



# AMSI News

## Philip Broadbridge

Dr John Burgess has accepted an invitation to chair the AMSI Industry Advisory Committee. Dr Burgess is a distinguished Australian engineer. He is a Fellow of the Australian Academy of Technological Sciences and Engineering and a recipient of the Chemeca Medal, a joint award of the Institution of Engineers Australia, the Institution of Chemical Engineers and the Royal Australian Chemical Institute. He has a long career in industry, and in industrial research in particular, as well as a number of years as a Senior Lecturer in the Department of Chemical Engineering at the University of Queensland earlier in his career.

AMSI has partnered the Kann Finch Group and the University of Ballarat in a successful ARC Linkage grant application Using global optimization technique to determine the most efficient use of building/floor space to accommodate a given office design. This collaboration arose from an architecture firm identifying a practical problem and AMSI identifying relevant expertise from among its member institutions.

I have written before about the expanding mathematical needs of materials science, information technology, public health and national security. This is not to deny that natural resource planning and environmental protection have needs that are just as important. It is heartening that government departments related to the environment sector are investing more in mathematical and statistical analysis. In May this year, the Department of Agriculture, Fisheries and Forestry launched the Australian Centre of Excellence for Risk Analysis. In July, the Department of the Environment and Heritage announced funding for a new "Research Hub for Applied Environmental Decision Analysis", to be directed by University of Queensland Professor Hugh Possingham, a medalist of the Australian Mathematical Society. Recent public attention on water, energy and fuel shortages should be seen as an opportunity for mathematical development. During ANZAC Week of April 2007, AMSI, MASCOS, ICE-EM and MITACS (Canada) will jointly host a workshop, "Energy Demand, Supply and Pricing", to be held in Southern Queensland.

With mathematics and statistics infiltrating into so many areas, it is somewhat sobering to read the governments recently released report on a looming skills shortage in science, engineering and technology: see [http://www.dest.gov.au/sectors/science\\_innovation/policy\\_issues\\_reviews/key\\_issues/setsa/report.htm](http://www.dest.gov.au/sectors/science_innovation/policy_issues_reviews/key_issues/setsa/report.htm)

Working against this trend, the International Centre of Excellence for Education in Mathematics is helping in many ways to prepare the next generation of mathematical scientists. Following a sequence of successful Summer Schools attended mostly by honours students, we can see a national network of mutually supportive postgraduate students. This has been evident in the quality of student presentations at national conferences. The annual Graduate School and BioInfo Summer have also enhanced postgraduate education. ICE-EM is carrying out many other valuable projects on school mathematics curricula, participation rates and teacher preparation.

Despite experiencing some problems, the mathematical sciences disciplines are making many and varied contributions to Australia.

For current events and developments, see the websites <http://www.amsi.org.au> and <http://www.ice-em.org.au>.

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