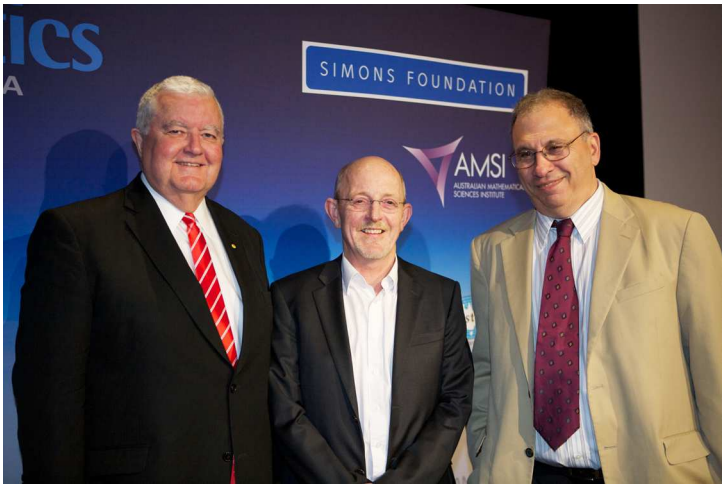
Geoff Prince*

Launch of Maths of Planet Earth MPE2013

With a packed lecture theatre and the atmosphere to match, the January 29 launch of Australia's participation in Mathematics of Planet Earth was a red-carpet event for maths and stats.



Professors Ian Chubb, Geoff Prince and Simon Levin.

Australian Chief Scientist, Professor Ian Chubb, opened the proceedings by contrasting the growing demand for mathematical and statistical skills in the Australian workforce and the shrinking supply of graduates. You can see the full transcript of his speech at www.chiefscientist.gov.au/2013/01/launch-of-the-international-year-of-maths-of-planet-earth. The celebrations were continued by Professor Simon Levin, Princeton University, who delivered the first in the international series of Mathematics of Planet Earth public lectures sponsored by the Simons Foundation.

The lecture, entitled *The challenge of sustainability and the promise of mathematics*, identified the parallels between financial systems, ecological systems and the

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behaviour of governments Professor Levin demonstrated the immense power — and limitations — of mathematics as a tool for predicting the behaviour of these systems, and hinted at how we might identify the signs of impending crisis (change of state). Many were amused by Levin's question posed in an early-2008 paper published in *Nature* asking, 'Who knows, for instance, how the present concern over sub-prime loans will pan out?'

He concluded with a discussion about models of collective behaviour, and how these may apply to achieving global consensus on environmental issues. Professor Levin drove the message home that global cooperation is the holy grail for achieving sustainability, and that mathematics will play a central role. It all starts with engaging the broadest possible audience: the aim of Mathematics of Planet Earth.

Professor Simon Levin addresses the audience.

As Ian Chubb put it: 'This year is important for the whole of humanity'.

You can find the video of Simon Levin's lecture at www.MoPE.org.au.

MPE2013 administration at AMSI

As you know, MPE2013 in Australia is a partnership of which AMSI is the lead. Simi Henderson is AMSI's overall MPE program manager supported by Jo Wilson. They coordinate internal and external contributions to the project.

Simi and Jo are your first points of contact for anything MPE-related. Their email addresses are Simi@amsi.org.au and Joanna@amsi.org.au. The international MPE website is at http://mpe2013.org/ and the Australian site, maintained by AMSI, is at www.MoPE.org.au.

Discipline Profile 2013

AMSI published its first Discipline Profile of the Mathematical Sciences in 2012 as part of the national forum 'Maths for the future: Keep Australia competitive'. The intention of the profile is to provide evidence and inspiration for policy development for AMSI itself, the decadal planners and for various levels of government.

We paint a picture of the discipline in Australia, highlighting trends as they apply to school education, higher education, research and research training, and career prospects for graduates. Broadly, the data shows that the demand for mathematical and statistical skills at all these levels far outstrips supply, with statistics in particular continuing to experience large unmet demand. Declining interest in advanced mathematics courses at Year 12 remains an immense challenge to securing Australia's future skills base. Qualified mathematics teachers continue to be in short supply in Australia's schools, particularly those in regional and low SES areas. Domestic enrolments in higher degrees, so necessary for innovation in our economy, are languishing while demand for graduates continues to be very strong.

This year's profile contains some results from the AMSI university member survey showing broadly that the number of combined research and teaching positions continues to be at a low ebb while research-only positions have grown strongly.

And while domestic PhD enrolments have dropped international student enrolments in higher degrees are robust.

You can find a pdf of the discipline profile at www.amsi.org.au. A deeper repository of information about the discipline will be available at the AMSI website soon.

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.