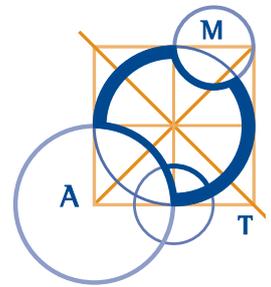


MATHS MATTERS

NEWSLETTER OF THE AUSTRALIAN MATHEMATICS TRUST

NOVEMBER 2013



International Olympiads in Informatics and Mathematics

INFORMATICS

The curtain has now closed on the 25th International Olympiad in Informatics which was hosted for the first time in Australia jointly by the Australian Mathematics Trust and The University of Queensland. Not only did Australia turn on a wonderful event but the Australian team did very well both individually and as a team, achieving one of our best ever results by an Australian Informatics team. The questions this year had a very Australian flavour, featuring rainbow serpents, billabongs and marauding wombats.

There were medals all round for the Australians with Michael Chen (Year 10, Scotch College, VIC), Ray Li (Year 11, James Ruse Agricultural High School, NSW) and James Payor (Year 12, The Kings School NSW) scoring Silver and Ishraq Huda (Year 11, James Ruse Agricultural High School, NSW) scoring Bronze. Ray Li missed out on the Gold cutoff by a single mark. As host nation, Australia was also able to field a second unofficial team, and from that team Joshua Lau (Year 11, James Ruse Agricultural High School, NSW) and Nicholas Laver (Year 12, Hunter Christian School, NSW) scored the equivalent of Bronze.

Several staff from the AMT were privileged to attend the IOI as volunteers working mainly in the colleges assisting the students or the team leaders. The following comment by staff member Bernadette Webster, who was responsible for one of the student colleges, summed up the experience.

'As volunteers in the student colleges, we had the privilege of meeting many of the bright young people who came to UQ to test their programming abilities against the best in the world, to experience an international gathering of like minds, to
continued on page 2



Above, the Australian International Olympiad in Informatics team, from left: Michael Chen, Ray Li, Ishraq Huda and James Payor.

Below, the Australian International Mathematics Olympiad team, from left: Seyoon Ragavan, Jonathan Zheng, Alexander Chua, Jason Kwong, Rachel Wong and Alexander Gunning.



From the Executive Director Adjunct Professor Mike Clapper



As I approach the end of my first year in the position of Executive Director, I find myself reflecting, more than anything else, on the enormous variety of activities which fall under the umbrella of the Trust. Apart from the AMC, there is Informatics, the MCYA Challenge and Enrichment Stages, publications, Olympiad training and selection and, perhaps most importantly, working with teachers and students. As a volunteer for the Trust, as I have been for many years, one is generally not aware of this range of activity or, even if aware of it, not aware how all of the parts add up

and work together. The AMT's many volunteers are, of course, absolutely vital to its success, and some of them have worked for the Trust for over 30 years. Fortunately, they generally feel very positive about their work with the Trust and tend to stay with us for a long time. However, we are always on the lookout for new volunteers, to help write questions, to moderate competitions or to assist with the running of State activities or workshops. If you feel that you may have something to contribute, please contact me.

The Australian Mathematics Trust has produced high quality competition materials and teacher resources for many years. This year, whilst certainly wanting to maintain the quality of competitions and materials, we have been focusing our efforts on interacting more with teachers and students. We have been running a number of workshops for teachers designed to support them in catering for the needs of talented students. The focus of these workshops has been threefold. Firstly, to discuss and share strategies for catering for the needs of keen young mathematicians through the provision of enrichment activities; secondly, to outline a range of resources for sourcing these activities; and thirdly (and perhaps most

importantly), discussing some of the techniques and underlying mathematics which lie behind the questions used in problem-solving competitions, which are often outside the conventional syllabus. These workshops have been very popular. However, we have certainly not reached every region and if you would like us to run a workshop near you, please let us know and we will see what we can do to facilitate this. Where possible, these workshops have been accredited as PD with the appropriate state teaching authority.

We have also introduced some workshops for Upper Primary students, held in each state in conjunction with our prize ceremonies. Secondary students have opportunities to be involved in the various state enrichment programs and, potentially in the national School of Excellence or Selection School, but we know the importance of generating enthusiasm whilst students are young, and we recognise the difficulties which teachers can face in providing stimulation for these bright enquiring young minds in the regular classroom. These have gone very well and the demand for places was very high. We hope to increase the number of places in future years.

It is my hope that we can develop our relationship with schools so that the AMT is seen as a resource for teachers and students. I thank you for your support in 2013 and I look forward to working with you in future years.

International Olympiads cont'd

continued from page 1

view first world educational opportunities, and to have fun.'

The week-long event hosted the Olympiad examinations but when the students were not doing the exams they were treated to excursions, games nights, an international party and even a flash mob. For more details visit the IOI website at ioi2013.org.

MATHEMATICS

It was also a clean sweep of medals for Australia at the 2013 International Mathematical Olympiad held in Santa Marta, Colombia, from 18 to 28 July. Alex Gunning (Year 10, Glen Waverley Secondary College, VIC) won a Gold medal and his outstanding performance saw him ranked 8th in the world. Silver medals were won by Jason Kwong (Year 12, Sydney Grammar School NSW) and Jonathan Zheng (Year 12, James

Ruse Agricultural High School, NSW). Bronze medals were won by Alexander Chua (Year 12, Christ Church Grammar WA), Seyoon Ragavan (Year 9, Knox Grammar School NSW) and Rachel Wong, Bronze Medal (Year 12, James Ruse Agricultural High School, NSW) It was particularly good to see all team members getting maximum marks for the first question on each day of the competition, which establishes an excellent basis for medal contention. It was also a very promising result for Seyoon Ragavan who competed for the first time and is aged just 14.

These strong performances placed the team 15th of 97 countries, up from 27th in 2012 and matching our performance from 2010. Of particular note was the fact that we beat all EC countries except the UK. Further results of the Australian team can be found at amt.edu.au/imo2013.html.

Australian Mathematics Competition

sponsored by the **Commonwealth Bank**



Above, the Australian medallists at Government House with His Excellency Rear Admiral Kevin Scarce AC CSC RANR, Governor of South Australia.

The 36th Australian Mathematics Competition (AMC) sponsored by the Commonwealth Bank, was held on Thursday 1 August and sat by thousands of students in over 40 countries. We acknowledge most gratefully the support of our new sponsor, the Commonwealth Bank, and hope that this will be the beginning of a long and fruitful relationship.

Results for this year's competition have now been distributed to schools and nearly 900 students were awarded prizes. Of these, 67 students worldwide were awarded medals, 34 for the Junior Paper (normally Years 7 and 8), 19 for the Intermediate paper and 14 for the Senior paper. There were 19 Junior division perfect scores, five in the Intermediate division and none in the Senior division, though an Australian student achieved the top score in this paper, with just one mistake. There were also two Primary perfect scores, both from Malaysia. The 25 Australian

medallists were invited to a ceremony at Government House in Adelaide, where they were presented with their medals by His Excellency Rear Admiral Kevin Scarce AC CSC RANR, Governor of South Australia. The complete list of 2013 medallists can be found at amt.edu.au/amc2013.html.

Other prize presentations have taken place around Australia and in a number of overseas countries, including medal ceremonies in New Zealand, Hong Kong, Indonesia, Philippines, Singapore and Malaysia. It was most pleasing that CBA representatives were able to attend many of our prize ceremonies, including Singapore. At some of these ceremonies, we were also able to acknowledge outstanding performances in other competitions, including the Australian Informatics Competition (AIC) and the Australian Intermediate Mathematics Olympiad (AIMO).

Commonwealth Bank Hosts Luncheon

The Commonwealth Bank, as the Principal Sponsor of the Australian Mathematics Competition (AMC), was honoured to host a luncheon for the 2013 AMC Medallists, their families, teachers and other representatives from their schools.

The luncheon at the Stamford Hotel followed the annual AMC Medals Presentation ceremony, which this year was held at Government House, Adelaide.

Around 100 guests heard speakers from the Commonwealth Bank and the Australian Mathematics Trust and were treated to a wonderful musical performance by one of the medallists, 13-year-old William Hu (pictured right with His Excellency Rear Admiral Kevin Scarce), who recently won an international competition for his piano composition. Former AMC and International

continued next page



The Commonwealth Bank– cont'd

continued from page 3

Mathematics Olympiad medallist, Konrad Pilch, inspired the audience with his account of his experiences and insights.

The luncheon was a wonderful occasion for the students to relax, meet other medallists and to enjoy the opportunity to celebrate their achievements.

As Julienne Price, Head of Schools and Not for Profit Sector Banking at the Commonwealth Bank, said 'As the Principal Sponsor of the Australian Mathematics Competition, we are proud to be able to support not only the competition itself, but to also celebrate the achievements of the medallists here today. From a broader perspective, since the day we first opened our doors, we've been teaching students about managing money. Put simply, we believe that maths is central to understanding finance, and financial literacy is crucial to the success of our economy.'

Besides attending the Medals Presentation and hosting the luncheon in Adelaide, representatives of the Commonwealth Bank were pleased to attend and present awards at all the AMC Award Presentations around the country. It was a very fitting end to the first year of the Commonwealth Bank's sponsorship of the Australian Mathematics Competition and a great lead in to the next 12 months of the sponsorship.

Local Presentations and Enrichment Workshops

Throughout Australia local presentations were held for Prudence and Prize winners of the AMC, Perfect scores and High Distinctions in the Australian Informatics Competition (AIC) and Prize or High Distinctions in the Australian Intermediate Mathematics Olympiad (AIMO). Local mathematicians and representatives of the Commonwealth Bank were invited as guest speakers to present the awards.

In conjunction with these presentations, for the first time this year, Enrichment workshops were held for invited students in Years 5-7 in Adelaide, Brisbane, Canberra, Melbourne, Perth and Sydney, all hosted by local schools.

Mike Clapper ran the workshops with material based on the Mathematics Challenge for Young Australians (MCYA) to give students an introduction to our Challenge and Enrichment Stages. The workshops were extremely popular and were all fully attended. The success of these workshops has encouraged the Trust to look at running them again in 2014.

2014 Dates for Open Events

Three-week period before 10 June
Mathematics Challenge For Young Australians
- [Challenge Stage](#)

Thursday 25 March*
[Australian Informatics Competition](#) (AIC)

April to September
Mathematics Challenge For Young Australians
- [Enrichment Stage](#)

Thursday 7 August
[Australian Mathematics Competition](#) (AMC)
sponsored by the Commonwealth Bank

(TBA) September
[Australian Statistics Project Competition](#) (ASPC)

Thursday 4 September
[Australian Informatics Olympiad](#) (AIO)

Thursday 11 September*
[Australian Intermediate Mathematics Olympiad](#) (AIMO)

* Please note the changed timing of the AIC and AIMO from 2014.

Maths Challenge for Young Australians

If your school has not participated in the Maths Challenge for Young Australians (MCYA), please visit our website at amt.edu.au/mcya.html for information on both these highly stimulating programs.

Material from the Challenge and Enrichment Stages were used during the Enrichment Workshops (see above) and were extremely popular with students all over Australia.

The [Challenge Stage](#) contains problem sets for Middle Primary (Years 3-4), Upper Primary (Years 5-6) Junior (Years 7-8) and Intermediate (Years 9-10) students. Also included is a Teacher Guide containing full working solutions, marking schemes, discussions and extension notes in problem solving. All students who submit their results receive a certificate.

The [Enrichment Stage](#) consists of six different problem-solving programs, each aimed at different levels. Students receive notes and problems booklets and teachers are provided with a guide book containing fully worked solutions, marking schemes, discussions and extension notes. It is not necessary to have participated in the Challenge Stage to enter any of the Enrichment Stage programs. All students who submit their results receive a certificate.

The [Australian Intermediate Mathematics Olympiad](#) (AIMO) is the final stage of MCYA. It is a four-hour examination particularly appropriate for students who have acquired knowledge of Olympiad problem solving generally.

