



AMSI News

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For some time concerns have been raised about Australia's ability to satisfy the demand for mathematically capable professionals. AMSI is well known for its advocacy in this space, and for the programs we deliver to address the issues. Across the pipeline, from the earliest years of primary school, through junior secondary and Years 11 and 12, and then into undergraduate and postgraduate study the motivation for students to 'stick with maths' seems to be diminishing.

The decision for a student to choose maths comes from having sufficient information and motivation about the need to do so. Information about the types of work that mathematicians and statisticians do and motivation to understand that any effort made to complete a secondary school mathematics subject will have benefits. As things stand, both the information and motivation are in short supply. Especially for girls and young women — too few of them take mathematics in the senior years of secondary school and in undergraduate years of university. The reasons for this are many and varied, and attempts to address them will require a multi-dimensional approach.

AMSI has secured funding from the BHP Billiton Foundation to address just these issues with strategies across the mathematics pipeline to be implemented over the next five years. The funding allows AMSI to engage 13 new staff to work on a program designed to entice more girls and young women into mathematics. In each of the four components, explained below, there will be opportunities for AMSI members to collaborate with us in the delivery of *Choose Maths*.

Component A — Mathematics-Ready Teacher PD

A professional development program will be delivered on-the-ground in 120 Australian schools throughout the life of the *Choose Maths* program. The program will be based on AMSI's existing highly successful cluster arrangement where a secondary school and up to three of its feeder primary schools are formed into a professional development group working with an AMSI Specialist to focus on enhancing content knowledge. The cluster provides a support network for teachers and creates a ripple effect in the region as teachers share their experiences with other teachers in their area.

Component B — Women in Mathematics Career Awareness Campaign

A national public-awareness campaign will be launched to help students (especially female students), their teachers, parents, and the general public, see that

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rewarding and interesting careers exist for people who ‘stick with maths’. Elements will be designed to refute the stereotype that science, technology, engineering and mathematics (STEM) subjects are predominantly male domains. The means of communication may include videos, posters, radio, print and social media, regular stakeholder newsletters, online advertisements and a website.

Component C—Inspiring Women in Mathematics Initiative

We aim to establish a community of high-achieving women and men passionate about sharing their professional journey and wisdom with the young women of Australia. We need to establish a community of ‘passionate professionals’ who are good role models for their achievement in STEM and also possess the ability to translate their experience for the audience. Activity in this component includes shadowing opportunities, careers events, scholarships to attend AMSI events and a Maths and Biology Initiative—where the interdisciplinary connections between mathematics and biology will be made explicit.

Component D—The BHP Billiton Awards for Excellence in the Teaching and Learning of Mathematics

As professionals, teachers are highly motivated and committed to successive generations of students. Teachers however tend to celebrate their students’ achievements and are seldom celebrated for their own. The *Choose Maths* program will address this lack of recognition for teachers of maths by initiating the Annual BHP Billiton Foundation Awards for Excellence in the Teaching of Mathematics.



I am the Program Manager for AMSI Schools where I lead a professional development and schools visit program for teachers across the country. From 2015, I will lead the *Choose Maths* project as Program Director. Through clusters of schools supported by industry and government partners, my aim is to encourage more Australians to enjoy and study mathematics.

I came to AMSI in 2005 as one of the authors of *ICE-EM Mathematics*, and have developed a suite of online classroom mathematics and careers materials in my time here. I was one of the writers for the Australian Curriculum: Mathematics F–10, am an experienced primary teacher and have also worked as a lecturer in mathematics education at the University of Melbourne.