# NCMS News

**Nalini Joshi***

## A Decadal Plan for the Mathematical Sciences: Subcommittees

The groundswell of support for the *Decadal Plan for the Mathematical Sciences* continues to grow. I am very pleased to report that financial support provided by national organisations and University departments of mathematical sciences around the country has now grown to over $100K and that the structure to guide the themes and discussions for the Decadal Plan is taking shape. In this column, I would like to provide more details about where we currently are in this process. I also provide some news from the IMU.

In my last column, I mentioned that we have formed a Steering Committee for the Decadal Plan. The Chair of the Steering Committee is Peter Hall (The University of Melbourne). There is also an executive group consisting of the Chair of the Steering Committee, the Chair of the National Committee for Mathematical Sciences (me) and the Director of the Australian Mathematical Sciences Institute, Geoff Prince. We have formed the following subcommittees, with Chairs as indicated:

(i) *Mathematics and statistics education in schools and colleges (including TAFE colleges)*, Chair: Kim Beswick, University of Tasmania.

(ii) *Mathematics and statistics education and training in universities*, Chair: Barry Hughes, The University of Melbourne.

(iii) *Mathematics and statistics research (including interdisciplinary research) in universities and related institutions (e.g. medical research institutes)*, Chairs: Nigel Bean, The University of Adelaide, and Andrew Hassell, ANU.

(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, recently at the Australian Bureau of Statistics.

(v) *Mathematics and statistics (including education, training and research) in business and industry*, Chair: Nick Stavrou, Q-Risk Strategies.

(vi) *Research centres, present and future, in mathematics and statistics*, Chair: Peter Forrester, The University of Melbourne.

(vii) *Australian mathematics from an international viewpoint*, Chair: Terry Tao, UCLA.

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The Chairs of these subcommittees and the members of the Executive Group along with Jan Thomas, Merrilyn Goos and Anthony Henderson are members of the Steering Committee. The Executive Group is currently seeking to appoint Project Officers, who will present information sessions and organise workshops to seek feedback about the Decadal Plan at key locations around Australia.

Much of the past two months have been spent finding and recruiting people who bring the breadth and depth that is representative of the mathematical sciences in Australia to be members of the above subcommittees. A total of forty-three people have accepted invitations to join these subcommittees so far. Each subcommittee has been asked to provide at least three major themes and directions that will guide their discussion and feedback from the community.

To whet your appetite for the consultations that are coming your way, let me outline the types of questions that have stimulated dialogue within Subcommittee (ii):

- What is an appropriate educational program that leads to a mathematics or statistics major in a Bachelor's degree?
- How does this compare with past Australian benchmarks and with current international benchmarks?
- Keeping in mind a decreasing number of contact hours, what is the core knowledge we should require?
- Do we have balance in mathematical subjects taught to students from different disciplines through service teaching?
- How can we use Access Grid or other technologies to create a stronger national operation and deliver support and additional study options to students at less well-resourced campuses?
- How can we increase the uptake of mathematics or statistics majors by female students, and more broadly from students of good potential who have not seen themselves as maths types at school?
- What can we do to help get more and better trained maths teachers into schools? Are senior secondary mathematics teacher training pathways appropriate?

In other news, the President of the IMU, Ingrid Daubechies, has asked for nominations for the IMU awards listed below.

- Fields Medals: awarded every four years on the occasion of the International Congress of Mathematicians (ICM) to recognise outstanding mathematical achievement for existing work and for the promise of future achievement.
- Rolf Nevanlinna Prize: awarded once every four years at the ICM for outstanding contributions in mathematical aspects of information sciences.
- Carl Friedrich Gauss Prize: awarded once every four years to honour a scientist whose mathematical research has had an impact outside mathematics — either in technology, in business, or simply in people's everyday lives.

- Chern Medal Award: awarded every four years on the occasion of the ICM to an individual whose accomplishments warrant the highest level of recognition for outstanding achievements in the field of mathematics.
- Leelavati Prize: intended to accord high recognition and great appreciation of the IMU and Infosys of outstanding contributions for increasing public awareness of mathematics as an intellectual discipline and the crucial role it plays in diverse human endeavours.
- ICM 2014 Emmy Noether Lecture: a special lecture at an ICM which honours women who have made fundamental and sustained contributions to the mathematical sciences.

For more details about each of these awards and the Noether lecture, as well as lists of past laureates, visit the IMU Web site at www.mathunion.org/general/prizes.

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.