Editorial

Sid and I welcome you to another issue of the *Gazette*. Let me start with two exciting recent developments.

First, at the International Mathematics Olympiad in July, the Australian team had its best ever performance, showing that the best of our secondary students are very good indeed. Alexander Gunning, from Melbourne, scored a gold medal for the third time, and Seyoon Ragavan, from Sydney, also won a gold medal. The other four team members all won silver medals. Our congratulations to all of them!

Second, a research institute to be known as MATRIX is being established at the University of Melbourne. Rather like Oberwolfach, the MSRI in Berkeley, the Isaac Newton Institute, the Banff International Research Station, and the Institute for Mathematics and its Applications, it aims to have regular residential research programs. We look forward to further news about its development.

As reported previously, Ken Pearson of LaTrobe University passed away in May. We publish an obituary in this issue. It tells the interesting story not only of his contributions to innovative teaching and university administration, but also of his research transition from topological semirings to large systems of sparse linear equations to economic modelling. For his contributions to economics, he was elected a Fellow of the Australian Academy of Social Sciences.

The discovery of links between apparently distant branches of mathematics, and of real world applications of curiosity driven research, is something we are all aware of. We have remarked before on the contribution of mathematical and physical sciences to the national economy. This brings us back to the perennial issue of the state of mathematics education, a topic addressed by several columns in this issue.

In August, AMSI released its fourth annual Discipline Profile of the Mathematical Sciences. This document raises serious concerns about the state of secondary, tertiary and post-graduate mathematics education, including the low level of female participation, and the long term economic consequences of this reduction in the nation's skill base. Geoff Prince discusses these at length in his column.

One recent response by Society members is the formation of the Special Interest Group in Mathematics Education. Deborah King and Joann Cattlin discuss major issues in undergraduate mathematics education, such as the wide diversity in student ability, pressures to update teaching methods, and the increasing need to document learning outcomes. Against this background, they report on the objectives and activities of SIGME, whose first meeting took place in Adelaide in September (after the submission of their article).

The role of our honours programs is carefully considered by Tim Marchant in the President's Column. Tim argues that they have not been successful as a research training pathway and that alternatives need to be examined to invigorate research training.

Even the Australian Government has concerns: the Mathematics by Inquiry Request for Tender (which closed recently) called for tenders to develop, disseminate and ensure widespread awareness and uptake of a suite of mathematics teaching and learning resources for Foundation to Year 10. Nalini Joshi examines this in some detail in her column, and asks you to reflect on whether it will resolve the troublesome issues mentioned above. We extend our congratulations to Nalini on becoming one of the 100 Women of Influence listed in the The Australian Financial Review last month.

Returning to good news, we extend our congratulations also to Cheryl Praeger, for three honours she received in August; to Melissa Lee, Ioannis Tsartsaflis, Anna Tomskova, Matthew Tam and Philipp Bader, for their participation in the Heidelberg Laureate Forum in August. Brief reports on all of these appear in this issue.

This issue contains another report on a conference supported by AustMS and AMSI; several more will appear in the next issue.

Other regular features are three book reviews, the report from the AustMS secretary and the ever-entertaining Puzzle Corner. We hope you will find some thought provoking reading here.

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