation, Industry and Science; and Christopher Pyne, Shadow Minister for Education, Apprenticeships and Training. Senator Evans in a speech informed by direct family experience, dwelt on the shortage of mathematics teachers, academics and researchers and the strategic importance of the discipline. A very strong statement about the discipline later appeared on his website. Sophie Mirabella also addressed the importance of mathematics and statistics but was cautious about the extent of future coalition financial support. Christopher Pyne spoke of the oppositions plans for school funding. The School Education Minister, Peter Garrett, was unable to attend but Celia Hoyles and I had a private meeting with him during the forum in which she briefed him on aspects of the UK situation.

The forum concluded with a round-table discussion and the participants issued a communiqué. Rather than specify a comprehensive list of potential policies and actions for the various stakeholders we made two recommendations to underpin future measures: the appointment of a national adviser and the establishment of a five-year awareness campaign targeting school and university students, parents, career counsellors and mathematics teachers, the general public and Australian private and public enterprise. Without coordination and promotion the forum felt that the effectiveness of public policy would be compromised.

Finally I have to publicly record some thanks. Celia Hoyles not only opened the forum and spoke tirelessly to the press but also had private meetings with politicians and policy makers. The speakers were all wonderfully generous with their time and Brian Schmidt deserves special mention because of the depth of his commitment at a very hectic time for him. AMSI’s staff outdid themselves: Simi Henderson, the event organiser, Emma Bland, our media and communications officer, and Anne Nuguid, our executive assistant. Jan Thomas provided wisdom accumulated from

many campaigns. The sponsors of the forum were the Australian Bureau of Statistics, the Australian Council of Deans of Science, the Australian Mathematical Society, the Australian Mathematics Trust, CSIRO's Division of Mathematics, Informatics and Statistics, and Science and Technology Australia, and we thank them for their financial support.

You can find the forum communiqué, and keep up to date with post-forum developments, at www.amsi.org.au.



I completed a BSc (Hons) and secondary Dip Ed at Monash University in the 1970s and moved to La Trobe where I undertook a PhD in 1981 in geometric mechanics and Lie groups. I did a postdoc at the Institute for Advanced Study in Dublin.

I've taught at RMIT, UNE and La Trobe University, where I was Head of Department a couple of times in the last decade. I worked at AMSI from 2004 through to 2006 in part as executive director to Garth Gaudry and I oversaw the introduction of the AMSI/ICE-EM Access Grid Room project. I became AMSI director in September 2009.

My research interests lie mainly in differential equations and differential geometry and I work with friends in Europe: Mike Crampin, Willy Sarlet, Olga Krupkova and Demeter Krupka.

My partner is a mathematician and we have two children with a refreshing lack of interest in mathematics. On the margins I brew beer and ride a bike.

I'm a proud fellow of the Society and am currently a Council member and a steering committee member.