



An Invitation to Secondary School Students in the Greater China Region

For the 8th Annual International Mathematical Modelling Challenge (IM²C 2022)

We warmly invite secondary school students from Mainland China, Taiwan, Hong Kong and Macau to participate in the 8th Annual International Mathematical Modeling Challenge-IM²C 2022. The [registration](#) for the Greater China Regional contest has started. Let's join our hands together and pursue a journey of creation and discovery in the coming season.

International Mathematical Modeling Challenge (IMMC or styled as IM²C) is an innovative contest in mathematical modeling for secondary school students all over the world. The aim of IM²C is to promote mathematical modeling education and enhance students' core competencies in mathematics and innovation, encouraging participants to explore the application of mathematical modeling in real life situations to solve problems of importance. IM²C in this Region is an inclusive and sharing platform both for secondary school students to practice mathematical modeling, and for schools to demonstrate and exchange their educational accomplishments in mathematics and STEM.

IM²C in Greater China Region is an interdisciplinary practice integrating mathematics with science, technology and engineering which reflects the essence of STEM education. The co-founder of IM²C NeoUnion ESC Organization works with the Institute of Electrical and Electronics Engineers (IEEE Asia) and Hong Kong Society of Industrial and Applied Mathematics to co-organize the IM²C 2022 in Greater China. IM²C 2022 Greater China will set a category with a specific problem for students of Junior Secondary School. The Problem Setting Committee and the Judging Panel consist of experts and professors from IM²C Committee (Zhonghua), IEEE and HKSIAM whose disciplinary fields cover mathematics, science, technology, and engineering. Prof Yang WANG, Vice-President and Chair Professor of Mathematics of The Hong Kong University of Science and Technology acts as Chairman of the Problem Setting Committee and Grand Jury of the Final Presentation Competition of IM²C 2022 Greater China.

IM²C 2022 and its Rules

To cater for the diversity in school calendar across the Region, two seasonal contests, namely Autumn and Winter Contest, will be open for IM²C 2022 in Greater China. Teams may choose one of the seasonal contests according to their schedule to compete for the yearly awards in the region of Greater China and qualification to proceed to the international round.

In view of the increase in the number of Junior High School teams in recent years and in order to make equal opportunities for Junior High School students, the 2022 IM²C Greater China will add a specific problem of Junior High School category. Junior students can usually choose to work on either the problem of Junior High School category or one of the problems of

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Senior High School category. Senior High School students can choose ONLY to work on one of the problems of Senior High School category.

IM²C encourages interdisciplinary innovation and teamwork for students and teachers. IM²C requires each team to be composed of 2-4 students from the same secondary school, and at least one teacher from the same school to serve as team advisor. Participating teams from all over the world will be selected by a national/regional selection process before they enter into the international round of IM²C. For both the national/regional and the international round of competition, winning teams will be recognized as different levels of awards.

Participating teams from Greater China region can choose: 1) to work on a problem created by the Problem Setting Committee of IM²C Greater China starting from 8:00 pm on November 18th (Thu) 2021 (GMT/UTC+8 hours), Autumn Contest, or January 20th (Thu) 2022 (GMT/UTC+8 hours), Winter Contest. During the following consecutive period of 96 hours, teams must complete and submit a solution paper of mathematical modeling; 2) alternatively, register for a self-challenging problem, i.e., the team can choose freely a problem set by the team members themselves. Note that such problem must be a real-world problem discovered and identified by the team. To work on the freely-chosen problem, teams can decide on their own about the starting time and schedule; however, they must complete and submit their solution paper of modeling on or before 8:00 pm November 22th (Mon) 2021 (GMT/UTC+8 hours), or January 24th (Mon) 2022 (GMT/UTC+8 hours), deadline of the seasonal contest in Greater China. Solution papers of the two categories will be judged separately. Teams whose papers are judged as among the top 20% of the two categories of papers respectively will automatically proceed to the International Round of IM²C 2022.

IM²C 2022 International Round in the Greater China Region will be conducted during 8:00 pm March 9 – 8:00 pm March 14, 2022 (GMT/UTC+8 hours). Within a consecutive period of 120 hours, teams entering the IM²C international round will work on the problem set by the International Expert Panel, complete and submit their solution paper on or before the end of the contest period. Teams from over 30 countries and regions will be selected by their country/region to enter IM²C 2022 International Round.

Final Presentation Competition

The finalist teams of IM²C 2022, both for the Greater China Regional and the International rounds, will receive invitation from the IM²C Committee - Zhonghua to come to Hong Kong in late April, 2022, if public health condition permits, and attend the Final Presentation Competition, presenting and defending their works in front of the Grand Jury.

IM²C Committee Greater China will also select the best two papers from each of the Mainland, Taiwan, Hong Kong and Macau finalists in the International Round (totally 8 papers) for recommendation to the International Expert Panel. (Each participating country or region will select the best two papers for the International Panel's Judgement.)

Recognition and Award Ceremony

The participating teams from Greater China Region will have the equal chances to be recognized with different awards at both regional and international levels. The papers will be judged as per categories of Greater-China-Committee-set problem, freely-chosen problem, and International-Expert-Panel-set problem, respectively. Each participating team, no matter whether or not they are selected into the International Round, will have the chances to compete for the awards of the Greater China Region.

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An IM²C 2022 Greater China Summit cum Summer Workshop and Award Ceremony will be held in the summer of 2022. This will be a prestigious academic conference of the Region for secondary school students and teachers exclusively. Teams winning the Outstanding Award of the Regional and/or International contests will be invited to deliver plenary speeches at the Summit. Members of IM²C Committee and the Problems Setting Committee of Greater China along with renowned experts in relevant fields will also be present, so as to interact and exchange with the secondary school students and teachers. Winning teams of the International Outstanding Award or equivalent teams will be invited to attend the academic activities and award ceremony to be held by the International Organizing Committee, if public health condition permits.

Languages

IM²C 2022 Greater China will adopt the bilingual policy. The solution paper and presentation for both IM²C Greater China regional and the international contests can be written and conducted in either Chinese or English. But papers which are submitted to the International Expert Panel for international final judgement must be written in English or translated into English before submission.

Timeline of IM²C 2022

The schedule for the 8th International Mathematical Modeling Challenge (IM²C 2022) Greater China Region is as follows:

<i>Registration</i>	<i>Present - Nov 18, 2021 (Autumn Contest) Nov 22 2021 – Jan 20, 2022 (Winter Contest)</i>
<i>Regional Competition</i>	<i>Nov 18 20:00 – Nov 22 20:00, , 2021 (Autumn Contest) (Nov 22 is deadline for papers of self-chosen problem.) Jan 20 20:00 – Jan 24 20:00, 2022 (Winter Contest) (Jan 24 is deadline for papers of self-chosen problem.)</i>
<i>International Competition</i>	<i>Mar 9 20:00 – Mar 14 20:00, 2022</i>
<i>Final Presentation</i>	<i>Late April 2022, Hong Kong or Online</i>
<i>Regional Summit & Award Ceremony and International Award Ceremony</i>	<i>Summer 2022, Bay Area or Online</i>

Registration and Submission

The registration fee for IM²C 2022 Greater China is US\$ 100 per team for either Greater China Committee-set problem or freely-chosen problem. **The International Round and Final Presentation Competition are free of charge.**



For registration, downloading problems and submission of solution papers for IM²C 2022, please visit www.immchallenge.org.hk. To [register](#) your team, you need to login with your account and password and click “Event”. Participating teams should read carefully the contest [Instructions and Rules](#) on the website.

For sample and past problems and solution papers, details about IM²C 2015 through 2021, and more information on IM²C, please visit www.immchallenge.org.hk and www.immchallenge.org

Practice mathematical modeling, and be a pioneer for STEM!

Take this challenge, and you will definitely experience a different 2022!

We look forward very much to receiving registration from your school for the 8th International Mathematical Modeling Challenge- IM²C 2022!



International Mathematical Modeling
Challenge Committee (Zhonghua)

Appendix:

A Brief Introduction to IM²C

International Mathematical Modeling Challenge (IMMC or styled as IM²C), established in 2014 in Boston, is an innovative mathematical contest in modeling for secondary school students all over the world, whose co-founders and co-sponsors are the Consortium for Mathematics and Its Applications (COMAP) and NeoUnion ESC Organization (NeoUnion). The aim of IM²C is to promote mathematical modeling education and enhance students' core competencies in mathematics and innovation, encouraging participants to explore the application of mathematical modeling in real life situations to solve problems of importance.

The adjudication, team selection, and recognition for IM²C in the Region of Mainland China, Taiwan, Hong Kong and Macau are authorized exclusively to International Mathematical Modeling Challenge Committee (Zhonghua), a non-profit organization with charity institution code 91/14657 approved by Hong Kong SAR. IM²C in this Region is an inclusive and sharing platform for secondary schools to practice mathematical modeling in promotion of teaching and learning in STEM, at both local and international level by a student-centered approach.

The official website for IM²C is www.immchallenge.org.hk (Greater China) and www.immchallenge.org (International)

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