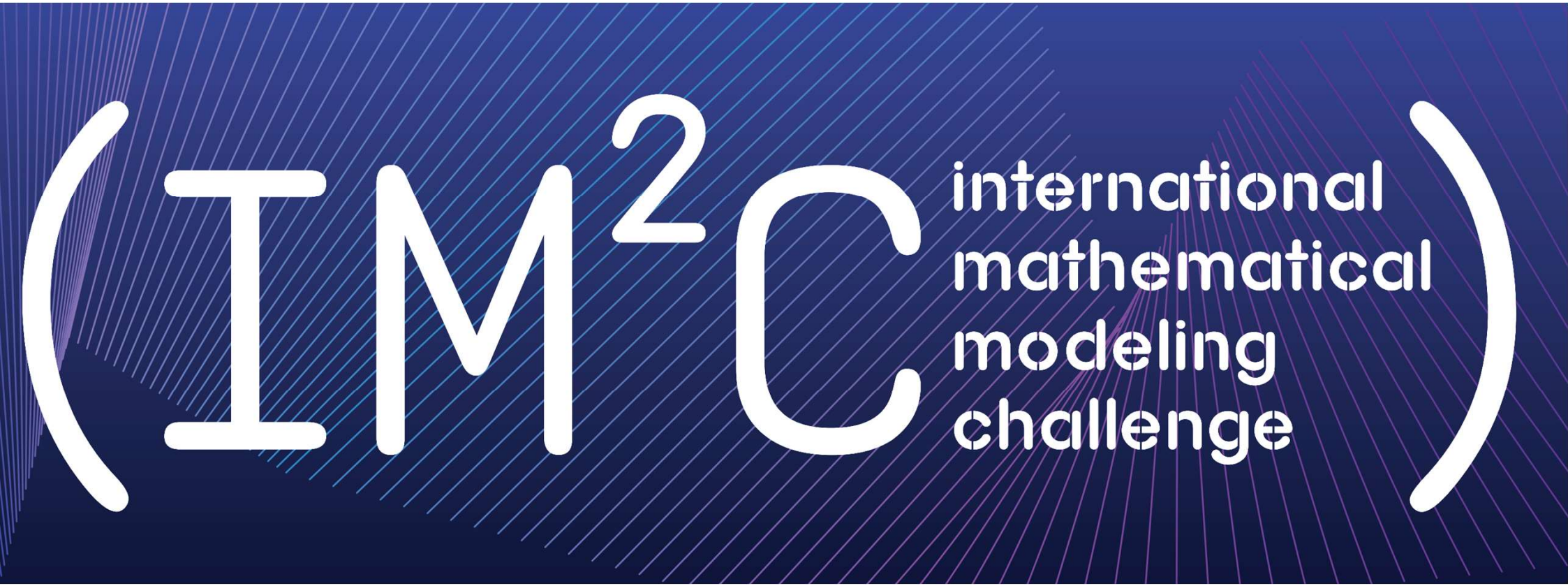
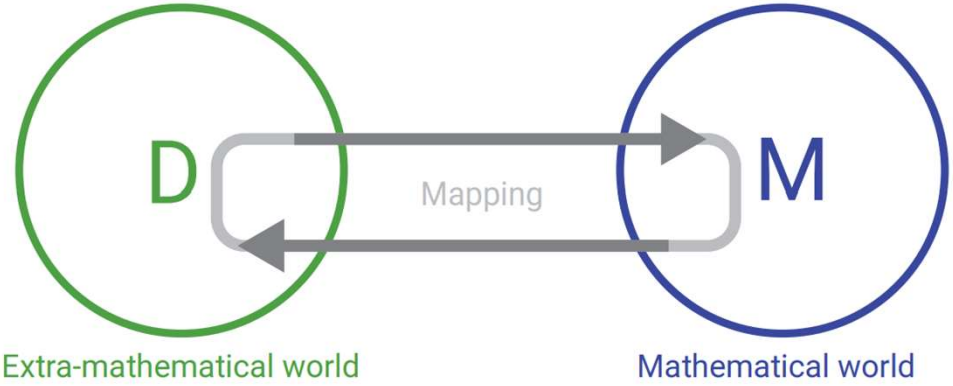
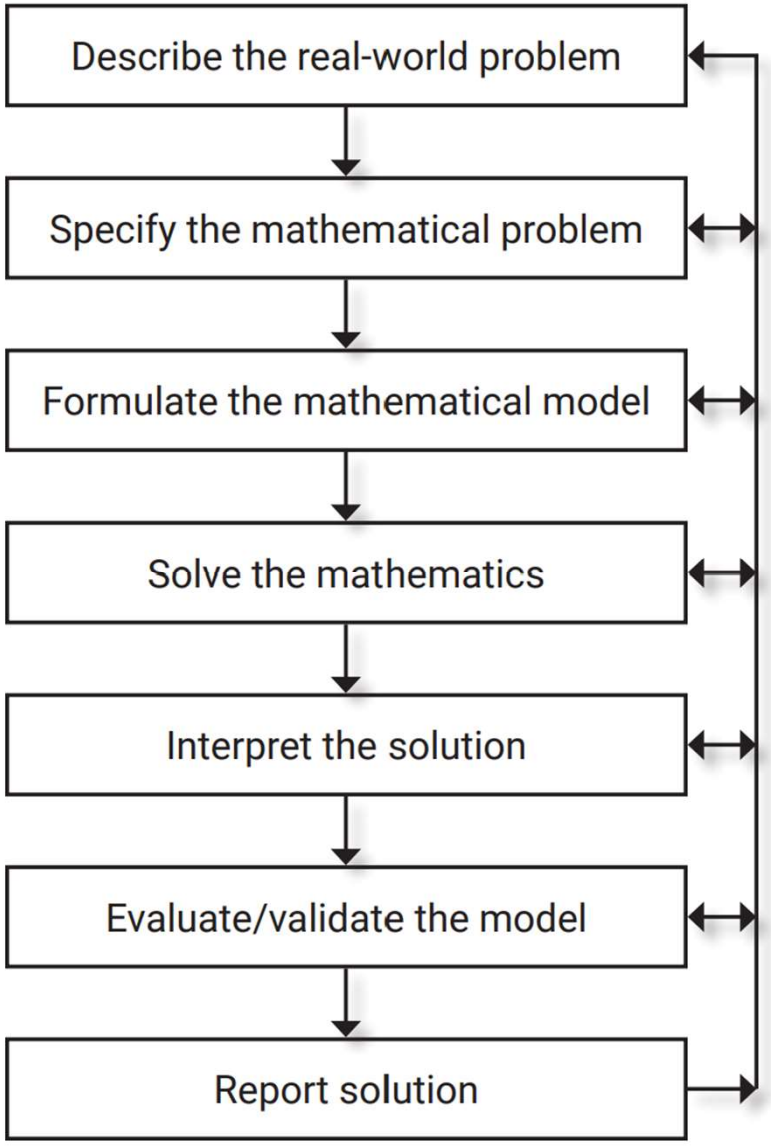

IM²C
international
mathematical
modeling
challenge

What is mathematical modelling?

Mathematical modelling is:

- a process in which real-life situations and relations in these situations are expressed by using mathematics (Haines & Crouch[4]), or
- a cyclical process in which real-life problems are translated into mathematical language, solved within a symbolic system, and the solutions tested back within the real-life system (Verschaffel, Greer, & De Corte[5]).





competitor expectations

When participating in the International Mathematical Modeling Challenge, teams are required to comply with the following expectations:

1. Teams may use any inanimate source of data, materials, computers, software, references, websites, books, etc. However, all sources *must* be credited.

2. Teams may not use any person (other than team members) to discuss or obtain ideas for solving their problem **nor may they seek help in obtaining an answer from the teams' advisor or anyone else**.

3. Any team that discusses the problem with anyone in a position to supply them with information reflecting experience or professional expertise will be disqualified. The relevant issue is one of intent: each team of students is expected to develop all of its substantive analysis without the help of others.

preparing a solution paper

When preparing a solution paper for submission, teams *must* adhere to the following guidelines:

1. Papers must be prepared in digital form, in English.

I will give you this via Teams

2. Your submission should include a one-page Summary Sheet.

3. Each page of the solution must contain the team identifier (containing both the team advisor control number and the team name) and the page number at the top of the page; we suggest using a page header on each page for example: Team 123456789 flying penguins page 6 of 13.

4. The names of the students, advisor, or institution must not appear on any page of the solution. The solution must not contain any identifying information other than the team identifier.

5. Solutions cannot exceed 20 pages. The maximum total length of a submission, including the summary sheet is 21 pages. Any appendices and references should appear at the end of the paper and do not count toward the 20 page limit.

6. The solution must consist entirely of written text and possibly figures, charts, or other written material, in a form that can easily be printed out on paper. No non-paper support such as computer disks will be accepted.

7. Partial solutions are acceptable. There is no pass/fail cut-off score, nor will numerical scores be assigned. The IM^{2}C judges are primarily interested in a teams' approach and methods.

These guidelines are extremely important.
Failure to comply with any preparation rule is grounds for disqualification.

Additional Recommendations

In order to produce and present the best possible solution paper, teams should also bear in mind the following points:

- Conciseness and organisation are extremely important. Key statements should present major ideas and results.
- Present a clarification or restatement of the problem as appropriate.
- Present a clear exposition of all variables, assumptions, and hypotheses.
- Present an analysis of the problem, motivating or justifying the modeling to be used.
- Include a design of the model. Discuss how the model could be tested.
- Discuss any apparent strengths or weaknesses to your model or approach.
- Incorporate lengthy derivations, computations, or illustrative examples in appendices. Summarise these in the main report. Results must be explicitly stated in the body of the report

summary and control sheets

summary sheets

A summary sheet must accompany each solution submitted for judging in the International Mathematical Modeling Challenge.

The summary is a very important part of your IM^{2}C paper. The judges place considerable weight on the summary, and winning papers are sometimes distinguished from other papers based on the quality of the summary.

To write a good summary, imagine that a reader may choose whether or not to read the body of the paper based on your summary. Thus, a summary should clearly describe your approach to the problem and, most prominently, what your most important conclusions were. The summary should inspire a reader to learn the details of your work.

Summaries that are mere restatements of the contest problem, or are a cut-and-paste from the Introduction are generally considered to be weak.

control sheets

In addition to the Summary Sheet, each team must also download, complete, and attach a **Team Control Sheet** to their submission. This sheet is a declaration from the participants pledging that they have abided by the contest rules and instructions. It must be signed by each individual member of the team and the team advisor.

parent/guardian consent

Each individual team member must obtain written consent from a parent or guardian, allowing them to participate in the International Mathematical Modeling Challenge.

A completed Parent/Guardian Consent form for each team member must accompany the submission (these do not count towards the page limit).

Please note that all parent forms must include Team Name and Advisor Control Number.