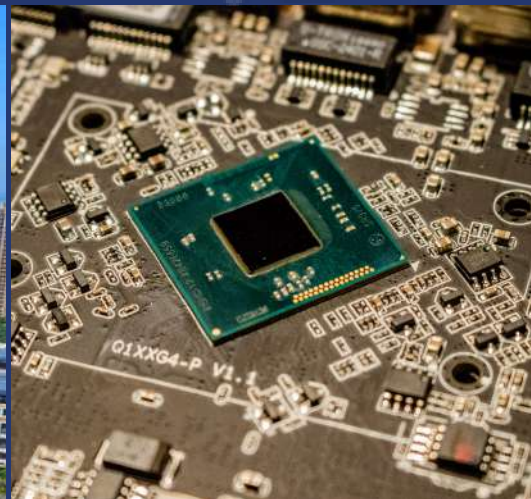# IMMC 2023
中華峰會 暨 夏季工作坊
Greater China Summit cum Summer Workshop

2023年8月5-7日
5-7 AUG,2023

澳門大學科技學院承辦
Hosted by Faculty of Science and Technology,
University of Macau

中華國際數學建模
挑戰賽委員會
International Mathematical Modeling
Challenge Committee(Zhonghua)

NeoUnion
NeoUnion ESC Organization
儒蓮教科文機構

UNIVERSIDADE DE MACAU
澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU

IEEE

HKSIAM
香港工業與應用數學學會

關於國際數學建模挑戰賽

國際數學建模挑戰賽(IMMC或者IM²C)是一項面向全球中學生的國際性新型數學建模競賽，其創辦機構是美國數學及其應用聯合會和香港儒蓮教科文機構，競賽宗旨在於鼓勵參賽者應用數學建模探索和解決現實世界中的重要問題，以普及數學建模教育，增強中學生數學核心素養和科技創新能力。IM²C既是中學生數學建模實踐與歷練的舞臺，也是參賽中學數學與科技創新教育成果展示與交流的園地。

IM²C在中華賽區的主辦機構授權中華國際數學建模挑戰賽委員會，專門負責國際數學建模挑戰賽在中國大陸、臺灣、香港及澳門地區的評審與選拔等學術工作。中華國際數學建模挑戰賽委員會是經香港特區政府批准成立的公共性質慈善機構(慈善機構代碼91/14657)；主辦機構邀請各地區知名高校學者和專業人士組成學術顧問委員會及專家組，為區域內的青少年營建一個中華一體、普惠與共享的學習交流平臺，以學生為本，在地性與國際性相容。

**數學建模助你 理性分析、邏輯思考、解決問題技能，
還可以鍛鍊團隊合作及表達能力!**

About the
INTERNATIONAL MATHEMATICAL MODELING CHALLENGE(IM²C)

International Mathematical Modeling Challenge (IMMC or IM²C), co-founded and co-sponsored by the Consortium for Mathematics and its Applications (COMAP) and NeoUnion ESC Organization (NeoUnion), is an innovative mathematical contest in modeling for secondary school students around the world. The IM²C aims to promote mathematical modeling education and enhance secondary school students' core competences in mathematics and innovation by encouraging its participants to explore the applications of mathematical modeling in solving significant real-world problems.

NeoUnion, the exclusive organizer of IM²C for the region of Mainland China, Taiwan, Hong Kong and Macau, authorizes the International Mathematical Modeling Challenge Committee (Zhonghua) to discharge the duties of adjudication, team selection, award decisions and other related academic affairs for the competition in the region. The IM²C Committee (Zhonghua) is a charitable institution of public character incorporated in Hong Kong SAR (charity certificate no. 91/14657). IM²C for the Greater China region is an inclusive platform for all secondary school students at both local and international level to experience the benefits of mathematical modeling and share their learning experience.

**Mathematical Modeling
Strengthens Analysis,
Logical Thinking, Problem Solving,
Cooperation and Presentation Skills!**

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immchallenge.org

immc_hk

**國際數學建模挑戰賽聯合創始與主辦機構
IM²C co-founders and co-sponsors**

NeoUnion ESC Organization
儒蓮 教科文機構

IMMC 2023 賽制 Rules

IM²C 2023 充分體現 STEM 教育所提倡的數學與科技、工程的學科交叉，數學與社會生產、生活的應用結合。儒蓮教科文機構聯合電氣電子工程師學會(IEEE亞太)及香港工業與應用數學學會(HKSIAM)，共同主辦 IM²C 2023 中華區域賽事。命題與評審委員會由來自 IM²C 、IEEE及HKSIAM的專家教授共同組成，他們的學科與專業涵蓋數學、科技、工程和社會科學的不同領域。

國際數學建模挑戰賽每支參賽團隊須由來自同一所中學的2-4名同學組成，且須有至少1位來自該校的教師擔任指導老師。來自世界各地的參賽團隊經過國家/區域賽的選拔，進入國際賽程；在國家/區域與國際層面，皆有機會獲取各級獎項。

來自大陸、台灣、香港及澳門的參賽團隊首先共同接受中華區域賽的挑戰。團隊可以自行選擇以「命題論文」方式，或者亦可選擇挑戰自我，即以「自主選題」方式參賽。在隨後的專家評審中，命題論文與自選題論文將分開評審，競逐晉級國際賽的機會。

入圍中華區域賽決賽與國際賽決賽的團隊獲得主辦機構的邀請，出席於2023年4月28及29日由香港科技大學理學院承辦的答辯決賽，做論文演示與答辯。IM²C 中華委員會及大評審團將從進入國際賽程論文答辯的隊伍中評選八篇最佳論文，推舉進入國際評審。

Companies listed on a stock exchange are also required to report at more frequent intervals. IM²C in Greater China Region is an interdisciplinary practice integrating mathematics with science, technology, engineering and socioeconomic application which reflects the essence of STEM education. NeoUnion works with the Institute of Electrical and Electronics Engineers (IEEE China) and Hong Kong Society for Industrial and Applied Mathematics (HKSIAM) to co-organize the IM²C 2023 for Greater China. The Problem Setting Committee and the Judging Panel consist of renowned experts and scholars from IM²C Committee (Zhonghua), IEEE and HKSIAM whose disciplinary fields cover mathematics, science, technology, engineering and social science.

IM²C 2023 requires each participating team to be composed of 2-4 students from the same secondary school, with at least one teacher from the same school to serve as team advisor. Participating teams from all over the world will go through a national/ regional selection process before they enter the international round of IM²C 2023. For both the national/regional and the international rounds of competition, the winning teams will receive different awards to recognize their respective achievements in the competition.

All participating teams from Mainland, Taiwan, Hong Kong and Macau first face the challenge from the Greater China regional IM²C 2023 contest. Upon registration, participating teams can choose either to work on the problems set out by the Problem Setting Committee of IM²C (Greater China) OR a meaningful problem of their own choice. Teams whose papers are judged under the two categories of papers respectively will be selected to enter into the International Round of IM²C.

The finalist teams of IM²C 2023, both for the Regional and the International rounds, receive invitation from the IM²C Committee to attend the Online Final Presentation Competition to be hosted by School of Science, The Hong Kong University of Science and Technology, presenting and defending their works in front of the Grand Jury. IM²C Committee (Greater China) will select the best eight papers from the finalists in the International Round for recommendation to the International Expert Panel.

IMMC 2023
中華峰會暨夏季工作坊
Greater China Summit cum Summer Workshop

8月5日 流程 The schedule of 5 Aug	
9:00- 9:20	**大會開始 Summit Starts** 主禮嘉賓致辭 Speeches by Guests of Honor
9:25- 10:25	**傑出科技報告** **Distinguished Science and Technology Keynote Speech** **澳門30年的芯片之旅** **A journey of creation: the story of microelectronics and chip technology in Macau** **麥沛然 教授 Prof. Pui-In MAK** **澳門大學科技學院電機及電腦工程系 教授** Professor of Electrical and Computer Engineering, University of Macau 澳門大學模擬與混合訊號超大規模集成電路國家重點實驗室主任 Director of State Key Laboratory of Analog and Mixed-Signal VLSI, University of Macau
10:25 -10:40	**茶歇 Tea Break**
10:25 - 12:00	**IMMC 2023 頒獎 Presentation of IMMC 2023 Awards** **中華賽**　　　　　　　二等獎 Honorable Mention **Greater China Regional Contest**　一等獎 Meritorious 　　　　　　　　　　特等入圍獎 Finalist 　　　　　　　　　　特等獎 Outstanding **國際賽中華賽區**　　　二等獎 Honorable Mention **International Contest**　一等獎 Meritorious **Greater China Region**　特等入圍獎 Finalist 　　　　　　　　　　特等獎 Outstanding **國際總評獎 International Award (Global)** 頒發 "IMMC 教學促進 獎"（教師） **Presentation of IMMC Teaching Promotion Award** 頒發 "IMMC 先進共建 獎"（學校） **Presentation of IMMC Inter-school Cooperation Award**
12:00 - 14:00	**午餐 Lunch**

14:00 - 15:05	**校園圖書館的智慧配送** **Smart delivery of books for campus library** IMMC23327801 澳門浸信中學 Macau Baptist College 蘇華傑 老師 Mr. Sou Wa Kit --- **調查新發病源體 X** **Investigating the emergence of pathogen X** IMMC23112312 東莞市眾美中學 Zhong Mei Zhong Xue 許晨琳 CHENLIN XU 應益清 ELAINE YING 劉正霆 Allen Wood Liu 曹立天 LITIAN CAO --- **儲熱儲冷，降低用能成本** **Reducing cost of energy consumption through heat and cold storage** IMMC23442423 澳門培正中學 Pui Ching Middle School Macau 黎家誠 LI KA SENG 劉熙正 LIU XI ZHENG 林頌熹 LAM CHONG HEI 馮家健 FENG KA KIN
15:05 -15:35	**茶歇 Tea Break**
15:35 - 15:55	**液壓吊機吊運路徑優化** **Lifting Path Optimization for Hydraulic Crane** IMMC23987185 上海中學(國際部) Shanghai High School International Division 趙銘碩 ZHAO MING SHUO 胡越 Yue Robert Hu 陳英嬌 Yingjiao Chen 竇浩睿 DOU HOYUI

15:55 - 16:35	**Using land: a valuable resource** IMMC23790184 北京中學 Beijing Academy 孫潤生 Runsheng Sun 劉思睿 Sirui Liu 高天朗 Tianlang Gao 李禾 He Li **基於0-1整數規劃優化珠海大型充電站群的選址方案** IMMC23703861 澳門大學附屬應用學校 The Affiliated School of University of Macau 鍾欣彤 CHONG IAN TONG 蕭迪嵐 SIO TEK LAM 黃穎希 WONG WENG HEI

	8月6日 流程 The schedule of 6 Aug
09:00 - 10:00	**IMMC2023** **中華峰會暨夏季工作坊-老師工作坊** **Teachers workshop of Greater China Summit & Summer workshop** **校本教學經驗分享及同行點評** **Sharing Experience of Teaching and Learning Mathematical** **Modeling from In-service Teachers via IMMC Contest** **數學建模-從理論到實踐** **Mathematical Modeling-From Theory to Practice** 趙婧雅 老師 Ms. Jingya ZHAO 澳門培正中學 Pui Ching Middle School Macau
10:00 - 10:30	**茶歇 Tea Break**
10:30 - 12:00	**將科學哲學融入數學建模教育-面向以人為目的的數學教育** **Incorporating Philosophy of Science into Mathematical Modeling Education** **- Mathematics Education for Human-oriented Purpose** 朱浩楠 Mr. Haonan ZHU 北京市十一學校 Beiijng National Day School
12:00 - 14:00	**午餐 Lunch**
09:00 - 12:00	**國際課程中數學建模課程的發展** **The Development of Mathematical Modeling Courses in International** **Curricula** 王瀟 老師 Ms. Xiao WANG 北京市十一學校 Beijing National Day School
14:40 - 15:00	**茶歇 Tea Break**
15:00 - 18:00	**IMMC2023** **中華峰會暨夏季工作坊-學生工作坊** **Student workshop of Greater china summit & Summer workshop** **數學模型的優化與數據擬合-建模過程及技能** **Optimisation and Fitting Mathematical Models to Data: Technical** **Procedure of Modeling** Dr. Konstantin Avilov 香港理工大學應用數學系 Department of Applied Mathematics, Hong Kong Polytechnic University

8月7日 流程 The schedule of 7 Aug	
09:00 - 12:00	**澳門大學校園及國家重點實驗室參觀** **Visit to State Key Laboratory and Campus Tour** **at University of Macau**
12:00 - 13:50	**午餐 Lunch**
14:00 - 17:00	**澳門歷史文化景點遊覽** **Historical and Cultural Sight seeing in Macau**

IMMC2023
中華峰會暨夏季工作坊-傑出科技報告
KEYNOTE SPEECH OF DISTINGUISHED SCIENCE AND TECHNOLOGY

澳門30年的芯片之旅

A Journey of creation:
the story of microelectronics and chip technology in Macau

麥沛然 教授 Prof. Pui IN MAK

澳門大學科技學院電機及電腦工程系 教授
Professor of Electrical and Computer Engineering, University of Macau

澳門大學模擬與混合訊號超大規模集成電路國家重點實驗室主任
Director of State Key Laboratory of Analog and Mixed-Signal VLSI, University of Macau

IEEE院士 Fellow of IEEE,
科學探索獎得主(2022) Laureate of Xplorer Prize (2022)

中華峰會暨夏季工作坊-老師工作坊
TEACHERS WORKSHOP OF GREATER CHINA SUMMIT & SUMMER WORKSHOP

數學建模-從理論到實踐
Mathematical Modeling-From Theory to Practice

十多年建模教育之路，培正中學堅持一個初衷，兩個概念，歷經三種教學模式，努力探索適合自己的發展道路。從重在參與到取得不錯的成績，從點滴嘗試到建模思維的融入校園，努力將中學建模文化發展與傳承，讓更多的學生參與其中。

After more than 10 years of mathematical modeling education, Pui Ching Middle School has adhered to an initial aspiration, two concepts and gone through three teaching models, striving to explore a development path that suits itself. From focusing on participation to achieving good results, from trying out step-by-step to integrating modeling thinking into the campus, we have endeavoured to develop and carry forward the culture of middle school modeling, so that more students can participate in it.
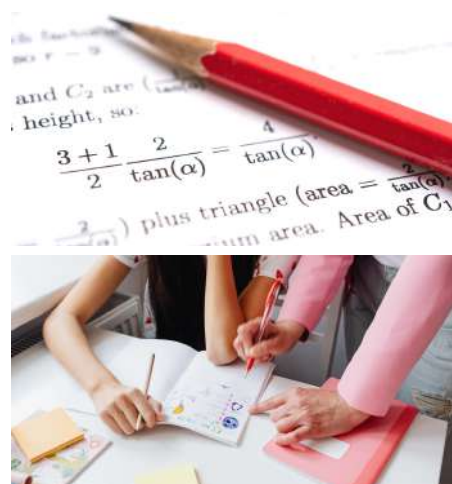
趙婧雅 老師 Ms. Jingya ZHAO

澳門培正中學
Pui Ching Middle School Macau

趙婧雅老師是澳門培正中學數學科教師。本科畢業於廈門大學數學與應用數學專業，碩士畢業於澳門大學數學專業。輔導學生參加IMMC國際數學建模挑戰賽(中華賽及國際賽)及地區間聯校活動，曾獲得特等獎、特等入圍獎、一等獎等獎項。2021年參加由澳門特別行政區教育及青年發展局主辦的教學設計獎勵計劃，獲單元項目甲等獎，資訊科技應用甲等獎。趙老師與數學組老師一道，將數學建模與學校AI課程實踐及應用相結合，發揮數學建模在培養學生的學科交叉、綜合創新素養方面的作用。相關集體教學項目榮獲「2022年基礎教育國家級教學成果獎」二等獎。

Ms Jingya Zhao is a mathematics teacher at Pui Ching Middle School Macau. She graduated with a bachelor's degree in mathematics and applied mathematics from Xiamen University and a master's degree in mathematics from the University of Macau. She has guided students to participate in the International Mathematical Modeling Challenge (Greater China Contest and International Contest) and inter-school activities between regions, winning awards including Outstanding, Finalists, Meritorious, etc. In 2021, she participated in the Teaching Design Incentive Program organized by the Education and Youth Development Bureau of the Macau Special Administrative Region and won the First Prize Unit Project and First Prize Application of Information Technology. Ms. Zhao and other mathematics teachers have integrated mathematical modeling and the application and practice of the school's AI curriculum to bring out the role of mathematical modeling in cultivating students' interdisciplinary and integrative innovative competence. Relevant collective teaching projects have won the Second Prize of the National Teaching Achievement Award for Basic Education in 2022.

IMMC2023
中華峰會暨夏季工作坊-老師工作坊
TEACHERS WORKSHOP OF GREATER CHINA SUMMIT & SUMMER WORKSHOP

將科學哲學融入數學建模教育-面向以人為目的的數學教育
Incorporating Philosophy of Science into Mathematical Modeling Education - Mathematics Education for Human-oriented Purpose

在傳統的中國數學教育中，往往簡單地將數學視為思維訓練素材、人才選拔手段和解決實際問題的技術工具，缺少面向以人為目的的教育成分，以及針對現代科學範式的教育。本次報告將聚焦於現代科學範式在數學建模中的重要作用，並討論如何通過將科學哲學融入數學建模教育，從而實現數學教育從面向實用主義和工具性的教育，面向以人為目的的教育的改變。

In traditional Chinese mathematics education, mathematics is often simply regarded as a means of training thinking, selecting talents and solving practical problems, lacking the educational components for humanity and modern science paradigms. This report will focus on the important role of modern science paradigms in mathematical modeling, and discuss how to realize the change in mathematics education from practical and utilitarian education to education for human-oriented purpose by incorporating philosophy of science into mathematical modeling education.

朱浩楠 Mr. Haonan ZHU

北京市十一學校
Beijing National Day School

朱浩楠老師是北京市十一學校高中數學教師、數學建模實驗室負責人，教育部課程標準修訂組學術秘書，教育部課程教材研究所中小學數學建模實踐項目高中專家組組長，北京市名師工作室成員，北師大數學建模教育中心聘任專家。著有《面向建模的數學》、《數學建模33講：數學與繽紛的世界》，主編《數學建模：教學設計與案例》等。

Mr. Haonan ZHU is a high school mathematics teacher and director of the mathematical modeling laboratory at Beijing National Day School. He is the academic secretary of the revised curriculum standards group of the Ministry of Education, the director of the expert group of the high school specialty of the middle and primary school mathematical modeling practical project of the Ministry of Education's Curriculum and Textbooks Research Institute, a member of Beijing's Master Studio, and an appointed expert of the Beijing Normal University Mathematical Modeling Education Center. He has authored Mathematical Modeling of Mathematics and 33 Lectures on Mathematical Modeling: Mathematics and the Colorful World, and edited Mathematical Modeling: Teaching Design and Cases.

IMMC2023
中華峰會暨夏季工作坊-老師工作坊
TEACHERS WORKSHOP OF GREATER CHINA SUMMIT & SUMMER WORKSHOP
國際課程中數學建模課程的發展
The Development of Mathematical Modeling Courses in International Curricula

在不同文化背景和課程體系下，中學生數學建模課程的發展有什麼不同？有什麼是國際教育已經學習或者可以參考的地方？國際教育在數學建模課程的推廣上又有哪些優勢？本次報告通過綜合研究和分析關於國際教育中數學建模發展情況的相關文獻，總結了國際教育領域中數學建模的發展現狀、趨勢和遇到的挑戰。同時，本報告通過總結文獻中國外做數學建模教育中使用的案例和評估標準，介紹部分案例並總結特點。

What are the differences in the development of middle school students' mathematical modeling courses under different cultural backgrounds and curriculum systems? What can international education have learned or can refer to? What are the advantages of international education in promoting mathematical modeling courses? This report summarizes the current situation, trends and challenges of mathematical modeling development in the field of international education through comprehensive research and analysis of relevant literature on the development of mathematical modeling in international education. At the same time, based on summarizing the cases and assessment standards used in mathematical modeling education abroad, the report introduces some cases and summarizes their characteristics.

王瀟 老師 Ms. Xiao WANG

北京市十一學校 Beijing National Day School

王瀟老師是北京市十一學校國際部AP項目教師（Pre-Calculus、Calculus BC和AP Statistics），國際部數學素養提升課教師。碩士畢業於牛津大學數學系數學與計算機金融專業，曾多次參加數學建模相關比賽。

Ms. Xiao WANG is an AP teacher (Pre-Calculus, Calculus BC and AP Statistics) and a mathematics literacy enhancement teacher in the International Division of Beijing National Day School. She graduated with a master's degree in mathematics and computational finance from the University of Oxford and participated in mathematical modeling competitions.

IMMC2023
中華峰會暨夏季工作坊-學生工作坊
STUDENT WORKSHOP OF GREATER CHINA SUMMIT & SUMMER WORKSHOP
數學模型的優化與數據擬合-建模過程及技能
Optimisation and Fitting Mathematical Models to Data: Technical Procedure of Modeling

幾乎所有的數學模型都有一些未知參數，這些參數必須通過將模型擬合到一些數據或從最優性標準中確定。本工作坊將使用"邊做邊學"的方法向學生介紹實際數學建模的許多方面。其目的更多是說明建模方法背後的一般概念和思想，而不是給出嚴格的數學定義和解決方案。曲線擬合問題 (回歸和流行病模型) 和 Braess 的悖論模型將舉例說明不同的最優性標準選擇的影響，Microsoft Excel 將被用作數字優化 (梯度和進化方法) 的簡單而直觀的工具。

Nearly all mathematical models have some unknown parameters that have to be determined from fitting the models to some data or from optimality criteria. The workshop will introduce the students to a number of aspects of practical mathematical modelling using the "learning by doing" method. The aim is more to illustrate the general concepts and ideas behind the modelling methods, rather than to give strict mathematical definitions and solutions. Curve fitting problems (a regression and an epidemiologic model) and a Braess's paradox model will exemplify the effects of different choices of optimality criteria, with Microsoft Excel being used as a simple and visual tool for numerical optimisation (gradient and evolutionary methods).

Dr. Konstantin Avilov

香港理工大學應用數學系
Department of Applied Mathematics, The Hong Kong Polytechnic University

Avilov 博士在俄羅斯科學院數值數學研究所 (INM RAS) 獲得博士學位後，在 INM RAS 生物數學小組進行博士後研究。同時，Avilov 博士還是莫斯科國立大學先進教育科學中心 (系) - 柯爾莫戈洛夫學校的講師和比賽組織者。2015 年至 2022 年，Avilov 博士擔任國際數學建模挑戰賽專家組成員。目前，Avilov 博士是香港理工大學應用數學系的副研究員。

After PhD studies at G.I. Marchuk Institute for Numerical Mathematics of Russian Academy of Sciences (INM RAS) , Dr. Avilov conducted postdoctoral research in the biomathematical group of INM RAS. Meanwhile, Dr. Avilov was lecturer and tournament organiser at The Advanced Educational Scientific Center (faculty) – Kolmogorov's School of Moscow State University. During 2015-2022, Dr. Avilov served as a member of the Expert Panel of International Mathematical Modeling Challenge. Currently, Dr. Avilov is a Research Associate at the Department of Applied Mathematics of Hong Kong Polytechnic University.

第九屆國際數學建模挑戰賽 (IM²C 2023) 中華賽評獎結果

THE 9TH ANNUAL INTERNATIONAL MATHEMATICAL MODELING CHALLENGE (IM²C 2023) REGIONAL CONTEST RESULTS OF MAINLAND, TAIWAN,HONG KONG, AND MACAU

特等獎 Outstanding

IMMC23027142	北京中学 Beijing Academy	张欣然 Xinran Zhang 杨梅 Mei Yang 韩毅 Yi Han	王庆涵 Qinhan Wang	张朴泽 Puze Zhang	张语函 Yuhan Zhang	康粲 Can Kang
IMMC23041311	北京师范大学第二附属中学国际部 The Second High School Attached to Beijing Normal University	秦如新 QIN RUXIN	崔凯文 CUI KAIWEN	李济琛 LI JICHEN	田英楠 TIAN YINGNAN	叶祖麟 YE ZULIN
IMMC23327801	澳門浸信中學 Macau Bapist College	蘇華傑 SOU WA KIT 何子彰 HO CHI CHEONG	林嘉源 LAM KA UN	許晉維 HOI CHON WA	施養傑 SHI IEONG KIT	何璟賢 HO KENG IN
IMMC23436160	深圳国际交流书院 Shenzhen College of International Education	Mahinur Maharova	李梓墨 LI ZIMO	聂晨昊 NIE CHENHAO	杨景程 YANG JINGCHENG	廖启月 LIAO QIYUE
IMMC23485544	北京市十一学校 Beijing National Day School	朱浩楠 ZHU HAONAN	董文飞 Dong Wenfei	秦莉洁 Qin Lijie	王伯翰 Wang Bohan	杨佳炎 Yang Jiayan

IMMC23500611	培僑書院 Pui Kiu College	伍燿輝 NG Yiu Fei	叶仲華 YE Chung Wa	叶文華 YE Man Wa	周子煥 ZHOU Eric Zihuan	李焯楠 LEE Cheuk Nam
IMMC23630490	上海市世外中学 Shanghai World Foreign Language Academy	郑弘 Zheng Hong	傅泓博 Fu Hongbo	赵稚萌 Zhao Zhimeng		
IMMC23645209	澳門濠江中學附屬英才學校 Premier School Affiliated to Hou Kong	黎德聖 LAI TAK SENG	陳建暉 CHEN KIN FAI	梁仕恆 LIANG SI HANG	薛珏禮 SIT KOK LAI	吳家熙 UNG KA HEI
IMMC23662633	北京中学 Beijing Academy	梁海燕 Liang Haiyang 张莲 Zhang Lian 张明铭 Zhang Mingming	丁依依 Ding Yiyi	王子轩 Wang Zixuan	万�珪 Wan Yiwei	孙悦恒 Sun Yueheng
IMMC23890543	臺北市立永春高級中學 Taipei Municipal Yongchun Senior High School	嚴玉如 YEN YU-JU 高晟鈞 Kao Chen-Chun	張仲辰 CHANG, CHUNG-CHEN	黃偲安 HUANG, SZU-AN	黃宥喬 HUANG, YU-CHIAO	吳宇軒 WU, YU-HSUAN
IMMC23987185	上海中学(国际部) Shanghai High School International Division	闫洁 YAN JIE	赵铭硕 ZHAO MING SHUO	胡越 Yue Robert Hu	陈英娇 Yingjiao Chen	窦浩睿 DOU HOYUI

第九屆國際數學建模挑戰賽 (IM²C 2023)
國際賽評獎結果

THE 9TH ANNUAL INTERNATIONAL MATHEMATICAL MODELING CHALLENGE (IM²C 2023)
INTERNATIONAL CONTEST RESULTS OF MAINLAND, TAIWAN, HONG KONG, AND MACAU

特等獎 Outstanding

IMMC23153968	上海市实验学校 Shanghai Experimental School	陈珺珺 CHEN JUNJUN 金一鸣 JIN YIMING	应宇轩 YING YUXUAN	陈志杰 CHEN ZHIJIE	王可欣 WANG KEXIN	朱启新 ZHU QIXIN
IMMC23251985	澳門濠江中學附屬英才學校 Premier School Affiliated to Hou Kong	梁英輝 LEONG IENG FAI 陳耀安 CHAN IO ON 蕭永權 SIO WENG KUN	譚倩婷 TAM SIN TENG	王信 WANG XIN	鄧穎芯 TANG WENG SAM	葉青豪 IP CHENG HOU
IMMC23465045	台北市衛理女中 Taipei Wei Girls High School	洪美珠 Hung Mei Chu	陳萱 CHEN HSUAN	李宛縈 Lee Wang Ying	黃姿瑜 ZIH-YU, HUANG	陳欣翎 HSIN-LING CHEN
IMMC23638945	石家庄市第二中学 NO.2 Middle School of Shijiazhuang	吴瑞环 WU RUIHUAN 王静 Wang Jing	李世坤 LI SHIKUN	艾子暄 AI ZIXUAN	武逸轩 WU YIXUAN	叶浩然 Yehaoran
IMMC23640599	西安交通大学附属中学 The High School Affiliated to Xi'an Jiaotong University	陈冰 Chen Bing	李泽成 Li Zecheng	田晓露 Tian Xiaolu	贾卓航 Jia Zhuhang	杨帆 yang fan
IMMC23646030	中国人民大学附属中学 High School Affiliated To Remin University of China	王思思 Sisi Wang	李星宸 Xingchen Li	卢逸 Yi Lu	赖思轩 Sixuan Lai	骆子墨 Zimo Luo
IMMC23672932	拔萃女書院 Diocesan Girls' School	楊寶琪 Yeung Po Ki	李津榛 Lee Crystal	蔣帛延 Jiang Yolanda Pak Yin	李思穎 Li Sze Wing Jennifer	程熹 Ching Helen

IMMC23729584	澳門培正中學 PUI CHING MIDDLE SCHOOL, MACAU	胡俊明 Wu Chon Meng 李月婷 LEI UT TENG	左思源 CHO, SI UN	朱嫣然 CHU, IN IN	林煜翔 LIN YUXIANG	陳瀚霖 CHAN, HON LAM
IMMC23790184	北京中学 Beijing Academy	梁瀟 Xiao Liang 侯雪宁 Xuening Hou	孙润生 Runsheng Sun	刘思睿 Sirui Liu	高天朗 Tianlang Gao	李禾 He Li
IMMC23887918	港大同學會書院 HKUGA College	陳嘉榮 Chan Ka Wing 梁泰然 Leung Tai Yin 梁智江 Leung Chi Kong	楊浚桓 Yeung Tsun Wun	楊朗 Yang Long	黃逸進 Wong Yat Chun	范俊華 Golfa Mohammed
IMMC23899085	深圳国际交流学院 Shenzhen College of International Education	刘恒奇 Liu Hengqi	游峻喆 Junzhe You	王正合 Wang Zhenghe	孙默海 Sun Mohai	李子龙 LI ZILONG

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For taking notes

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