



Welcome to the newsletter of the Australian Mathematics Trust (AMT). Our vision at AMT is that all young Australians have the opportunity to realise their intellectual potential in mathematics and informatics. Through this newsletter we want to provide teachers with inspiration and resources for the classroom and highlight the endless possibilities and creativity of mathematics and informatics.

## 2015 Australian Mathematics Competition sponsored by the Commonwealth Bank

Inspired by Australia's best ever result at the recent International Mathematical Olympiad (IMO), students in NSW joined hundreds of thousands of students from all over Australia to take part in the 38th annual Australian Mathematics Competition (AMC) sponsored by the Commonwealth Bank.

Students of all levels of ability, from all types of schools in vastly different locations right across NSW, took up the challenge and sat a 75-minute secondary paper or a 60-minute primary paper containing some quirky questions with an emphasis on fun and problem solving.

John Colet School had a bumper crop of young mathematicians entering the AMC. Approximately 40 of their students took part which was a big jump on previous years. Many entered for the first time.

'I am very pleased that so many students have felt confident to "have a go". They are obviously enjoying maths and want the extra challenge', said John Colet School Headmistress Mary McKendrick.

Lyneham High School also participated and was visited by WIN News, who interviewed Michael Denmead, AMC coordinator for Lyneham High School, Mike Clapper, Executive Officer, Australian Mathematics Trust and four students who sat the competition. The story aired that evening on the local news.



The AMC is Australia's original classroom-based mathematics competition with around 14.5 million entries since it commenced in 1978. The AMC awards more than 1000 prizes and 70 medals annually. A truly international event, there are entries from more than 30 countries across South-East Asia, the Pacific, Europe, and Africa. This year saw the highest ever number of entries from the Philippines and ongoing strong numbers in Iran.

Check the AMT website [www.amt.edu.au](http://www.amt.edu.au) for results due in September.

Top: Primary students at John Colet school sit the AMC.

Above: WIN News interviews a student from Lyneham High School after the competition.

## Australia leaps into the top 10 at the 2015 IMO

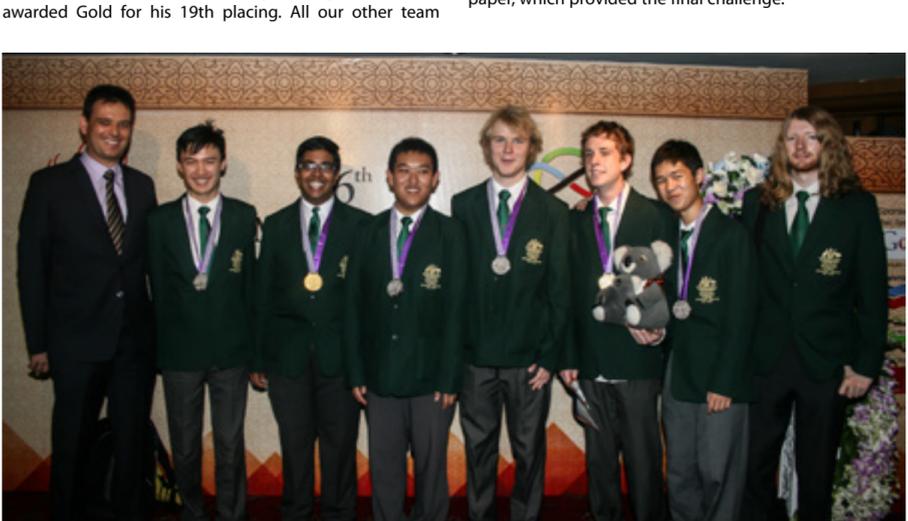
In our best result in 35 years of competition, the team that competed at the 2015 [International Mathematical Olympiad \(IMO\)](#), came sixth in the world beating heavy-weight countries such as Singapore, Canada, Germany, Japan and Russia. With two Gold and four Silver medals our young secondary school students delivered an outstanding performance.

Multi-medallist Alexander Gunning scored Gold and was ranked individually fourth in the world. With three Golds and a Bronze he is now the highest Australian on the IMO Hall of Fame leader board. Seyoon Ragavan was also awarded Gold for his 19th placing. All our other team

members scored Silver: Yang Song, at his second IMO, Jeremy Yip, Kevin Xian and Iliia Kucherov on their first attempt.

The IMO was held in Chiang Mai, Thailand, from 4-16 July with 577 students from 104 countries attending. Students sat two papers over two days with the papers consisting of three questions each which had to be solved within a 4½ hour period.

The questions were submitted from all over the world and Australia was successful in having a question on the second paper, which provided the final challenge.



The 2015 IMO team with their medals, from left: Dr Angelo Di Pasquale, team leader, Jeremy Yip, Seyoon Ragavan, Yang Song, Iliia Kucherov, Alexander Gunning, Kevin Xian and Andrew Elvey Price, deputy team leader.

## Gold, Silver and Bronze at the IOI

Congratulations to our Australian student computer programmers who scored a Gold, Silver and two Bronze medals at the [International Olympiad in Informatics \(IOI\)](#), which finished in Kazakhstan on 1 August.

Three-time Olympian, Ishraq Huda, performed brilliantly and came fifth in the world. This followed Ishraq's perfect score and equal first place last year. Fellow multi-selected Olympian, Michael Chen, brought home his third Silver.

Newcomers ninth-grader Jerry Mao from Melbourne and 11th grader Declan McDonnell from Sydney both earned Bronze medals. A fantastic effort!

Each student had to program solutions to three problems on each of two days: two 5-hour sessions. A live scoreboard recorded individual progress and was able to be viewed across the world. Some 322 students from 83 countries competed to write the perfect solutions.



The 2015 IOI team with their medals, from left: Jerry Mao, Bronze, Declan McDonnell, Bronze, Ishraq Huda, Gold and Michael Chen, Silver.

## Curious Minds Girls in science, technology, engineering and mathematics



The Australian Mathematics Trust (AMT) and Australian Science Innovations (ASI) are involved in years 8-10 the opportunity to be involved in a new six-month program.

The program offers two residential camps exploring all aspects of science, technology, engineering and maths through guest lectures, interactive sessions, practicals and field trips. The programs also offers mentoring for the girls who will be encouraged to develop personal goals for their futures and given extension work with support from their mentors.

For more information visit the AMT website [www.amt.edu.au/information/curious-minds-girls-in-science-technology-engineering-and-mathematics/](http://www.amt.edu.au/information/curious-minds-girls-in-science-technology-engineering-and-mathematics/).

## Senior Contest

On 11 August 84 students from around the country took part in the AMOC Senior contest. This is an invitational contest for high-achieving students which is used to identify students to participate in the Senior Olympiad Program, in particular the School of Excellence, held at Newman College, Melbourne University in early December. Results for this competition are now available on the AMT website. Particular congratulations to our five prize

winners, Yong See Foo and Iliia Kucherov from Victoria; and Kevin Xian, Seyoon Ragavan and Wilson Zhao from NSW. Students who would like to participate in this contest next year should sit the AIMO (Australian Intermediate Maths Olympiad) which is to be held shortly on 8 September.

Senior contest results can be found on the AMT website [www.amt.edu.au/mathematics/amocip-olympiad-program/senior-contest-results/](http://www.amt.edu.au/mathematics/amocip-olympiad-program/senior-contest-results/).

## Australian Intermediate Mathematics Olympiad

The Australian Intermediate Mathematics Olympiad (AIMO) is an open event for talented students up to Year 10 level, and is particularly appropriate for students who have completed the Gauss or Noether stage of the MCYA Enrichment and students who have acquired knowledge of Olympiad problem solving. Prize winners in this year AMC will be invited to participate at no charge and all students who participate are sent a certificate.

The AIMO is a four-hour examination to be held on Tuesday 8 September and is one of the competitions used to determine which students are selected to a number of invitation only events, including other mathematics competitions, enrichment classes and training schools. It

gives talented students an opportunity to be recognised and to participate in activities which will enhance their enjoyment and knowledge of mathematics.

If you wish to enter the AIMO you can do so online at [www.amt.edu.au/entry/](http://www.amt.edu.au/entry/). To find out more about the AIMO and test yourself with practice problems visit [www.amt.edu.au/mathematics/mcya/](http://www.amt.edu.au/mathematics/mcya/).

The AMT is offering previous copies of the book *Mathematics Contests - The Australian Scene* at a discounted price of \$10.00 incl GST per copy. This book contains problems and solutions to the AIMO from previous years and is a great resource for students wanting to sit the AIMO. To find out more or order a copy visit the AMT [bookshop](#).

## Australian Informatics Olympiad

The Australian Informatics Olympiad (AIO) is an open computer-programming competition and will be held on Thursday 3 September.

Students are given three questions of varying difficulty which need to be solved in three hours and submit the

source code for their solutions online. Students up to Year 10 can sit the Intermediate paper and students up to Year 12 can sit the Senior paper.

Further details and sample questions can be found on the AMT website at [www.amt.edu.au/informatics/aio/](http://www.amt.edu.au/informatics/aio/)