



Chief Executive Officer



We are delighted to welcome Nathan Ford as the new Chief Executive Officer of the AMT. Nathan was previously Deputy CEO of the Australian Pharmacy Council, and he brings a strong strategic planning, business development and management background to the role of CEO of the Trust.

'Since I commenced my role in January I have had the opportunity to meet with our inspiring and dedicated staff, Board members and volunteers', said Nathan. 'I've also met with our key partners and collaborators, including Australian Science Innovations, the Australian Mathematical Sciences Institute, the Department of Education and Training, the Department of Industry, Innovation and Science, Optiver and others.'

'In late January, I attended the digIT summer camp—a program we deliver for the Department of Education and Training's that is focused on supporting underrepresented students to engage with information and communications technology. I saw first hand the exciting contribution this program is making to these students and how enthusiastically they jumped into the work at the camp—tackling algorithms, programming robots and meeting their mentors.

I'm excited to continue to learn about our wonderful organisation and how best I can work with our staff, Board members and volunteers to make the future of AMT bright', said Nathan.

As CEO, Nathan will have the support of a Chief Mathematician. This part-time position is centred on ensuring the continuing outstanding quality and excellence of the Trust's mathematical and informatics content, competitions and olympiads. We are pleased to announce that Mike Clapper has agreed to maintain his connection with the Trust in this capacity.

Competition entries are now open for the CAT and AMC



Australian Mathematics Competition

2017 marks the 40th [Australian Mathematics Competition](#) (AMC) and to celebrate we are offering a package price when entering students in the AMC together with [Computational and Algorithmic Thinking](#) (CAT). To take advantage of this offer, [enter](#) your students by Tuesday 14 March 2017. Entries for AMC are open until July.

You can also ensure that your students are prepared and ready for these competitions by registering for the training programs, [GetSet CAT](#) or [GetSet AMC](#), for \$2 per student.

If you're looking for extension work for your high achieving students, we have a solution—the [Mathematics Challenge for Young Australians](#) (MCYA). It consists of three independent stages: MCYA Challenge, MCYA Enrichment and the Australian Intermediate Mathematics Olympiad (AIMO).

Now is the time to register for MCYA Challenge, which can be held during a consecutive three-week period between March and June. Registration for MCYA Enrichment (12-16 weeks between April and September) is also open.

Prices and dates for all 2017 AMT events can be found on our website here www.amt.edu.au/information/prices-and-key-dates/.

Prepare for the CAT with Book 2

Computational and Algorithmic Thinking 2011–2015 Book 2 is the second in the series and is a must for the best overall preparation for the CAT.

It contains all the AIC and CAT papers with full solutions from the years 2011–2015. It also contains a chapter on Algorithms covering topics such as Breadth-first Search, Shortest Path, Maximum Flow and many more.

In 2015 the Australian Informatics Competition (AIC) changed its brand name to Computational and Algorithmic Thinking (CAT). The first book was published under the AIC brand, while this one bears the new name.

It is available from our [bookshop](#) for \$45 incl GST.



[Curious Minds](#) is a hands-on extension and mentoring program to ignite girls' passion in science, technology, engineering and mathematics. It is a six-month program for years 8, 9 and 10 girls that combines two residential camps and a mentoring program.

The 2017 Curious Minds Summer School was held at the University of NSW on 10–16 December. A total of 54 students attended the program and 15 staff helped to deliver the learning outcomes of the program, some of which included designing and building prototypes of small-scale water filters, understanding the biological significance of water purification, and programming an

Arduino turbidity metre to measure the efficacy of the water filtration device.

A number of female speakers who are well recognised in their fields were invited to address the girls. These included Professor Veena Sahajwalla, Director of the Centre for Sustainable Materials Research and Technology (SMaRT), at UNSW; Professor Angela Moles, Big Ecology Lab, UNSW; and Professor Jodie Rowley, Australian Museum and UNSW. These women each delivered their content with passion, highlighting the enjoyment they gained from scientific research.

The students were given two 'Supercharge' sessions which provided the girls with a three-hour intensive session (of their choosing) on a relevant area.

At the end of the camp each student was assigned a mentor who will work with them over a six-month period.

The students participated enthusiastically and gave very positive feedback so we look forward to reporting the outcomes of their program in a future *Maths Matters*.

[digIT](#) is a six-month program that combines two residential camps and a mentoring program, for year 8 and 9 students with an interest in Information and Communications Technology (ICT). Central to the program is the development of algorithmic thinking and coding skills.

The inaugural digIT Summer School was held at Macquarie University 16–20 January. 60 students (20 girls and 40 boys) from years 9–10 attended and participated in activities all

week including developing skills in computer programming languages, building websites, interacting with robots and meeting up with their mentors for the coming 6 months.

The students were split into four groups and took part in an inter-group competition where they were challenged with two algorithmic thinking activities and a quiz night.

Many of the students are at the very beginning of their ICT journey. But after having experienced some possible pathways at camp, we hope that they will be more confident working on their projects related to web design, robotics and scripted languages under the guidance of their mentor.

We will be running digIT again in 2018, and students will be selected according to their CAT or AMC results. More information can be found on the AMT website www.amt.edu.au/information/for-students/digit



Students at the December Curious Minds camp.



Students at the January digIT camp.

Recent competitions

AMT administers invitational competitions for students seeking further challenge. In February two of these competitions were held.

The first competition was the [Australian Invitational Informatics Olympiad](#) (AIIO) which is a programming competition held on 9 February. This is the first contest that forms part of Australia's formal IOI team selection process. Typically students who participate are invited to the AIOC Selection School during which four students are selected to form the Australian team to participate at the prestigious International Olympiad in Informatics (IOI). In 2017 the IOI will be held in Tehran, Iran, where over 100 countries will participate. AIIO results can be found [here](#).

The second competition was the [Australian Mathematical](#)

[Olympiad](#) (AMO) which was held over two days, on 14–15 February. Approximately 100 students are invited to enter. The AMO consists of two papers each with four questions to be answered in four hours. The most successful AMO students are invited to sit the Asian Pacific Mathematics Olympiad (APMO) and then are considered for inclusion in the AMOC Selection School during which six students are selected to form the Australian team to attend the prestigious International Mathematical Olympiad (IMO). In 2017 the IMO will be held in Rio de Janeiro, Brazil, where over 100 countries will participate. AMO results can be found [here](#).

Congratulations to all students who were invited to participate in these contests.

Do you know any Maths or Informatics teachers who would benefit from receiving *Maths Matters* newsletter? They can sign up through the AMT website at www.amt.edu.au by simply filling in their details. *Maths Matters* is emailed six times throughout the year (Feb, Apr, Jun, Aug, Oct and Dec). Please consider the environment before printing this newsletter.