Wednesday 8th February, 2012

Forum Communiqué

The AMSI national forum, *Maths for the future: Keep Australia competitive*, Canberra 7-8 February 2012, has come as the Chief Scientist is considering measures to address major challenges in mathematics and science.

In order to anchor the future policies and actions of governments, the universities, schools, businesses and the professions, we the participants, representing stakeholders in these key areas, recommend the following to the Australian Government and to the Chief Scientist:

- The appointment of a national mathematical sciences advisor to advise, coordinate and promote policy initiatives.
- A five-year national awareness campaign for mathematics and statistics targeting both the school and higher education sectors and the general public. The campaign will showcase the mathematics that underpins our modern economy and culture, highlighting the importance of school mathematics studies in a wide variety of careers, and encouraging the provision of effective advice on subject choice at secondary and post-secondary levels. Professional development for both mathematics and careers teachers is essential for the success of this campaign.

These recommendations are based on the following considerations:

- Giving Australian children access to a high quality mathematics education prepares and inspires them to take up challenges in science, engineering and the mathematical sciences. This access is being hampered by a significant shortage of mathematically prepared teachers. A concerted and immediate effort by governments, the teaching profession and the universities is required to guarantee the supply of suitably qualified mathematics teachers.

- Maintaining Australia's international competitiveness relies heavily on a strong mathematical skills base. A 30% decline in enrolments in intermediate and advanced Year 12 mathematics subjects over the past 15 years is choking graduation rates in the mathematical sciences to levels far below the OECD average. This impedes the training of mathematics teachers, reduces the staffing of mathematics and statistics departments and restricts the supply of PhD graduates. The Commonwealth, States and the universities must act together to reverse this trend.
- Mathematicians and statisticians must work together to communicate the importance of our discipline to the Australian public. The extensive range of careers pursued by mathematical sciences graduates remains unknown to school students and their parents, as does the critical utility of school mathematics in trades and professions.
- Mathematical sciences PhD graduates are well prepared to address key challenges in the Australian workforce, but demand for high-level mathematical skills far outstrips supply. This situation compromises productivity growth and hampers our competitive advantage in the world economy. Specific and targeted measures by government and universities are required to improve retention rates in postgraduate courses in the mathematical sciences.