International Mathematical Modeling Challenge (IM2C)

What is the IM2C?

The purpose of the IM²C is to promote the learning of mathematical modelling and applications at all educational levels for all students. It is based on the firm belief that students and teachers need to experience the power of mathematics to help better understand, analyse and solve real world problems outside of mathematics itself – and to do so in realistic contexts.

For many years there has been an increased recognition of the importance of mathematical modelling from universities, government, and industry. Modelling courses have proliferated in undergraduate and graduate departments of mathematical sciences worldwide. Several university modelling competitions are growing and flourishing. Yet at the school level there are only a few such competitions with many fewer students, even amid signs of the growing recognition of modelling's centrality.

IM²C in Australia

The Australian Council for Educational Research (ACER) is working with a group of mathematicians, mathematics educators and others interested in promoting mathematical modelling and the application of mathematics in real-world settings to facilitate participation by Australian secondary students in the IM²C.

In order to select two Australian teams to participate in the 2016 international round of IM²C, a national round of the Challenge will occur in Australia from 17 March to 23 April, 2016.

Teams from schools anywhere in Australia are invited to participate, in accordance with the procedures and rules given in the Australian regional pages on the IM²C website. (see http://immchallenge.org/Pages/Rules/Australia/Australia-Rules.html)

The two team entries judged best in the Australian round will be forwarded as Australia's entries to the international round. The national expert panel will make awards to all Australian entries – to the students, their advisor and school.

What is involved?

This is a true team competition, held over a number of days with students able to use any inanimate resources. Real problems require a mix of different kinds of mathematics for their analysis and solution. And real problems take time and teamwork. The IM²C provides students

with a deeper experience both of how mathematics can explain our world and what working with mathematics looks like.

Teams will register online for entry to the 2016 competition, each choosing a five-day period for undertaking the Challenge.

After the release of the Challenge problem to each team the students will work on the problem and submit their solution. All solutions must be sent in electronic form to the IM²C website by the faculty advisor, who must certify that the students followed the rules of the contest.

Papers will be judged in early June by the international expert panel and winners announced by late June. Papers will be designated as Outstanding, Meritorious, Honourable Mention, and Successful Participant with appropriate plaques and certificates given in the name of students, their advisor and their schools.

The first round of the Challenge occurred in 2015, with teams of secondary school students from several countries participating. Some of the teams produced short videos in which the students talked about their experience. They can be viewed here:
http://immchallenge.org/Contests/2015/video/index.html

Support for Australian participation

Some support materials are available on the IM²C website. Other materials and resources are available from a variety of sources, and further support will progressively be made available as additional materials are developed.

IM²C in Australia is implemented through the Australian Council for Educational Research (ACER), and under the guidance of a national advisory group.

Enquiries can be directed to australia@immchallenge.org