



NCMS News

Nalini Joshi*

A Decadal Plan for the Mathematical Sciences: Website and a call for submissions

I am pleased to announce that the website for the Decadal Plan for the Mathematical Sciences is now available at www.mathscidecadalplan.org.au¹.

We are calling for submissions on the outline themes that have been identified by the seven subcommittees formed by the Steering Committee of the Decadal Plan. These are:

- (i) Mathematics and statistics education in schools and colleges (including TAFE colleges) (Chair: Kim Beswick, Tasmania).
 1. Strengthening the supply and support of teachers of mathematics and statistics.
 2. Closing achievement gaps in mathematics and statistics.
 3. Increasing the numbers of students studying advanced mathematics and statistics at senior secondary school.
- (ii) Mathematics and statistics education and training in universities (Chair: Barry Hughes, Melbourne).
 1. Curriculum for specialist mathematics and statistics coursework-based programs.
 2. Service teaching.
 3. Collaboration and cooperation.
 4. Diversity in student recruitment and retention.
- (iii) Mathematics and statistics research (including interdisciplinary research) in universities and related institutions (e.g. medical research institutes) (Chair: Nigel Bean, Adelaide, and Andrew Hassell, ANU).
 1. Enhancing our PhD programs: a graduate school offering a full year's graduate coursework delivered across Australia?
 2. Breadth and depth of mathematical and statistical research.
 3. Structure and form of research funding.
 4. Interdisciplinary mathematics and statistics.
 5. Research Centre in mathematics/statistics.

*Chair, National Committee for Mathematical Sciences, School of Mathematics and Statistics F07, The University of Sydney, NSW 2006. E-mail: nalini.joshi@sydney.edu.au

¹I would like to acknowledge the invaluable help of Don Taylor and Mike Wilson at the University of Sydney in setting up this website.

- (iv) Mathematics and statistics (including education, training and research) in government instrumentalities, both state and federal (including government laboratories such as CSIRO and DSTO) (Chair: Geoff Lee, ex ABS).
 - 1. Establishing and describing the value of the mathematical sciences for Australia's government instrumentalities.
 - 2. Qualifying and quantifying the demand for mathematical scientists (in the public sector).
 - 3. Creating an environment where the mathematical sciences can best contribute to Australia.
 - 4. Improving the effectiveness of the interactions between mathematical scientists and government (and non-government) employees from other disciplines.
- (v) Mathematics and statistics (including education, training and research) in business and industry (Chair: Nick Stavrou, Q-Risk Strategies).
 - 1. Training: ensuring that components of the training of mathematical scientists reflect the requirements of business and industry. This theme has two components: (i) curriculum, and (ii) other aspects of training, for example communication skills and the capacity to work effectively in a team.
 - 2. Research: meeting the research needs of business and industry: (i) identifying the needs, (ii) addressing the needs in universities and other institutions undertaking research in the mathematical sciences.
 - 3. Linkages: exploring the best ways to establish or improve business and industry's links with the mathematical sciences.
- (vi) Research centres, present and future, in mathematics and statistics (Chair: Peter Forrester, Melbourne).
 - 1. Past and present centres — motivations, justifications, aims, activities, successes — within Australia and internationally.
 - 2. What is presently missing from the Australian landscape in mathematical and statistical research that could be addressed by research centre(s), and what additional benefits can be identified to best make our case.
 - 3. What model of research centre(s) is best for our purposes, how should the activities be structured, and what administrative and governing structures should be adopted.
 - 4. How to go about implementing our recommendations.
- (vii) The view of the Australian mathematics diaspora abroad (Chair: Terry Tao, UCLA).
 - 1. Internationally recognised strengths and successes of Australian mathematics.
 - 2. Comparison between career opportunities for Australian mathematicians at all stages with international standards and benchmarks.

3. Some analysis of the value provided by mathematics institutes and networks, based on international examples.
4. Interfaces with the international community.

Submissions on these themes must be received by the Steering Committee through the Decadal Plan website by 31 March 2013. You may provide a submission on a subset or on the whole set of themes. You are encouraged to consider the themes from a variety of perspectives, e.g. educational versus workforce issues, local versus national concerns, current versus future needs, capabilities and constraints, or a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis. If you are addressing one or more themes in your submission, please identify them.

You may also wish to draw our attention to matters in the review process that you think might be improved. For example, you might wish to report gaps you see in the identified themes, or you might wish to provide other suggestions. (Bear in mind, however, that funding for the review comes from the mathematical sciences community itself, and that this limits our opportunities.) You are also welcome to attach, link to or suggest related documents that provide meaningful statistics or telling examples.

We look forward to reading your submissions!



Nalini Joshi is the Chair of Applied Mathematics at The University of Sydney and was the President of the Australian Mathematical Society during 2008–2010. She was elected a Fellow of the Australian Academy of Science in 2008, became the Chair of the National Committee of Mathematical Sciences in 2011, and was elected to the Council of the Australian Academy of Science in 2012.